Hawai`i Department of Agriculture Annual Report Fiscal Year 2008 & Statistics of Hawai`i Agriculture 2007

Department of Agriculture
STATE OF HAWAII

http://hawaii.gov/hdoa

Aloha! It is a pleasure to present this annual report for the Hawai'i Department of Agriculture for Fiscal Year 2008.

Farming has always been a challenging business, and this past year has been some of the hardest economic times of our lives. As business and industry work to adjust to these considerable pressures and position themselves to go forward in this new reality, it becomes even more apparent that we must support the farming industry here in our state and move toward reversing our state's dependency on imported foods, products and energy. Raising our food self-sufficiency is key to a more stable local economy.

We must continue to address the issues of protecting our best agricultural land and assuring that adequate irrigation water is available for local production. Support also means raising the public's awareness of what is produced in Hawai'i so that they can make conscience purchasing decisions that support our farmers and communities.

As we continue to provide services that support agriculture in the state, department is also looking ahead and continuously developing and updating emergency plans in case of accidental or intentional introduction of serious plant and animal pests and diseases that may have devastating affects on our agricultural industries, economy and public health.

The department is also helping to lead the nation in developing food safety programs that can trace food from the farm to the table. Combined with efforts to help farmers and food distribution systems to increase good agricultural practices, these efforts will increase food safety in our state.

As you read the pages of this report, know that the department and the agricultural industry appreciate the support of all who understand the vital role that Hawai'i's agriculture fills in our community.

Sincerely,

Sandra Lee Kunimoto

Sandra Lee Kunimoto, Chairperson
Hawai`i Board of Agriculture

TABLE OF CONTENTS

This annual report is also accessible via the department's website at: http://hawaii.gov/hdoa/ or copies may be requested by calling (808) 973-9560.

Planning & Development

The department actively seeks to protect existing farming areas and promote increased access to and productive use of the thousands of acres of prime agricultural lands and infrastructure vacated by sugar plantations throughout the state.

The department, as principal advocate for agriculture among state agencies, offers consultative input into county, state, and federal land use planning and permitting, environmental program development and implementation, and undertakes broader planning and economic development efforts to ensure the availability of agricultural resources and the growth of agricultural businesses.

While modest in comparison to the visitor industry's $11.6 billion in economic activity, the economic activity generated by diversified agriculture is solid and stable. Furthermore, characteristics associated with agricultural activity (scenic planted and open landscapes, locally-grown fresh produce, reduction in atmospheric carbon dioxide, groundwater recharge) provide real value to Hawai`i residents and visitors.

The passage and enactment of the Important Agricultural Lands Incentives Act (Act 233, 2008 Session Laws of Hawai`i) fulfills the fundamental requirement in the Important Agricultural Lands Act of 2005 that a wide range of incentives be available to landowners and farmers who have their qualified agricultural land designated as Important Agricultural Lands. The process and actions required of state and county agencies to identify potential Important Agricultural Lands (IAL) and have them designated are now set in motion, with the department having a significant role in identifying and designating IAL and implementing some of the incentives such as the IAL Qualified Agricultural Cost Tax Credit. This tax credit is the most significant incentives as it encourages landowners/farmers to have their lands designated IAL and to establish and maintain their agricultural use by offsetting costs related to agricultural production including development, rehabilitation, and maintenance of agriculturally-related roads and utilities, irrigation water facilities, leasehold agricultural housing for farmers and farm workers, equipment for crop cultivation, harvesting, and processing; and professional services necessary to obtain sufficient water and protecting a farmer's right to farm.

The Hawai`i Department of Agriculture (HDOA) also introduced a measure to mitigate problems arising from the proliferation of "fake farms," or subdivisions of agricultural land where there is little or no agricultural activity. A major impact of these subdivisions is that they increase the value of agricultural lands for residential use rather than agricultural production. The price of land is often far beyond what a farm income is able to afford. Farmers seeking to lease lands often find lease terms and rents very short and expensive, respectively. The measure requires every lot in agricultural subdivisions approved after the bill's effective date to be used solely for agricultural activities, agribusiness, or subsistence farming; it requires the counties to require lot owners of subdivided agricultural lands applying for a building permit to substantially establish agricultural activity and submit farm plans, prior to approving building permits; and requires lot owners to have recorded deed restrictions that run with the land requiring agricultural use of the subdivided lots. These features are significantly more rigorous and descriptive than what currently exists in Chapters 205 and 46, Hawaii Revised Statutes. The department plans to resubmit the bill for consideration by the 2009 Legislature.

The department also supported the protection of agricultural lands and related infrastructure as well as the expansion of diversified agriculture development in general through a number of ongoing efforts. These efforts included the submittal of testimonies and position statements before county councils and departments, state departments, state Land Use Commission, and other organizations on agriculture-related issues such as buffer zones to protect agricultural activities from encroaching non-agricultural uses, ensuring subdivisions of agricultural land result in the establishment and maintenance of substantial agricultural activity, county-level initiatives to protect prime agricultural lands, facilitating discussions between farmers and landowners on "good neighbor" and land tenure issues; amendments to county agricultural zoning and community plan ordinances; amendments to state and federal environmental regulations affecting the use of agricultural land and water resources.

ADMINISTRATIVE SERVICES OFFICE

Elaine Abe
Administrator
Retired 6/08
Keith Aragaki from 9/08

The goals of the Administrative Services Office are 1) to meet the staff support needs of the department's programs and personnel by providing guidance, training, information, efficient equipment and vehicles, and adequate facilities, and facilitates the processing of their requests in order to enhance managers' decision making capabilities and employee productivity; and 2) to meet the needs of the public by assisting them in their requests or directing them to the appropriate entity to address their needs.

The following is a list of projects that have been completed:

- Personnel Staff attended "Conducting Investigation Certification Program", and training on Managing a Multi-Generational Work Force.
- Conducted Labor Relations Workshops for supervisors.
- Instituted the statewide BU 01 Drug/Alcohol Testing Program.
- Coordinated training for all managers on Domestic Violence and its impact in the workplace
- Personnel Staff conducted Performance Appraisal System training.
- Personnel Staff participated in Job Fair for displaced workers of Aloha Airlines, Nordstroms and Moloka`i Ranch.
- Implemented the HDOA Workplace Violence Action Plan.
- Assisted the Plant Quarantine Program in establishing and filling new biosecurity Plant Quarantine Inspector positions and Plant Pest Control Aides/Technicians.
- Established new Hawai`i Electronic Procurement System (HePS) buyers, as requested by programs. In 2008, 25 solicitations were awarded on HePS.
- Implemented additional security procedures at King Street Facility.
- Updated and improved the contract checklist for certification and encumbrance by creating checklists by type of contract, and combining the contract requirements of the department and DAGS on one form.
- Provided training on vehicle maintenance and operation to new employees.
- Issued new department identification badges to all employees.
- Updated O`ahu and neighbor island staff directories.
- Developed telecommunication database to inventory all phone and data lines.
- Installed DSL connection at Maui baggage claim areas and frame relay connection at Captain Cook.
- Developed Pesticides Enforcement database.
- Moved Pesticides labels to State's server housed at ICSD.
- Removed Social Security numbers from Requisition/PO system and Position/Personnel System.
- Created new calendar on State's website to report Market Analysis and News statistics.
- Modified Pesticides Dealer Licensing application to reflect new license number configuration.
- Developed spreadsheet to generate Coffee Inspection invoices.

Major projects still in progress are:

- Working with consultants to transfer Plant Quarantine on-line system to be housed at ISCD.
- Continuing to network all O`ahu and neighbor island offices to State's NGN.
- Transferring applications to new APPX application server.
- Replacing server at Auiki Street.
- Coordinating various capital improvement projects to correct safety concerns and other deficiencies, and make improvements at department facilities including re-roofing and air conditioning improvements at the King Street facility, re-roofing at the Kahului facility, and retro-commissioning projects at various facilities.

- Auditing leave records of program record keepers.
- Reviewing and rewriting internal personnel policies and procedures.
- Implementing procedures for processing contracts for services.
- Continuing to update the department's accounting manual with existing procedures and new guidelines and procedures for various procurement and purchasing processes.
- Attending State Procurement Office training sessions on various procurement methods and changes to the procurement law to provide improved guidance and support to programs.
- Attending HePS System Administrator training sessions to provide oversight for the solicitations conducted on HePS.
- Creating a travel handbook to provide the programs with a reference guide for Fiscal transactions related to travel.
- Providing training for managers on the Department of Agriculture Limited English Proficiency Plan, and conducting survey to determine what kind of interpreter services and in what languages these services are needed.
- Developing department-wide safety plan including installation of proper signage and other improvements in compliance with OSHA requirements
- Implementing the use of Grants.gov as a means of searching and applying for federal grants electronically.

Other future projects include, implementing the transition of the pCard system from PVS Net to Centresuite; this includes updating the procedures and providing training for the pCardholders, as required, establishing approval routing for solicitations conducted on HePS, and setting up journal vouchers in a shared network folder, which will allow the programs to access information and use as a tool for financial management, replacing administration server at King Street, modifying Animal Quarantine System application for web access, and developing a FAQ web page for major personnel functions.

AGRICULTURAL DEVELOPMENT DIVISION

Matthew K. Loke, Ph.D.,
Administrator

The Agricultural Development Division (ADD) serves to promote the economic viability of commercial agriculture in Hawai'i by sponsoring joint marketing programs for agricultural products with high revenue growth potentials; facilitating the development and expansion of marketing opportunities for targeted agricultural and processed products; and providing timely, accurate and useful statistics.

The landscape for Hawai'i agriculture improved slightly compared to the previous year with two commodity groups emerging as clear market leaders – seed crop and floriculture. Both these groups have surpassed sugarcane and pineapples as leading revenue earners. After a 13-year effort by the HDOA, Japan finally approved the importation of potted anthuriums from Hawai'i under specific quarantine conditions in July 2007. Governor Linda Lingle called this development great news for Hawaii anthurium growers. Notable achievements for ADD in this fiscal year include the following:

- Successfully petitioned the USDA Risk Management Agency (RMA) to expand the Adjusted Gross Revenue-Lite (AGR-Lite) insurance program to all counties in Hawai'i. This program provides farmers with insurance protection against low revenue due to unavoidable natural disasters and market fluctuations that affect farm income. Previously, federal crop insurance was only available in Hawai'i for macadamia nuts and nursery plants. A pilot program is also available now for papaya, banana and coffee.

- Awarded $208,000 for a marketing proposal submitted to the USDA-AMS, Specialty Crop Block Grant Program (SCBGP) FY 2006 and FY 2007 to increase consumer awareness and generate sales for Hawai'i specialty crops.

- Successfully launched and implemented the State's new Livestock Feed Reimbursement Program (LFRP) to help revitalize Hawai'i's livestock industry, which is struggling with the high cost of feed that must be imported from the U.S. mainland. By assisting the livestock industry with feed costs, the program will also help Hawai'i livestock farmers to remain competitive with mainland producers and contribute to Hawai'i's food security. The State Legislature appropriated $6 million over two years for this program.

The KITV Morning Show went "live" in August 2007 at the Green Growers Farm in Hau`ula, where they grow the juicy vine-rippened Hau`ula tomatoes.

Farmer Terry Shintaku (back) and his wife, Cindy (middle) and daughter, Erin (right), welcomed KITV Morning Show anchor Mahealani Richardson (left), who just happens to love tomatoes.

MARKET DEVELOPMENT BRANCH

Todd Low, *Manager*

The mission of the Market Development Branch (MDB) is to facilitate the development of the agricultural industry, consisting of commodity groups of agricultural producers and food processors, through the expansion of new and existing markets.

Major Activities during FY08 were:

- **Matching Funds Promotional Contracts**

  This is the fourth fiscal year that the branch implemented a new procedure to solicit and award marketing funds under the State of Hawai'i Request for Proposal (RFP) process. The commodity groups that participated included the Hawai'i Egg Producers Association (HEPA), the Hawai'i Food Manufacturers Association (HFMA), the Hawai'i Export Nursery Association (HENA), the Hawai'i Cooperative of Organic Farmers (HICOF), the Hawai'i Tropical Fruit Growers Association (HTFGA), the Kona Coffee Council (KCC), and the Hawai'i Papaya Industry Association (HPIA). The applications fell into three pre-determined categories:

  - Distribution systems focusing on encouraging Hawai'i Ag-businesses (minimum of four) to pool resources in order to improve efficiency in transportation/shipping, distribution, sales representation, or consolidation issues. There were three awards in this category.

  - Mainland and international trade shows focusing on Hawai'i-theme exhibits with a minimum of four unrelated companies attending the trade show. There were six awards in this category.

  - Industry education and promotion of agriculture focusing on producer competitiveness, human capital capacity building, and marketing efforts to support Hawai'i's agriculture. There were 11 awards in this category.

  The program attracted 18 applications from eight trade associations and funded 16 applications for a total of $158,675. Based on past results, the Matching Marketing Funds program is expected to support an estimated $3 million in annual sales.

- **Seals of Quality Program**

  The Hawai`i Seals of Quality (SOQ) program was launched in May 2006 with 12 companies representing the cream of the crop of Hawai'i's agricultural producers. The SOQ program was established to protect the integrity and value of the marketing cachet for Hawai'i branded farm and "value-added products." Products with this seal are genuine, Hawai'i-grown or Hawai'i-made premium products, a guarantee that is enforced by the State of Hawai'i.

  MDB was able to increase the number of participants in the SOQ program to approximately 40 during FY08 through several marketing development efforts. In terms of marketing collateral, MDB developed a consumer-focused brochure and added a pop-up panel display and video kiosk to its marketing tool box.

  MDB promoted the SOQ program through displays at community events, including Ag Awareness Day at the State Capitol, Wahiawa Pineapple Festival, Chefs du Jour events on August 11, 2007 & June 21, 2008, and Coffee Fest at the Hilton Waikoloa, among others. The online channel was accessed via a new food site called *ShareYourTable.com* and a new O`ahu Visitors Bureau site which translated the existing SOQ information into Japanese. Promotional projects will continue to focus on the online and print media, and international markets.

- **Livestock Feed Reimbursement Program**

  Developed based on parameters established in Act 221, SLH 2007. The purpose of the program is to create a livestock revitalization and food security program to administer and disburse funds to qualified cattle, dairy, hog and poultry

farms. A Qualified Producer is defined as any person that, at the time of application, is in the business of producing the following: milk from a herd of not less that 350 cows or poultry from a flock of not less than 3,000 birds or pork from a herd of not less than 50 sows or beef producers who finish at least 100 head annually.

Reimbursement amounts are limited to a percentage of the feed costs excluding transportation and are capped at $250,000 per vendor annually. For FY08, the program has dispersed approximately $2 million to more than 20 applicants.

- **USDA National Organic Certification Cost-Share Program**

  This four-year USDA program reimburses organic producers and handlers 75 percent of their certification cost (up to a maximum of $500). The cooperative agreement between USDA and the State of Hawai'i extended from October 1, 2004 to September 30, 2008. Organic certification is an important marketing tool for organic farmers. As of September 30, 2008, MDB had reimbursed 116 applications totaling over $38,000 statewide. The $40,000 funding for this program was fully expended prior to the expiration of the cooperative agreement. Applications for an additional $10,000 were received after the funding limit was reached, showing the popularity of the program and its benefit to organic growers and handlers in Hawai'i.

Local Market Promotions and Activities

- **Hawai'i Lodging, Hospitality, and Foodservice Expo in Honolulu - July 11-12, 2007**

  Featured new product s included local ground beef and Kulana's 21-day dry-aged, grass-fed beef and a new vaierty of cantaloupe from Aloun Farms. HDOA along with the Aquaculture Development Program was recognized and awarded a First Place plaque in the best booth in the Expo which includes discounted booth space in the 2008 Expo. The event attracted nealy 6,000 buyers-chefs, caterers, retail grocers, convenience stores, hotels, military, and others.

- **Made in Hawai'i Festival in Honolulu - August 17-19, 2007**

  MDB coordinated the chefs demonstrations at the 12th Annual Made in Hawai'i Festival at the Neal Blaisdell Center, which consisted of more than 400 booths and attendance of more than 37,000 in attendance. The chefs included Derek Kurisu of KTA Super Stores, Eldon Ricardo of Holokai Grill, Elmer Guzman of Poke Stop, Grant Sato of KCC, Greg Denton and Mark Ellman of Mala Ocean Tavern, Fred DeAngelo of Ola Restaurant, University of Hawai'i Coaches Chili Cook-off, Michael Imada of Waikiki Hyatt Resort, and Bill Bruhl of Bluwater Grill. Nearly 4,000 food samples were served during the cooking demonstration. The chefs prepared dishes made from Island Fresh products. The area was decorated with Hawai'i-grown fruits, vegetables, flowers, and foliage from local farmers. Five local retail florists decorated the perimeter of the cooking demonstration area.

Derek Kurisu (right) of KTA Superstores on Hawai`i Island entertains the audience during the cooking demonstrations at the Made in Hawai`i Festivals. Assisting Derek are Tom Asano (left) of Kulana Foods and Chef Jason Takemura (center) of Hukilau Honolulu.

Mainland and International Promotions and Activities

- **Natural Products Expo West Trade Show in Anaheim, CA – March 14-16, 2008**

  Hawai'i participated in the world's largest natural, organic and healthy products trade show attended by more than 52,000 industry professionals from across the globe. It also attracted a record 3,392 exhibits to the Anaheim Convention Center in California. The Big Island Bee Company, Big Island Organics, Hawaiian Health Ohana, Hawaiian Host, NOH foods of Hawai'i, Noni Biotech International, and Tropical Traders Specialty Foods participated in the Hawai'i section. The $57 billion dollar natural and organic products industry continues to enjoy brisk sales with strong growth in certified organic meat and seafood, herbs and botanicals, and personal care. Estimated sales attributed to the event as reported by participants were $1.4 million.

- **Produce Marketing Association (PMA) Convention and Exposition in Houston TX – October 13-15, 2007**

  Six companies filled a 20' X 30' island booth at the PMA Expo in Houston, TX. Participating companies included Alembic International, Happy Hawaiian Plants, Hawai'i Papaya Industry Association, Hawai'i Tropical Fruit Growers Cooperative, Hawaiian Sunshine Nursery, and Ohana Banana Company. An estimated $1.3 million in sales were attributed to the event.

- **Western United States Agricultural Trade Association (WUSATA)**

  Promotion of the Branded Program via seminars in Kahului and Hilo and webinar presentations, one of which was specific to Hawai'i, resulted in three new Hawai'i companies joining the 2008 Branded Program. The Taiwan Direct Marketing Activity included a follow-up presentation to discuss the consumer sensory evaluation of the nine products selected for testing, seven of which were from Hawai'i companies. The WUSATA State Export Intern Program provided Hawai'i with an intern to produce an export trade reference containing export requirements for Hawai'i Agricultural Products. This document will begin with some of the commodities that are ready for export, such as chocolate, coffee, honey, macadamia nuts, and papayas to Canada, China, Hong Kong, Japan and Taiwan.

MARKET ANALYSIS & NEWS BRANCH

The Market Analysis and News Branch (MANB) is responsible for enhancing the effectiveness and efficiency of agriculture by conducting economic, market and business feasibility research, evaluating the efficiency and effectiveness of market development programs, collecting data on agricultural commodity shipments, supply and wholesale prices and disseminating information through various media. Through these functions, MANB assists the State's agricultural industry in its development and expansion efforts and provides sound input for program planning and policy making within and outside the department.

MANB is tasked with two primary, yet distinct functions. The first involves research on all market aspects of agricultural products. Towards this end, MANB conducts some four research studies annually. The second function is carrying out the market news program, jointly with the Market News Branch of the Agricultural Marketing Service (AMS), United States Department of Agriculture. This program provides up-to-date information on current market conditions, wholesale market prices throughout the state, movement of fresh fruits and vegetables, and supply and demand information on different products.

Activities and accomplishments for FY 2008 included the following:

- Completed and jointly published a study with the University of Hawai'i at Manoa, College of Tropical Agriculture and Human Resources (UH-CTAHR) entitled, "*Comparative Advantage Trends of Selected Hawai'i Agricultural Products in the U.S. Mainland Market*," Economic Issues, Feb. 2008, EI-14.

- Completed and jointly published a study with UH-CTAHR entitled, "*The Contribution of Agriculture to Hawai'i's Economy: 2005*," Economic Issues, Jan. 2008, EI-13.

- Completed an internal study entitled, "*Wahiawa Irrigation System Economic Impact Study*."

- Completed annual estimation of Hawai'i's fresh fruit and vegetable inshipment for the 2007 calendar year, which will be published in the upcoming Statistics of Hawai'i Agriculture 2007.

- Assisted in a study entitled, *"Economic Impacts of Agricultural Reservoir Closures in Hawai'i"* to provide technical expertise in economic impact analysis model application and data analysis.

- Provided technical assessments, data extraction and analysis, study evaluations and research briefs to both internal and external clients of the department. Some examples include the following:
  - Technical review of a study entitled, "*Hawai'i Agricultural Water Use and Development Plan*," UH-CTAHR.
  - Evaluation of the Hawai'i Farm Bureau Federation's management practices of its grant-in-aid projects.
  - Data and statistical analysis on Hawai'i's macadamia nut industry's global competition and update on U.S. macadamia nut imports.
  - Data and statistical analysis of changes in fuel surcharge-handling and commodity prices in Hawai'i over 2007-2008.
  - Data and statistical analysis of changes in world fertilizer prices over 2007-2008.
  - Statistical update of Hawai'i's papaya production and trade, for papaya Market Report. Also compiled and provided papaya export data to USDA-NASS and USDA-AMS for use in their monthly reporting.
  - Monthly reports on volume inshipment of fresh fruits and vegetables into Honolulu for use by HAS/USDA-NASS Hawai'i Field Office.
- Continued to collaborate with the HAS/USDA-NASS and the National Association of States Department of Agriculture (NASDA) in enhancing the data collection efforts of the MANB.
- Continued to collect, compile, publish and disseminate weekly reports on a timely basis with limited personnel. Published 416 reports which include:
  - Honolulu Wholesale Prices of Fresh Fruits and Vegetables;
  - Neighbor Island Wholesale Prices of Fresh Fruits and Vegetables;
  - Weekly Honolulu Arrivals of Fresh Fruits and Vegetables;
  - Honolulu Barge Arrivals; and
  - Honolulu Wholesale Egg Market.

HAWAII AGRICULTURAL STATISTICS BRANCH

Mark Hudson, *State Agricultural Statistician/Director*

The Hawai'i Agricultural Statistics (HAS) Branch is a cooperative effort between the Hawai'i Department of Agriculture and the National Agricultural Statistics Service, U.S. Department of Agriculture. This partnership, spanning over four decades, allows the efficient use of state and federal resources, while at the same time provides a comprehensive array of agricultural intelligence and reduces respondent burden.

Major activities of the branch included data collection, analysis, and timely publication of agricultural statistics of the State. The result of these efforts was a measure of total farm-gate estimated value of $582 million during 2006. Most of the data collection efforts were in the diversified agriculture sector, which was valued at $456 million in 2006.

Activities during FY08 included the following:

- Completed Census of Agriculture Area Coverage Survey.
- Collected 2007 Census of Agriculture Data.
- Published Hawai'i Ag Tourism Release.
- Began publishing sod value of production in our Hawai'i Flowers and Nursery Products Annual Summary release.
- Published 130 reports.
- Made over 15,000 individual contracts via personal interviews, telephone, and mail questionnaires.
- Distributed more than 40,000 releases to farmers, other individuals, businesses, universities, and governments worldwide.
- Answered more than 1,000 individual requests for information by mail, telephone, and office handouts.

Statistical reports are available on the HDOA website at: *www.hawaii.gov/hdoa/* and free e-mail subscriptions are available at *www.usda.gov/sub-forms.htm*

AGRICULTURAL LOAN DIVISION

Dean Matsukawa
Administrator

The Agricultural Loan Division operates the Agricultural Loan Program and Aquaculture Loan Program. The program's primary objective is to promote the development of the state's economy by stimulating, facilitating, and granting loans to qualified farmers, ranchers, aquaculturists and food manufacturers.

The program works with private lenders through participation loans and provides loan guaranties to increase the amount of funding available to agriculture and aquaculture industries. The program provides direct financial assistance to those that are unable to obtain financing from conventional sources. The division also serves as a safety net for agriculture and aquaculture industries by providing assistance in times of emergency. The program is self-sufficient, operating through interest collections, and is able to achieve its objectives of growth, development and preservation of the agricultural and aquacultural industries without any taxpayer funding.

The Agricultural Loan Division is committed to the growth, development, and well-being of the agricultural and aquacultural industries in Hawai`i. For FY08, the division provided 23 loans totaling $2,121,500 in low interest financing for agriculture. The loans funded a wide variety of projects including land purchase, expansion of farm operations and improvement of farm infrastructure. The emergency loan program provided relief and assistance to farmers that were affected by the heavy rains, flooding, winds and wildfires. The types of farm operations assisted were varied and included truck crops, nursery, papaya, orchid, vegetable and flower operations.

The division's mission is to support economic development by supporting the agriculture and aquaculture industries. These industries have been experiencing rapidly escalating energy costs which significantly affected operations. The unprecedented high oil prices resulted in higher transportation, fuel, fertilizer and chemical costs for farmers making their operating environment very challenging. A new loan program was created to help full-time farmers, ranchers and aquaculturists become more sustainable by reducing dependence on fossil fuels. Projects would create renewable energy through sources such as photovoltaic, hydroelectric, wind, methane, biodiesel, and ethanol. The program also allows for funding of food safety projects to create a safer food supply for the citizens of Hawai`i.

Major activities and accomplishments of the program for FY08 were as follows:

- Approved 23 loans for $2.122 million during FY08. The loans helped farmer and aquaculturists retain or increase acreage by 2,867 acres. The division's loans also helped to preserve or increase employment for 259 farm employees and laborers.

On August 12, 2007 a wildfire began in Waialua, O`ahu that lasted five days and burned approximately 7,000 acres in the area. An emergency loan was provided to James Song to help him to recover from the fire that destroyed a substantial amount of his papaya and banana crop.

Above: ***Hui Ku Maoli Ola LLC, owned by Matthew Schirman and Richard Barboza, has been rapidly increasing production of native Hawaiian plants at their nursery in Haiku, O`ahu. The division provided them with financing to acquire additional farm land to further increase their production.***

- The division's loan portfolio as of June 30, 2008 was valued at $15.37 million with 205 loans booked. The loan breakdown by county is as follows:

Hawai`i County	$5.86 million
O`ahu County	$3.18 million
Maui County	$4.81 million
Kaua`i County	$1.52 million

- Collected $2.73 million in FY08. Of the amount collected $646,860 was in interest and $2.085 million was in principal.

- Activated an Emergency Loan program to help farmers recover from wildfires which affected the State in August of 2007.

- The division modified nine loans during FY08 for a variety of purposes including change in lien position, release of collateral, payment relief, etc.

- Activated an Emergency Loan program to help farmers recover from storms which affected the state in December of 2007.

AGRICULTURAL RESOURCE MANAGEMENT DIVISION

Brian Kau, P.E.
Administrator/
Chief Engineer

The Agricultural Resource Management Division (ARMD) works to ensure that the State has adequate and reliable sources of agricultural water, farmland, infrastructure for farming, and agricultural-related processing facilities. The division provides administrative oversight over a majority of state agricultural land in production, processing facilities, and several irrigation systems statewide.

By maintaining and operating abandoned plantation irrigation systems, the division supports and encourages the development and expansion of diversified agriculture on former mono-crop plantation lands.

Activities for FY 2008 included the following:

Capital Improvements

- **Earthquake Recovery**
  Nearly two years after the October 15, 2006 earthquake devastated the Honokaa-Paaauilo and Waimea Irrigation Systems, HDOA can finally see the light at the end of the tunnel. Over the past year, the HDOA has made significant progress to restore the two systems.Notable projects completed include the Alakahi Intake Restoration – Phase 1, which removed landslide material and repaired the stream crossing tunnel roof; debris and sediment removal from 28 tunnels which totaled over 10,000 linear feet; replacement of the 90-foot long Waimea Flume No. 1 which catastrophically failed; and the restoration of the Waimea Access Trail that was decimated by landslides. Completion of these projects enabled the HDOA to substantially restore irrigation water flow back into the systems. HDOA currently has four ongoing earthquake related projects remaining that are anticipated to be completed by the end of the year and another project scheduled for completion in early 2009. The most difficult and dangerous project remaining is the Alakahi Intake Restoration Phase 2 which is located deep in Waipio Valley. This project will provide additional reinforcement for the intake structure that will help minimize damages from future landslide occurrences. Thus far, HDOA has secured over fourteen million dollars worth of projects which include federal funding from the USDA-Natural Resources Conservation Service. The road to recovery has been a long and grueling journey. When damages from the earthquake are repaired and flow is fully restored in the systems, the agricultural community will have a reliable source of irrigation water. The department foresees the Honoka`a-Paauilo and Waimea Irrigation Systems as major contributors to the state's agricultural economy in the near future.

- **Waimanalo Irrigation System**
  As the HDOA's oldest system, the Waimanalo Irrigation System is looking forward to much needed improvements that will help to maximize efficiency in transportation of irrigation water. Constructed in 1878 for the Waimanalo Sugar Company, the Maunawili Valley collection system consists of approximately four miles of open ditches, pipe siphons, culverts, flumes, and tunnels which transports irrigation water to the 60 million gallon (MG) Waimanalo Reservoir.

  Age, weather, and lack of resources have led to a steady deterioration of the system, including severely eroded ditch embankments, leaking flumes and culverts, landslide damages, overgrown access roads, root damages from large trees, and seepage of unlined ditch sections.

  The HDOA received a $6 million appropriation which couldn't have come at a better time. Funds will be used to design and construct improvements that will mitigate the deficiencies and enable the department to capture, retain, and deliver the maximum amount of irrigation water to the Waimanalo agricultural community.

  In the interim, HDOA staff and farmers who graciously volunteered their services have been actively taking on smaller projects to help minimize leakage throughout the system. Debris catchment baskets were fabricated and installed at several open ditch sections to reduce potential clogging of downstream grates.

Another project involved installation of a sheet metal lining in a deteriorated and leaking section of unlined open ditch. If all goes well, construction could begin as early as Fall 2009and the Waimanalo Irrigation will be on its way to a more reliable source of irrigation water.

- **Waimea Irrigation System**
  Another system scheduled for major upgrades is the Waimea Irrigation System (WIS). As the department's second most productive system, the century year old WIS transported over 340 million gallons per year to approximately 640 acres.

  The majority of use comes from the Lalamilo Farm Lots which produce an assortment of crops including Chinese cabbage, tomatoes, asparagus, strawberries, cantaloupe, watermelon, and a wide variety of lettuce. Over the past few years, the distribution system which services the Lalamilo Farm Lots has encountered several pipeline failures stemming from deteriorated inner walls. Each occurrence resulted in water losses, crop disruption, temporary "shut-down" of the system, and emergency repairs.

  Design of the "Lalamilo Distribution Pipeline Replacement Phase 2" project was completed earlier in the year and construction is anticipated to begin by the end of 2008. This phase of work will include replacement of service laterals, meters, pressure reducing valves, and installation of approximately three miles of new distribution pipeline which will vary in size from eight to 24 inches in diameter. Issues regarding low pressure in the system will also be addressed which will provide farmers more flexibility in irrigation of crops. The department is eager to implement these improvements which will allow farming in Waimea continued success.

- **Non-Agricultural Park Lands Program**
  The non-agricultural park lands program rules went into effect on December 6, 2007. The parcels identified for the initial transfer are being processed by the Department of Land and Natural Resources so a Governor's Executive Order can be issued to formally transfer the lands to the HDOA. Following the formal transfer, the HDOA will begin actively managing the parcels. Identification of the next group of parcels is currently underway.

Ronald and Dora Okazaki operate a 10-acre farm in Panaewa under the non-agricultural park lands program. Mr. Okazaki was a school teacher at Laupaho'eho'e schools for 30 years. While there, he started a mail order business selling ti leaf and anthuriums as a side business. Upon retiring, Mr. Okazaki started up his cut foliage business and is currently harvesting leaves from his plantings that include ti leaf, Song of India, lauhala leaf, red ginger, banana leaf, and various types of palms.

Mr. Okazaki exports to California and Seattle; however, the bulk of his business is done locally. His local clients include: Green Point Nursery, Pacific Floral, Floral Resources, Hata's, Hawaiian Green House Nursery, Orchids of Hawaii, Hawaii Tropical Foliage, Lillies of Kona, and Flowers for Mama in Kona. Mr. Okazaki is constantly looking for more items to add to his well kept nursery.

Raymond Tanouye dba Mountain Meadows, Inc. also operates a farm in Panaewa under the non-agricultural park lands program. Mr. Tanouye started Mountain Meadows, Inc., which consists of 2.468 gross acres, approximately four to five years ago. Prior to starting his landscaping business, Raymond worked for an anthurium farm for 30 years. He had absolutely no experience with landscaping plants when he decided to venture out into this new business.

Like many starting out, Mr. Tanouye had no funds to start. He decided to see his banker of 40 years and ask to borrow some money. With no hesitation, he was granted a $200,000 loan by his banker, confident that Raymond would "make it happen". Today, Mr. Tanouye's nursery brings in approximately one million dollars per year. He exports to Honolulu, Maui, and Kauai and supplies various companies on the Big Island. He ships a forty foot trailer to Maui Island weekly.

Raymond's work crew consists of six people, including him. Although Mr. Tanouye is nearing 71 years of age, he obviously loves what he does and has no intention to quit just yet.

- **Agricultural Parks Program**

  Hawaiian Sunshine Nursery started in 1978 in the backyard of the home of its founders Sandy Kasman and David Fell. From its humble beginnings, the husband and wife team built Hawaiian Sunshine Nursery to become one of the largest producers of nursery products in Hawaii.

Hawaiian Sunshine Nursery, Panaewa Agricultural Park, Hawai`i Island

Hawaiian Sunshine Nursery specializes in growing bromeliads and tropical foliage for the retail, landscape, and resort industries. With locations on the Island of Hawai`i (fee and leased) and on O`ahu, Hawaiian Sunshine Nursery produces over 400,000 plants annually for the local and export markets. Their local clients range from independent florists to big box retail outlets and their export markets include the mainland, parts of Europe, Costa Rica, and aspirations towards Japan.

In the highly competitive nursery business, the team continues to thrive by adhering to the philosophy of providing healthy, quality products; adapting to changing market environments through innovations; and carving out niche markets by developing unique proprietary products.

Co-founder David Fell holds several patents and breeder's rights to plants that he developed over the years.

Hawaiian Sunshine Nursery has been a lessee in the Panaewa Ag Park since 2006. During the last two years, they have completely remade the 10-acre site into a thriving nursery for dracaena field stocks and other foliage. A plant sanitation facility has been targeted for the location.

Besides being the recipient of the 2008 Tropical Plant Industry Exposition's Favorite New Flowering Plant Award, Hawaiian Sunshine Nursery was named by the U.S. Small Business Administration earlier this year as the 2008 Small Business Administration Exporter of the Year for Region IX, which includes Hawai`i, California, Nevada, and Arizona.

Hikari Nursery was formed in 1988 by Lew and Sheila Nakamura. The husband and wife team are owners and sole employees of Hikari Nursery. They became a lessee of the Pahoa Ag Park in 1988. The couple developed the two lots in the Pahoa Ag Park financed with an Agricultural Loan from the Department. Specializing in the production of interior dracaenas, in particular the D. Lisa and D. Janet Craig, Hikari Nursery is mainly an exporter with markets that include California. Hikari exports between 5,000 to 6,000 plants a year.

The nursery is currently working on new varieties of plant products that should be ready for release in 2009. The nursery grows 50 percent of its stock on site and purchases the other half from local stock growers.

Ag park fiscal data is available on pages 61 & 62.

- **Irrigation Systems**

Drought

Each summer, our division is faced with the difficult task of encouraging farmers to plan their water use through conservation and efficiency.

Drought is a chronic and troublesome problem in Hawai`i, at one time or another affecting virtually every part of the state. These events often reduce crop yields, diminish livestock herds, desiccate streams, irrigation ditches and reservoirs, deplete ground water supplies, and lead to forest and brush fires. Periods of drought invariably give rise to water crises, sometimes requiring imposition of emergency conservation measures.

Lack of rainfall is not the only factor contributing to the impacts of drought. Both natural events and human activities, such as expanding populations, irrigation, and environmental needs, all put pressure on water supplies. The agricultural industry is usually the first to be impacted by drought.

The Waimanalo Irrigation System has been hit the hardest by drought in recent years. This year, a mandatory conservation measure requiring a 20 percent reduction in water use went into effect April 7, 2008 in an attempt to forestall the shortage of irrigation water stored at the 60 MG Waimanalo Reservoir. Unfortunately, rainfall patterns did not improve and the initial conservation measure was intensified to a 30 percent mandatory cutback on July 11th. Both of these measures were implemented many months prior to conservation orders in previous years.

The Moloka`i Irrigation System (MIS) delivers approximately 3.0 million gallons of water daily to irrigate about 2,800 acres of agricultural lands. ARMD staff had met with the Moloka`i Irrigation System Water Users Advisory Board and the largest non-homestead water users to discuss alternatives to mandatory system wide conservation measures. Several of the largest irrigation water users have expressed their desire to cooperate with the MIS by voluntarily designing a functional conservation plan wherein each large user will reduce consumption by 20 percent compared to the same time over the past several years. In spite of these efforts, a mandatory 20 percent cutback for all non-homestead users was required effective June 1st and remained in effect through the end of the fiscal year.

A declaration of a drought emergency for the entire State of Hawai`i was granted on July 30, 2008 by the Secretary of the U.S. Department of Agriculture. This action triggered Federal low-interest loan services and activation of the State's Emergency Loan Program.

The lack of rainfall in parts of the Big Island has impacted pasture lands and depleted catchment water for livestock. It has also reduced the available grazing land and feed for cattle. Ranchers are forced to find alternative sources for feed and water and reduce herd sizes to cope with drought. The one bright spot in this situation is the repairs completed on the Lower Hamakua Ditch. These improvements have allowed the ditch to meet all the water demands of the ranchers and farmers through these dry times.

Kazuto Yamada is a second-generation farmer who grew up on Maui, where his family farmed cabbage and other vegetables. He moved to Oahu to attend the University of Hawai`i and majored in chemistry where he met Ayako Sumida and they were married in the mid '60's.

During this time, Ayako grew fragrant tuberose on four acres of leased State land in Waimanalo. Kazuto, working as a chemist, also attempted to produce orchids and other crops, however, found difficulty in maintaining consistency in a quality commodity which was economically viable. Ayako established sales of the fragrant tuberose to the lei vendors of the Honolulu International Airport.

Repairs to Waimea Irrigation System Flume #1 after it suffered severe earthquake damage in October 2006.

In 1967, they decided to do the tuberose propagating full-time. Thus, A&K Nursery was created and four acres eventually grew to approximately 20 acres. In 1986, son, David, began to help in the family business. The tuberose production was also relocated to Hale`iwa in 1996 on 150 acres of former sugar land. To this day, they provide tuberose and white ginger to the local and mainland markets.

John F. Queeny founded the original **Monsanto** in 1901. Their first product was saccharine. The original Monsanto diversified and produced and marketed agricultural products, including 'Roundup'. During the past 107 years, many changes have taken place and Monsanto has acquired other entities to expand its capabilities into biotechnology and pharmaceuticals yet still remaining primarily an agricultural company.

Today's Monsanto Company (in Moloka`i) started as Holden's Foundation Seeds in 1967. Monsanto acquired Holden's Seed in 2000 and operated on 30 acres of land in Kaunakakai. Over the next eight years, Monsanto has increased its productive acreage to 1,600 acres. Planting and harvesting continue year round in Hawai`i's ideal climate producing approximately 20,000 bushels of seed corn or about one million pounds. Monsanto employs 100 full-time and 50 seasonal employees who are all residents of Moloka`i.

Monsanto typically plants 250 to 300 different varieties of seed corn each year. The development of improved varieties are used in all growing environments around the world and for the many different products that are made from corn, such as oil, feed, fuel, and food.

Irrigation system fiscal data available on pages 61 & 62.

Capital Improvement Projects for FY 2008

The following projects were completed on the Big Island this year:

- Lower Hamakua Ditch (LHD) Phase IV Flume Replacement - construction
- Pre-Disaster Mitigation, Flood Proofing of the LHD – design
- Waimea Irrigation System (WIS), Bridge Replacement – design
- WIS, Lalamilo Distribution Pipeline Replacement, Phase 2 - design

The following projects are ongoing on the Big Island:

- Honomalino Watershed (South Kona) - plans
- Paauilo Rendering Plant – construction

The following projects were completed on Maui this year:

- Upcountry Kimo Road Lateral - construction

The following projects are ongoing on Maui:

- Upcountry Phase V Main Line Extension - construction
- Upcountry Pulehuiki Lateral – construction
- Upcountry Phase IV Main Line Extension - design
- Upcountry Phase VI Main Line Extension – design

The following projects were completed on Moloka`i this year:

- Irrigation System Electrical/Telemetry Improvements – design

The following projects are ongoing on O`ahu:

- Waiahole Irrigation System Reservoir Improvements - design

The following projects were completed on Kaua`i this year:

- East Kaua`i Irrigation System, Miscellaneous Improvements - design

The following projects are ongoing on Kaua`i:

- East Kaua`i Irrigation System, Upper Kapahi Flume Replacement – construction

The following statewide projects were completed this year:

- Hawai`i State Irrigation Systems Water Conservation Improvement Study - plans

ANIMAL INDUSTRY DIVISION

James Foppoli, Ph.D., DVM
Administrator/
State Veterinarian

The mission of the Animal Industry Division is to protect Hawai`i's livestock and poultry industries and public health by preventing disease introductions and detecting and controlling economically important diseases or pests within the state.

The division conducts: animal disease surveillance, epidemiology and control; inspection of all animals and birds entering the state; livestock brand registration; voluntary livestock disease certification and premise registration programs; laboratory diagnostic services; and dog and cat quarantine to reduce the risk of rabies introduction.

An important focus of the division continues to be animal health emergency management, especially with respect to avian influenza virus or other highly contagious livestock and poultry diseases. Public health and environmental programs aimed at preventing the introduction of foreign animal diseases into the state continue to be important functions of the division.

Hawai`i's statuses for State-Federal Cooperative Disease Control Programs during FY08:

Brucellosis Free, cattle and swine
Pseudorabies Free, Stage V
Bovine Tuberculosis, Accredited Free

Hawai`i is also recognized as free of blue tongue virus and anaplasmosis, and surveillance programs for these diseases are ongoing to insure that the "free" status is documented and maintained. No new livestock and poultry disease agents were detected during FY07; however, White Spot Syndrome Virus, a reportable disease was detected at a Kaua`i shrimp operation.

The division continues to encourage livestock owners to register their premises as part of the National Animal Identification System. The University of Hawai`i, College of Tropical Agriculture and Human Resources, has been contracted for a second year to hold outreach sessions for producers on O`ahu and neighbor islands.

Continuing activities relating to voluntary disease control programs include scrapie in sheep and goats, Johne's disease in beef and dairy cattle, classical swine fever surveillance in pigs, and bovine tuberculosis in feral swine on east Moloka`i. Stringent import requirements remain in place for birds entering Hawai`i in an effort to reduce the chances of West Nile virus introduction.

The division received cooperative agreement funds from the United States Department of Agriculture, Animal and Plant Health Inspection Service, totaling $173,800 during FY08. The agreements supported specific activities such as the voluntary scrapie herd and flock certification program ($10,000), swine health protection ($32,600), classical swine fever ($40,100), foreign animal diseases ($15,000), Johne's disease surveillance and control ($20,500), and National Animal Identification System ($55,600).

RABIES QUARANTINE BRANCH

Isaac M. Maeda, D.V.M., *Program Manager*

The Rabies Quarantine Branch processed an all time high of approximately 9,504 dogs and cats entering Hawai`i during fiscal year 2008 (FY08). This number exceeded the previous high of 8,966 in FY 06 and was nearly eight percent higher than the total of 8,804 animals in FY07. The entries in FY08 represent an increase of almost 100 percent from the 4,771 animals that entered Hawai`i prior to the start of the 5-Day-or-Less program in FY03. In addition, 321 animals transited through the State and approximately 251 guide and service dogs were processed resulting in approximately 10,076 dogs and cats that were managed by the program in FY08.

The following are rabies quarantine statistics for cats and dogs arriving between July 1, 2007 and June 30, 2008 (FY08):

PROGRAM	NUMBER	PERCENT
120-day	649	6.8
5-Day-Or-Less*	1,010	10.6
Airport Release	7,845	82.6
Total	9,504	100
Transiting Through Hawai`i	321	

* Includes dogs and cats arriving early

Since the 5-Day-or-Less program was implemented in June 2003, the rabies quarantine program has transitioned away from a "quarantine only" system to one that permits the release of qualified dogs and cats directly from the airport when specific pre-entry requirements are met. Such requirements include:

- Positive pet identification (electronic microchip);
- A minimum of two pre-entry rabies vaccinations;
- Rabies serological testing to measure vaccination response and 120-day waiting period after a passing test before entry into the state; and
- Inspection upon arrival.

The direct release of qualified dogs and cats at the airport has increased the workload for the veterinary, inspection, clerical and accounting staff. Staff and computerized databases are relied upon to monitor and verify information relevant to qualification. Considerable time is spent reviewing documents, pre-qualifying pets, processing payments, receiving and inspecting pets and addressing the needs, questions and concerns of the general public. The clerical, veterinary and inspection personnel spend a significant amount of time e-mailing and speaking with pet owners on the phone or in person explaining program requirements. It is still estimated that about half of all submitted essential documents require follow-up contact with veterinarians or pet owners due to deficiencies.

Although approximately 7,845 dogs and cats were released at the airport in FY08, this number does not reflect the workload of the total number of pet documents processed, as the database contained over 56,000 files of animals for the 5-Day-or-Less program alone. Livestock Disease Control Branch staff including the port veterinarian and livestock inspectors provide critical support to the program by assisting rabies quarantine veterinary technicians in inspecting and processing dogs and cats released at the Airport Animal Quarantine Holding Facility seven days a week. The 5-Day-or-Less program continues to be very successful, but it is labor intensive in documentation and verification. An estimated amount of more than eight percent of arriving pet owners do not submit the required pre-arrival documents beforehand resulting in additional screening and verification of these cases by the inspection staff at the airport facility. Pet owners that do not submit the required documents beforehand along with increasing numbers of animals arriving in the state contribute to the challenges faced by the staff.

The department routinely updates its website and information brochure dedicated to Hawai`i's rabies quarantine program that contain all of the information and forms relating to quarantine and the importation of cats and dogs. Pet owners may access pre-arrival FAVN rabies serological test results and 5-day-or-less quarantine-eligible dates at this HDOA website. Checklists for the 5-day-or-less program are available at the site to assist pet owners of both resident pets and non-resident dogs and cats with preparations to qualify for this reduced quarantine option. Enhancements to the computer system are ongoing to effectively manage the data and processing of 5-day-or-less dogs and cats.

Under the 5-day-or-less program, pets may be released at Honolulu International Airport if they complete pre-arrival requirements that include (but are not limited to):

- Two rabies vaccinations, with the last vaccination administered no more than 12 months prior to arrival if it was a one-year vaccine, or no more than 36 months prior to arrival if it was a three-year vaccine. (The two vaccinations may not be administered within 90 days of each other; and the last vaccine must be administered no less than 90 days prior to the pet's entry into the state.)

- Microchip implantation for identification purposes;

- OIE-FAVN rabies blood test results with sufficient level of rabies antibodies;

- 120-day pre-arrival waiting period between the time the lab receives the blood sample and the earliest date the pet may enter the state (the pre-arrival waiting period is necessary due to the long and variable length of rabies incubation, where the virus may hide in an animal before clinical signs of the disease become apparent); and

- Pet owners must also submit required paperwork more than 10 days before the pet's arrival.

Pet owners that do not submit the required documents have their pets held in quarantine for up to 120 days until all requirements are completed and documents submitted.

Approximately 93 percent of arriving dogs and cats qualified for the 5-Day-or-Less program in FY08. Furthermore, of the approximately 8,855 pets that qualified for the 5-Day-or-Less program, 7,845 pets (>88 percent) qualified for direct release upon arrival at Honolulu International Airport. In comparison only 6.8 percent (649) of the arriving animals were quarantined for 120 days.

Midway in FY06, 30-day quarantine was eliminated as a distinct category since animals may qualify for quarantine periods between zero (airport releases) to 120 days under the early arrival provision in the 5-Day-or-Less program. Animals previously in the 30-day category are now included within the 5-Day-or-Less program as arriving early by 30 days. Modifications to the computer system that were completed in January 2008 now permit the compilation of data on early arrivals.

The daily population of animals occupying the animal quarantine station at any given time during FY08 ranged between 222 and 370 animals. The fluctuation in daily animal population at the station was lower and varied between 182 to 341 dogs and cats during FY07. In turn, the average daily population was higher in FY 08 than FY07.

In FY07, the department initiated a system that allows dogs and cats to enter Hawai`i directly at Kona International Airport at Keahole, Kahului Airport on Maui and Lihue Airport on Kaua`i. Quarantine approved veterinary facilities serve as private contractors to inspect animals upon arrival at these airports because the rabies quarantine program does not have personnel on islands other than O`ahu. A pet owner must apply for a Neighbor Island Inspection Permit (NIIP) to fly with their dog or cat directly to one of these airports from the continental U.S.

The following are requirements to obtain a NIIP:

1. Every dog or cat must meet all the requirements listed on the "Checklist for the 5-Day-or-Less Program" except that all required documents must be submitted earlier (30 days or more before the intended date of arrival).

2. Pet owners must submit the following documentation to the Animal Quarantine Station 30 days or more ahead of the planned arrival:
   - Completed and notarized Dog & Cat Import Form, AQS 278
   - Original rabies vaccine certificates for the two most recent vaccinations
   - Payment of $165 in cashier's check or money order made out to the Hawai`i Department of Agriculture
   - Flight information
   - A letter from the owner requesting Direct Airport Release at either "Kona" or "Kahului" or "Lihue"

3. Owners must make reservations for inspection with an approved contractor. Contractors will then send a confirmation to the Animal Quarantine Station that they have agreed to perform the inspection and release procedure on the dog or cat. Owners are responsible for the additional fees to the contractor for this service.

4. A Kona, Kahului or Lihue Neighbor Island Inspection Permit will be mailed to the owner once the Animal Quarantine Station has:
   - Received the above required documents, information and payment (see 2 above);
   - Confirmed the pet meets all of the requirements for the 5-Day-or-Less program and neighbor island inspection and release; and
   - Received confirmation from the approved contractor that they will meet the pet.

5. The original Neighbor Island Inspection Permit must accompany the dog or cat on the aircraft and be submitted to the inspector upon arrival in Hawai`i.

Pet owners are informed that all airlines may not be participating in flying dogs and cats with Neighbor Island Inspection Permits to Kona, Kahului and Lihue.

In addition to rabies exclusion, the quarantine program continues to monitor dogs and cats carefully for ticks exotic to Hawai`i. Although animals were discovered that were carrying Rhipicephalus sanguineus ticks in FY08, Amblyomma americanum ticks were also discovered and eliminated from an animal arriving in Hawai`i during FY08. This genus has been implicated in the transmission of diseases of veterinary and human medical importance. Rhipicephalus sanguineus, the brown dog tick, is the only tick established in Hawai`i associated with dogs.

HDOA's Hawai`i Island veterinarian Dr. Kim Kozuma conducts annual surveillance activities for Scrapie at the Kukaiau Ranch on the Hamakua Coast.

LIVESTOCK DISEASE CONTROL BRANCH

Jason D. Moniz, D.V.M., *Manager*

The Livestock Disease Control Branch prevents, investigates, conducts surveillance, controls and eradicates animal diseases that may have serious economic impact on the state's and nation's livestock and poultry industries, some of which impact public health. The branch inspects animals entering the state and insures compliance with division rules and laws pertaining to the control and eradication of animal diseases.

- **Avian Influenza (AI)**
  Highly pathogenic Avian Influenza (H5N1) continues to circulate in wild birds and poultry in Asia, Africa and Europe and continues to cause disease in humans closely associated with infected birds/poultry in those areas. The program participates with statewide efforts to monitor birds for AI by testing diseased poultry found on farms and imported to the state. To date, no positive AI (H5N1) tests results have occurred in domestic or wild birds in Hawai`i or North America.

- **West Nile Virus (WNV)**
  To prevent WNV from entering the state undetected, an embargo on the movement of poultry and other birds, except chicken hatching eggs and chicken day-old chicks through the U.S. Post Service remains in place. A "Poultry and Bird Import Permit" for all poultry and other birds including all hatching eggs and day-old chicks is also required for entry into the state. Those species of poultry and birds capable of producing high WNV levels are required to undergo a seven-day pre-arrival quarantine before qualifying for an entry permit. Poultry and other birds arriving in the state not meeting entry requirements are refused entry. In FY08, nineteen shipments of poultry or other birds were refused entry or returned by carriers to their origins for failing to meet entry requirements. West Nile virus arrived in the continental U.S. in 1999 and since then it has made its way westward and now affects all states except Hawai`i and Alaska.

- **Bovine Tuberculosis (BTB)**
  Bovine Tuberculosis free status maintained
  The State of Hawai`i continues to maintain a "Bovine Tuberculosis Free Status."

  Bovine tuberculosis (BTB), a chronic, debilitating disease of cattle, bison, goats, cervids and other animals that can also cause a serious disease in man, is caused by the bacteria Mycobacterium bovis.

  State and federal veterinarians continue to test cattle herds annually and manage hunter assisted surveillance of wildlife on the east end of Molokai, where bovine tuberculosis has been a recurrent problem for the past 65 years. The last BTB-infected cattle herd, located on eastern Moloka`i, was depopulated without further spread in 1997 and no new cases of BTB in cattle have been found. BTB is reoccurring nationally with infected herds being found in several states including (NM, CA, WI, and MI).

  A hunter-assisted survey for BTB in wildlife began in 1998 on Moloka`i to monitor the prevalence of infection in axis deer, feral swine, feral goats and mongoose. Since the surveillance began in 1998 only infected feral swine have been detected. From 1998 through June 30, 2008, 15 feral swine have been found infected. So far, six of the 15 infected feral swine were found in FY08. Trapping is also used to capture feral swine. One axis deer and 49 feral swine were tested during FY08. To date, all infected feral swine have been found within a two-mile radius of Ualapue where the 1997 infected cow was found. The BTB infection appears to be maintaining itself in the feral swine population. One infected feral pig was detected near the western edge of the control area at Kamalo. Increased hunting and trapping efforts are being made to determine if spread has occurred in this area.

  To prevent the potential spread of bovine tuberculosis from eastern Moloka`i, all cattle east of Kamalo are required to obtain a permit and have an annual negative BTB test to move. All herds are in compliance with established testing and movement requirements. In addition, feral swine movement out of areas east of Kamalo has been prohibited by a quarantine.

  A USDA grant for $30,000 received in FY07 was extended in FY08 to continue surveillance in wildlife species on the East End of Moloka`i. This grant supports preparation and shipping of samples to the National Veterinary Service Laboratory and provides outreach to livestock producers, hunters and the community. The hunter-assisted program also reduces the feral swine population in the affected area thereby reducing the risk for transmission.

- **Bovine Brucellosis**
  Bovine Brucellosis class free status maintained
  Hawai`i has been officially classified free of bovine brucellosis since 1983.

  Bovine brucellosis is an infectious disease of cattle, bison and elk caused by the bacteria Brucella abortus. Brucellosis can also infect man. During the fiscal year, 8,857 cattle were tested for brucellosis. One suspect and no reactors were found. The suspect was reclassified as negative after an epidemiological investigation was competed. Spill over of Brucella suis from infected feral swine and Yersina entrocolitica cause cross reactivity on cattle surveillance testing

resulting in herd epidemiological investigations that may include herd testing. These investigations find that in areas where B. suis is endemic in feral swine, a single or few head may become transiently infected with B. suis but no cattle to cattle spread has been seen and no herd reproductive abnormalities have been found.

◆ **Swine Brucellosis & Pseudorabies (PRV)**
Hawai`i maintains free statuses for Swine Brucellosis and Pseudorabies

- **Brucellosis**
  Hawai`i retained its free status for swine brucellosis during FY08.

  Brucellosis in swine is caused by the bacteria Brucella suis. Infected swine experience reproductive problems including abortion and infertility. Brucella suis can cause serious infections in man. No domestic swine herds were found infected in FY08 and as a result Hawai`i maintains its Brucella suis free status.

  One significantly infected transitional herd was found in Kona and depopulated in FY08. After depopulation, cleaning and disinfection, the premise was double fenced to prevent reinfection after repopulating with negative domestic swine. Transitional herds are herds that commingle or allow feral swine to come in contact with domestic swine; therefore, posing a significant risk for infection.

  Feral swine in Kona, Hamakua, Kohala (Hawai`i), Kahakuloa (Maui), Ft. Shafter westward through Waianae, the North Shore and Windward (O`ahu) are known to be infected with swine brucellosis. Exposure of domestic swine to infected feral swine and the practice of maintaining transitional herds of mixed feral and domestic swine have been the source of all domestic swine brucellosis infections in the past.

  In addition to annual testing of all sows and boars over six months of age at slaughter, 25 percent of the herds in the state are randomly selected for testing to determine their brucellosis status. Surveillance for FY08 included 747 domestic swine, 39 transitional swine and 474 feral swine. Ten percent of the feral swine tested statewide were reactors to swine brucellosis.

- **Pseudorabies**
  Hawai`i maintains a free status for pseudorabies in swine.

  Pseudorabies (PRV), a viral infection of swine, causes respiratory disease and reproductive failure. Pseudorabies infection of other species (such as dogs) is typically fatal but humans are not susceptible.

  Pseudorabies surveillance testing of 785 domestic swine during FY08 found no infected domestic swine. One transitional herd was determined to be infected. Feral swine on the islands of Hawai`i, Maui and O`ahu are known to be PRV-infected. Twenty-seven percent of the feral swine tested in FY08 were positive for PRV. Infected feral swine are a constant threat to domestic swine herds. Twenty head of transitional swine and 525 feral swine were tested in FY08. A statewide quarantine order prohibits the introduction of feral swine into domestic swine herds and the inter-island movement of feral swine.

◆ **Transmissible Spongiform EncephalopathiesScrapie**
Hawai`i continues to be recognized as consistent with the USDA Voluntary Scrapie Certification Program Standards.

Scrapie is a transmissible, insidious, neuro-degenerative disease affecting the central nervous system of sheep and goats. Scrapie has not been diagnosed in goat or sheep flocks in Hawai`i.

Hawai`i received a $10,000 grant in FY08 to continue providing sheep and goat flock owners with educational information, enroll flocks in the status program, conduct surveillance testing on cull and diagnostic animals and provide for some genotype testing. A quarantine order is in place to require change of ownership identification requirements for certain classes of sheep and goats for Hawaii to remain consistent in the National Scrapie program.

◆ **Bovine Spongiform Encephalopathy (BSE)**
During FY08 BSE sampling on cattle exhibiting neurological signs, unknown causes of death and those unable to rise continued. There were no positive test results.

◆ **Chronic Wasting Disease (CWD) in Cervids**
During FY08 the program worked cooperatively with the State Department of Land and Natural Resources and USDA, APHIS Veterinary Services to conduct surveillance testing on captive and wild cervids in the State. No positives were found.

◆ **Voluntary Johne's Disease Herd Certification Program(VJDHCP)**

The causative agent for Johne's disease is the bacterium *Mycobacterium avium subspecies paratuberculosis* (MAP). The VJDHCP goal is to implement disease control measures to reduce or eliminate Johne's disease from cattle herds and conduct annual surveillance to verify a herd's status. A USDA cooperative grant of $20,500 received in

FY08 was used to conduct Johne's testing of dairy and beef herds, conduct risk assessments, write-up individual herd plans and provide outreach during the fiscal year. During FY08, 956 cattle were tested for Johne's disease. No cattle were cultured positive for MAP in FY08.

- **Importation/Exportation of Livestock, Poultry and Other Animals**
  An embargo on the movement of poultry and other birds into Hawai`i through the U.S. Postal Service implemented in September 2002 remains in place. The embargo remains in place to prevent the entry of West Nile virus, Avian Influenza and other avian diseases from entering the state with infected birds.

  Inspected and approved for entry into the state: 19,439 head of livestock; 6,965 poultry and other birds; 673,313 day-old chicks and hatching eggs; 19,613 dogs and cats; and 9,231 other animals.

  The branch staff conducted 52 compliance investigations, four citations were issued, 178 written warnings, and 19 animals were refused entry.

VETERINARY LABORATORY BRANCH

Crane H. Hahn, D.V.M., *Program Manager*

The Veterinary Laboratory continues to provide a diverse range of animal disease diagnostic services, ensuring accurate and timely support to the department's goals and objectives.

Ongoing laboratory tests for livestock diseases are to support the division's disease surveillance programs and to participate in various State-Federal cooperative programs. It also has a critical role in providing a solid basis for the state to demonstrate livestock disease-free statuses that would facilitate animal movements to national and international markets.

During FY08, with improved test techniques and turn-around time, approximately 26,000 tests/samples, almost 5,000 more than FY06-07, were processed and tested for serological, parasitological, and pathological diagnoses of livestock/poultry and pet animal diseases. In this the same period, the laboratory also participated in surveillance of potentially zoonotic infectious agents, such as avian influenza, West Nile virus, and prion diseases of animals. In cooperation with other agencies, such as Department of Health and Department of Land and Natural Resources, the laboratory collected and submitted 159 avian specimens to reference laboratories to rule out avian influenza, West Nile and highly pathogenic Newcastle's disease viruses; all samples tested negative for these agents.

Laboratory staff, in conjunction with University of Hawai`i, College of Tropical Agriculture and Human Resources, is continuing to participate in the National Animal Identification System - Hawai`i Animal Premise Identification System under a State-Federal cooperative agreement. Currently approximately 26 percent of farms/producers are registered, an increase of approximately three percent from FY07. The program's goal is to establish rapid (within 48 hours) traceability in the event of an outbreak of a highly contagious disease, foreign animal disease or newly emerging disease to minimize animal health and economic impacts of such a disease introduction.

As part of the division's goal to expand disease surveillance programs, the laboratory initiated surveillance for Classical Swine Fever (CSF) under a USDA cooperative agreement for $40,000. Samples for testing will be from pigs with clinical signs consistent with CSF. Classical Swine Fever, also known as Hog Cholera, is a highly contagious viral septicemia affecting only swine. It has been eradicated from the United States, but is still endemic in much of the world. Disease surveillance programs allow for the early detection of introduced disease agents that improve the chances of disease control and eradication.

Veterinary Laboratory's Statistical Highlights:

Serological section: Tests performed in serological diagnoses are Anaplasma ELISA, Bluetongue ELISA, Brucella testing (Card, BAPA and Rivanol), Equine Infectious Anemia AGID, Johne's disease ELISA, and Pseudorabies ELISA. The 19,021 tests performed during FY08 is approximately a 20 percent increase over FY07. Significant increases were reflected primarily in Johne's disease and Pseudorabies testing. All microbiologists performing serologic testing are proficiency tested and certified by the NVSL-USDA.

Clinical Pathology section: This section, including parasitology, hematology, urinalysis and cytology, processed and tested 6,060 in FY08; 1,838 more tests than in FY07. The majority of samples were from the Rabies Quarantine Branch, and the remainder from the Livestock Disease Control branch.

Pathology section: This section's responsibilities fall under the veterinary medical officers and chemist/histologist. During FY08, the pathology section handled 1,410 samples, including 279 necropsy cases and 1,089 slides for histopathological examinations. The number was about the same as in FY07.

Disease Surveillance (Federal-State cooperative programs): The laboratory collected and processed samples, such as brains from birds or sheep and goats or cloacal and throat swabs from birds for specialized testing. Three hundred sixty-six avian specimens collected were primarily for avian influenza, West Nile virus and highly pathogenic Newcastle's disease testing. The sheep and goat samples were evaluated for scrapie, a prion disease. Approximately 100 more samples were collected during FY08 compared to FY07.

See chart on page 59 for more detail.

AQUACULTURE DEVELOPMENT PROGRAM

Todd Low
Manager
(from September 2008)

The Aquaculture Development Program (ADP) provides essential support services to encourage further growth and diversification of the aquaculture industry. ADP is a planning, development, and problem-solving organization whose goals are to assist in the start-up of production and service businesses, and to contribute to their success. Specific activities include planning and policy formulation, new business development, permit facilitation, marketing assistance, disease diagnosis and prevention assistance, and co-funding of statewide technical extension.

The mission of ADP is to: prepare and implement state aquaculture plans and policies for the expansion of aquatic farming, and research and technology transfer business; coordinate statewide development activities; and directly assist both public and private sector interests in achieving their aquaculture-related goals, in order to create jobs and diversify the economies of all islands.

Major activities for FY08 were:

- Estimated wholesale product value for the industry was $21.3 million for calendar year 2006 according to department statisticians, which represents a 25 percent decline from 2005. The majority of the production, 82 percent, was produced on the Hawai`i Island. Algae continue to constitute high value and with finfish and shellfish amounted to 78 percent of the total value of the industry.

- Continued the joint implementation of the amended Chapter 190D, HRS, Ocean and Submerged Lands Leasing law with the Department of Land and Natural Resources (DLNR) by facilitating permit preparation for two new aquaculture projects off various islands. Prepared annual joint report to Legislature, with DLNR, on status of the ocean leasing.

- Continued to provide an internationally recognized Shrimp Surveillance and Certification Program to the growing shrimp broodstock industry. The Aquaculture Veterinarian provides third-party diagnostic sample collection with chain of custody documentation for all Hawai`i broodstock operations including the Oceanic Institution/US Marine Shrimp Farming Program stocks based on O`ahu. At present there are eight shrimp broodstock export farms under the surveillance program. Hawai`i's shrimp broodstock are as essential to the intensely competitive global shrimp production market in Asia, as bull and cow breeders are to the beef industry. To date, we have provided support to enable one local shrimp breeding facility to provide seedstocks to the food shrimp production sector.

- Provided expertise in handling disease outbreaks on two local *specific pathogen free* shrimp farms on O`ahu and Kaua`i. These two cases were monitored and handled according to standards of the Animal and Plant Health Inspection Service, U.S. Department of Agriculture, and were successfully resolved.

ADP mascot, Freshy the Fish, poses with some newfound friends at the Hawai`i State Farm Fair at the Bishop Museum.

Governor Linda Lingle visits the ADP display at a special event during the "Second Saturday at the Garden," at the Pearl City Urban Garden Center.

- Assisted farmers with import permits and export health documentation for aquatic species on O`ahu, Kaua`i, Maui, Moloka`i and Hawai`i. The Aquaculture Veterinarian is continuing to provide chain of custody sampling for a voluntary screening of imported koi stocks while in quarantine before being transferred to grow-out systems destined for export. This effort is contributing to the now significant numbers of koi being exported to the mainland and future expanding market into the European Union. Hawai`i is also one of the primary beta test sites for a new Koi Best Health Practices program, which places emphasis on biosecurity and veterinary oversight. The disease prevention program continues to provide health screens of land-based hatchery produced moi fingerlings before stocking into open ocean net-pens, and provides assistance for hydrogen peroxide biopsy and treatment approval forms in cooperation with federal oversight in developing new aquaculture drugs for food fish species.

- Promoted the local consumption of aquaculture products by participating in the Hawai`i Lodging, Hospitality and Food Service Expo, Agriculture in the City, Hawai`i State Farm Fair at the Bishop Museum, Hawai`i Agriculture Conference 2008, Made in Hawai`i Exposition, and Second Saturday at the Garden. Worked with various Internet, television, radio and print media to provide background information, place stories and promote the industry. Continued ADP's electronic industry newsletter, *Aquaflashes*, to get out time-sensitive information to our farmers.

- Hired an Information Specialist III and a Laboratory Assistant. These new hires bring the personnel of the program to full staffing.

- Co-funded statewide technical extension services to the aquaculture industry (with over 1,540 documented incidents of assistance), in cooperation with the UH Sea Grant Extension Service, leveraging over $762,000 in matching funds through the project.

- Participated in the governing boards and advisory committees of the Center for Tropical and Subtropical Aquaculture, National Association of State Aquaculture Coordinators, Western Pacific Regional Fishery Management Council, Ocean Resources Management Plan Work Group, and Hawai`i Aquaculture Association.

- Provided technical reviews of research and development proposals to the Hawai`i County Economic Development, Center for Tropical and Subtropical Aquaculture, UH Sea Grant College Program, U.S. Department of Commerce, and U.S. Department of Agriculture. Provided reviews of Aquatic Species Importation permits for the department's Plant Quarantine Branch.

PLANT INDUSTRY DIVISION

Lyle Wong, Ph.D.
Administrator

The Division of Plant Industry consists of three branches, the Pesticides Branch, Plant Quarantine Branch, and Plant Pest Control Branch. Together, the Branches work to protect Hawai`i's agricultural industries by preventing the entry and establishment of detrimental insects, weeds and other pests and by assuring the safe and efficient use of pesticides in Hawai`i.

PESTICIDES BRANCH

Robert A. Boesch, *Manager*

The Pesticide Program regulates the distribution and use of pesticides through a program of licensing pesticide products, testing the competency of restricted-use pesticide applicators, and educating and monitoring pesticides distributors and applicators. This is to ensure the efficient, effective and safe use of pesticides to minimize adverse effects on the environment.

Highlighted activities for the program in FY 2008 were as follows:

Regulatory Support Provided for Western Pacific Nations

At the request of the U.S. Environmental Protection Agency (EPA), Pesticides Specialist Glenn Sahara visited the Federated States of Micronesia (Kosrae, Chuuk, and Pohnpei) and the Republic of the Marshall Islands (Majuro) from July 28, 2007 to August 15, 2007. Sahara is assisting the EPA in strengthening pesticide regulatory programs in the Pacific Island nations and territories associated with the United States. In the areas visited there was an influx of immigrants who are bringing in unauthorized pesticides. The Federated States are developing regulatory programs and Sahara shared Hawai`i's law and rules with public officials. He also shared forms used by Hawai`i and EPA to document inspections and record information.

Hawaii Hosts 81st National Plant Board Meeting

Hawai`i hosted the 81st National Plant Board Meeting at the Waikiki Beach Marriott Resort & Spa from August 19, 2007 to August 23, 2007. More than 170 participants from throughout United States, Canada, and Mexico attended. The event established a new standard for success of this meeting. Dean Yoshizu was the lead for administrative support and a large part of the success of this event was the attention to detail and flawless execution of plans. Dean Yoshizu was awarded the Sustained Superior Performance Award in part because he provided quality administrative support for the meeting in addition to his other assignments.

Chlorine Gas Restricted

Chlorine gas became a restricted-use pesticide effective on January 1, 2008. Nineteen facilities use chlorine gas and 68 individuals are certified to use chlorine gas. The users certified for chlorine gas by county is as follows:

Hawai`i	27
Kaua`i	9
Maui	22
O`ahu	10

The most common uses are for drinking water treatment, waste water treatment and to clean-out drip tubing used for agricultural irrigation.

Wildlife Protection Agencies Apply Rodenticide to Control Predators on Mokapu Island

Predators (rats and mongooses) are one of the primary threats to endangered birds. To counter these threats, land managers are developing control methods, including rodenticides for application to conservation areas. One method is the aerial application of rodenticide pellets to forests where predators are a problem. Mokapu Island, a small islet off North – Central Moloka`i was treated with diphacinone pellets in mid-February 2008. The expected result of rat eradication is the recovery of seabirds and native plants.

Methamidophos from Acephate Misuse Detected in Big Island Papayas

A papaya packinghouse reported that residues of methamidophos were detected by the Japan Ministry of Agriculture and Food. Subsequent investigations showed that several of the papaya growers supplying the packinghouse had used acephate, a systemic insecticide which results in methamidophos residues. Warning notices were issued to growers using acephate.

Rocky Mountain Poison Control Center (Which Operates the Hawai`i Poison Hotline) Expands Activities in Hawai`i

The Department of Health has received funding from the Department of Homeland Security to monitor anomalies in poison exposures. Arrangements were made with the Rocky Mountain Poison Control Center (RMPCC) to report anomalies in reports of exposures to poisons. The Department of Health will receive a biweekly report of irregularities and disseminate this report to appropriate state officials.

The week following the agreement to report anomalies, the RMPCC reported the increase in exposures following the application of pesticides to control fleas in the Bank of Hawai`i Call Center in Kapolei; so the system seems to be working.

Contract Awarded for Unwanted Pesticide Collection Program

A two-year contract for the collection and disposal of up to 200 pounds of unwanted pesticides from any farmers or small business was awarded. Registration of participants is expected to begin in the Fall of 2008.

Above: PPC entomologist Walter Nagamine uses an aspirator to collect samples of the Erythrina gall wasp that has devastated Hawai`i's wiliwili and coral trees. More information on page 32.

PLANT PEST CONTROL BRANCH

Neil Reimer, Ph.D., *Manager*

The primary function of the Plant Pest Control Branch is to reduce population densities of plant pests that cause significant damage to agriculture and the environment to manageable levels. This is achieved through statewide programs to eradicate or control plant pests, which includes destructive insects, mites, snails and slugs, noxious weeds, plant diseases, and any other organisms harmful to plants, by utilizing chemical, mechanical, biological, and integrated control measures. The branch consists of the Biological Control Section and the Chemical/Mechanical Section.

Some of the accomplishments of the branch during FY 2008 included the following:

New Pest Detection and Identification

Insects and other Arthropods

The HDOA insect taxonomist identified 525 samples of insects and other organisms. Twenty species were added to the branch's Zoological Reference Collection. The collection now contains approximately 166,300 specimens. In addition, 171 samples of insect interceptions were identified for the Plant Quarantine Branch and 265 calls regarding various pests from the general public were processed.

Four newly established insects were recorded during the year. These were:

A whitefly parasitoid, *Aleuroctonus vittatus* (Dozier) (Hymenoptera: Eulophidae). Specimens of this parasitoid were first collected in the State from cattail leaves infested with the spiraling whitefly, *Aleurodicus dispersus* Russell, near Sand Island in Honolulu during October 2007. Although the spiraling whitefly has generally been under good biological control with existing natural enemies, low-lying costal areas continue to have whitefly infestations during the summer and fall months. Observations made since the initial detection indicate that infestations of the whitefly in coastal areas have declined as a result of this new fortuitous parasitoid in the State.

A thrips, *Dichromothrips smithi* (Zimmermann) (Thysanoptera: Thripidae). Specimens of this thrips were collected on wild bamboo orchids in the Puna area of Hawai`i Island in October and November 2007. This insect is known to feed on various orchid species in India, Malaya, Thailand and Taiwan.

A scarabaeid beetle, *Cyclocephala pasadenae* (Casey) (Coleoptera: Scarabaeidae). Subsequent surveys at a nearby golf course in Waikoloa revealed that that young beetle grubs were present in the kikuyu grass fairways. Beetles of the genus *Cyclocephala* are commonly known

as masked chafers and the young grubs are known to feed on roots of turf grass. Damage caused by the grubs at the golf course is believed to be minimal due to birds searching for and feeding on the grubs. However, holes in the turf have been observed, presumably caused by the birds while digging up and feeding on the grubs.

A scarabaeid beetle, *Temnorrhynchus retusus* (Fabricius) (Coleoptera: Scarabaeidae). Specimens of this relatively large beetle were collected at several golf courses along the south Kohala coast on Hawai`i Island in August 2007. This beetle is recorded to occur in Tanzania, Mozambique, Malawi, and South Africa. It was accidentally introduced into southeastern and western Australia. It is believed to have been transported to Australia from South Africa in soil used for ballast in ships. Like *C. pasadenae*, it is also known as a pest of turf grass. However, damage caused by the beetle grubs is minimal compared to damage caused by birds searching for and removing the grubs from the turf.

Plant Pathogens

The HDOA Plant Pathologist diagnosed 458 plant disease samples intercepted by the Plant Quarantine Branch inspectors. Staff also reported the detection in the state of three newly established plant diseases. These were:

A fungal disease on sweet basil, *Ocimum basilicum* L., caused by *Pseudocercosposra ocimicola* (Petr. & Cif) Deighton was detected by the USDA APHIS PPQ inspectors on basil consignments being exported from Hawai`i to the U.S. Mainland where the disease is not known to occur. Leaf spots caused by the pathogen are irregularly necrotic with some yellowing and usually situated at the edges of the leaves. The disease is spread by airborne spores of the fungus, which appears to infect only species within the Genus *Ocimum* or basil and is known to occur in Mexico, Taiwan, China, South and Central America. Basil exports have not been affected by this disease but all shipments must be certified disease-free.

Fruit rots on rambutan, *Nephelium lappaceum* L., and lychee, *Litchi chinensis* Sonn., caused by the fungus *Pestalotiopsis virgatula* (Kleb.) Stey and **a stem canker on rambutan and lychee** caused by the fungus *Dolabra nepheliae* C. Booth & Ting were identified by plant pathologists at the Tropical Plant Genetic Resource Management Unit of the Pacific Basin Agricultural Research Center in Hilo, Hawai`i. *P. virgatula* causes dark brown to black spots on the skins of mature fruits, but does not affect the fleshy parts of the fruit. This insidious disease may be more of a marketing issue because of the discoloration of the skin. The pathogen *D. nepheliae* causes cankers on stems thereby weakening branches, and may pose a more serious problem for these fruit trees. Both diseases are commonly found worldwide where rambutan and lychee are grown.

Projects of the branch's Biological Control and Chemical/ Mechanical (CM) Sections included the following during FY 2008:

Nettle caterpillar [*Darna pallivitta* Moore]. The nettle caterpillar (NC) has become more widespread on the island of Hawai`i (Big Island) since its discovery in a plant nursery in Panaewa in September 2001. It has since spread to the islands of O`ahu and Maui through commercial movements of infested nursery plants.

The NC has increasingly become a human health concern because of the potential for an allergic reaction and anaphylactic shock in people that contact the larvae. The larvae are adorned with rows of spines that give off a venom upon contact. The sting may cause an itching, burning sensation and/or welts on the skin which could last for days, weeks or longer. The stinging caterpillars infest a wide variety of plants. It is not uncommon to come in contact with them on palms, pasture plants, ornamental grasses, weeds and foliage plants. They are most abundant in summer months because the weather is warmer and conditions favor a shorter life cycle and higher reproductive rate. In fact, the frequency of pest calls and inquiries concerning the nettle caterpillar increased in summer, peaking in August, when they are most abundant.

The parasitic wasp, *Aroplectrus dimerus* L. (Fam. Eulophidae), is a biocontrol agent that HDOA has petitioned for release to control NC. PPC staff collected the parasitoid in Taiwan in October 2004. It has been in colonization at the HDOA Insect Containment Facility (ICF) since then. It has undergone a comprehensive and rigorous risk assessment evaluation and findings have yielded no indication that it would be a risk when liberated in the natural habitat. The request and proper documents, including an environmental review seeking approval for its release from the ICF, have been submitted to the Federal and State regulatory agencies.

In anticipation for the NC's release, the extent of its spread and distribution is being monitored on the major islands. Ground surveys on the island of Hawai`i showed that the East Hawai`i infestation has spread from Panaewa (Hilo District) to as far as Papaikou (North), west to Mountain View (Hilo District), and south to Hawaiian Beaches (Puna District). On West Hawai`i (Kona District), NC was first detected in July 2006 in a garden section of a retail store in Kona. Then, in September and October 2006, respectively, additional detections were made at Keahole and Hualalai. Recently, in June 2008, NC was found in Holualoa. An infestation was confirmed in February 2007 in a plant nursery and a school yard in Kohala. Additional survey data are being generated using sticky traps baited with pheromone lures. As many as 33 traps have been deployed every half a mile covering a distance of 16 miles in the Puna District, from an elevation of 580 ft (Kurtistown) to as high as 3,800 ft (Volcano Village). A second trap line

consisting of 25 sticky traps were spread out across 12 miles at half mile apart between Hilo and Ninole in the Hamakua District.

On O`ahu, CM section personnel coordinated with cooperating agencies, HDOA-PQB, USDA-ARS, USDA-APHIS, and O`ahu Invasive Species Committee, to set out more than 500 traps that house nettle caterpillar (NC) pheromone plugs on sticky surfaces to attract male moths in an effort to eliminate some of the moths and to determine the boundaries of the infestation in West and Central O`ahu. Traps were monitored between one and four times per month. Data collected on the numbers of moths caught in the traps has never before been done in Hawai`i and will play a key role in devising a plan for the release of biological control agents.

Nursery workers discovered NC caterpillars at a Waianae ornamental plant nursery that belonged to the owner of the two nurseries that were originally infested in Central O`ahu in FY07. The quick actions taken by CM Section staff and nursery management achieved eradication at this location. Chemical treatment, male NC moth trapping, use of black light bug zappers, and halting the movement of plant materials out of the nursery eradicated the incipient population of nettle caterpillars. Monitoring with NC pheromone traps in this area during this past year has demonstrated that the moths are no longer present.

In Haiku on the island of Maui, a resident found a caterpillar, which was identified as the nettle caterpillar by HDOA Maui staff. Nettle Caterpillar pheromone traps that were set up by HDOA, USDA-APHIS, and MISC revealed that the Haiku infestation had been centered at two plant nurseries in Haiku. The NC moths found in various life stages indicated that the population of NC had been established for more than one year. It is suspected that plants had been moved from the Big Island to the nurseries on Maui.

Pickleworm [*Diaphania nitidalis* Cramer]. The pickleworm (PW), *D. nitidalis* (Lepidoptera: Crambidae), is a potential threat to production of cucurbits in Hawai`i because of the severe feeding damage it causes on the crop. The warm and semi-tropical climate ensures the survival and build-up of the pest population and the farming practice of growing cucurbit vegetables all year round makes available a continuous supply of plant hosts.

The Pickleworm Survey Project supported with the USDA CAPS funds was undertaken from September 2006 through June 2007. Survey and monitoring of the pest on O`ahu and the neighbor islands consisted of moth trap baited with synthetic floral extracts and collection of infested fruits to rear out the natural enemies that may be associated with the PW. The survey data reported in FY07 indicated that the PW is widespread throughout the island of O`ahu and that incipient pest infestations had been found on the leeward, windward, central and east sides of O`ahu. On the neighbor islands, PW has found refuge on Kaua`i, Big Island and Maui.

Known to infest cucurbit crops, squashes are the most favored host by PW. Squashes are infested first by the PW even if grown adjacent to or inter planted with other cucurbit vegetables. Cucurbit crops however, have different levels of resistance or susceptibility to the PW among or within varieties. Although it is not understood why, it appears that gravid adult moths prefer hosts with hairy (pubescent) plant surface and rough foliage texture. In one of the sites surveyed on leeward O`ahu, PW infestation on an accession of cantaloupe ('Arko') reached >50 percent compared with <1percent in accession 'C1591.'

Several natural enemies of the PW, which included at least two Ichneumonid and four braconid parasitoids, have been reported elsewhere. Collections of infested fruits during the course of the 12-month survey yielded one naturally-occurring biocontrol agents of PW in Hawai`i. This was a lacewing, a general predator, which was observed to prey on PW larvae but its impact is not significant.

Glassywinged sharpshooter [*Homalodisca vitripennis* (= *H. coagulata* (Say)]. The glassywinged sharpshooter (GWSS) which was building up large populations and expanding it's range in Hawai`i shortly after arriving here is now difficult to find. Periodic inspection of host plants on at least five locations across leeward O`ahu, where selected sites were surveyed and monitored during the peak of sharpshooter abundance after its discovery in May 2004, showed no signs of their presence. The adults and nymphs were absent on at least 30 recorded host plants, mostly ornamentals or trees planted for landscaping purposes along highways, and in recreation areas and public parks. Likewise, there was no evidence of the characteristic powdery shades of white color on the foliage of infested plants which results from the so-called sharpshooter 'rain' - dried exudates given off by the sap-feeding sharpshooters. To date, the sharpshooter population is deemed completely suppressed through biological control. Although the pest may not have been completely eradicated, their numbers have decreased substantially.

At the time GWSS was first discovered in Hawai`i at Pearl City on the island of O`ahu, the pest posed a potential threat to Hawaiian agriculture and native flora because it transmits a plant pathogen, *Xylella fastidiosa*, the causal organism of a bacterial disease on a number of fruit crops and ornamentals including Pierce's disease in grapes, citrus variegated chlorosis, alfalfa dwarf, and scorch diseases in almond and oak, among others. However, the timely intervention of a mymarid egg parasitoid, *Gonatocerus ashsmeadi* Girault, in 2005 – 2006 brought about a rapid decline in sharpshooter population. The parasitoid, believed to have immigrated into O`ahu in parasitized eggs, is one of the few natural enemies that were effective against the GWSS in southeastern U.S. and

Mexico. The unique ability of *G. ashmeadi* to attack the first stage of sharpshooter development makes it a potent mortality check that negated the explosive surge of GWSS populations. The level of egg parasitization that was exerted by *G. ashmeadi* on GWSS reached a high of 97-100 percent. This was determined from more than 5,000 sharpshooter eggs inventoried from as many as 384 sharpshooter egg masses collected at the conclusion of the project in early 2007.

Additionally, the impact of *G. ashmeadi* parasitization was complimented with the concerted action of a predator, the Mexican ant, *Pseudomyrmex gracilis mexicanus* (Hymenoptera: Formicidae), and an unidentified microbial pathogen.

The benefits of fortuitous biocontrol could be appreciated in terms of the additional funds, manpower, and time HDOA would have expended for a biocontrol project of this magnitude had overseas exploration for natural enemies of the glassywinged sharpshooter been needed.

Papaya mealybug [*Paracoccus marginatus* Williams and Granara de Willink]. In 2007, the papaya mealybug (PM) was reported to have spread from Maui, where the pest was initially discovered, to the neighbor islands, (O`ahu, Hawai`i, and Kaua`i). The number of pest calls related to papaya mealybug had declined considerably in mid-2007 to early 2008. On O`ahu, few calls were received from residents in Honolulu, Kailua, and East O`ahu. Although the papaya mealybug prefers papaya, plumeria, hibiscus and jatropha, in most cases, the mealybug infestation was reported on Singapore plumeria trees (*Plumeria obtusa*) growing in residential backyards. The infestations were small and fairly well isolated. Pest calls were followed through with visits to residences to inform about the pest mealybug and explain how biological control works in terms of regulating the pest populations to manageable levels. The natural enemies often observed associated with the papaya mealybug on infested plants, were shown and demonstrated to the callers. Generally, the residents, fully aware of the risks and safety concerns associated with using potent pesticides, were comfortable with shooting the infested plants with water and practicing sanitation by collecting and discarding trimmed plant parts and fallen leaves in sealed plastic bags for disposal.

Papaya mealybug infestations have subsided considerably because of the complex of natural enemies attacking them. Although their concerted action on the pest had not been measured quantitatively, samples of infested host plants, collected and inventoried, indicated that 20-80 percent of various insects found were predaceous predators, including, brown lacewings, syrphid fly larvae and coccinelid beetles. Of particular importance was the parasitoid *Anagyrus loecki* Noyes, thought to have immigrated to Hawai`i with the papaya mealybug. This small wasp was dispersed in an augmentative release program by Biocontrol Section staff and is now widespread throughout the islands. It is now difficult to find dense populations of PM in the field due to the actions of these natural enemies.

Macadamia felted coccid [*Eriococcus ironsidei* Williams]. The macadamia felted coccid (MFC) was first discovered in February 2005 in a macadamia nut orchard at Honomalino in the South Kona District on the island of Hawai`i. Initial fears that this pest would spread rapidly and cause crop losses have not been realized. The grower has gained good control over the infestation using horticultural oil that had been tested and recommended by a UH CTAHR entomologist. The infestation was brought under good control with spray application of the oil. Surveys by Biocontrol Section staff discovered a parasitic wasp and a predacious ladybird beetle that are contributing to the suppression of this pest.

Erythrina gall wasp [*Quadrastichus erythrinae* Kim]. It was reported in FY07 that a eurytomid parasitoid showed potential as a biocontrol agent of Erythrina gall wasp (EGW). Risk assessment evaluations of non-target gall-formers that attack various host plants indicated the parasitoid was specific to EGW. The eurytomid parasitoid is the first biocontrol agent that has been proposed for release against the EGW.

HDOA collaborated with two insect specialists at the USDA Systematic Entomology Laboratory in Beltsville, Maryland, and the Centre de Cooperation Internationale en Recherche Agronomique in Montpellier, France, to obtain a description and name, *Eurytoma erythrinae,* for this insect that was new to science. A detailed description and taxonomic status of E. erythrinae was published in a technical paper titled “A new species of *Eurytoma* (Hymenoptera: Eurytomidae) attacking *Quadrastichus* spp. (Hymenoptera: Eulophidae) galling *Erythrina* spp. (Fabaceae), with a summary of African *Eurytoma* biology and species checklist” on April 2008. This publication facilitated the process to move forward a request for a permit to release *E. erythrinae* from the HDOA Insect Containment Facility. *E. erythrinae* completed the State and Federal environmental review processes for its release in Hawai`i.

A comprehensive Host Specificity Report on E. erythrinae was compiled from studies conducted by the HDOA Plant Pest Control Branch, and an accompanying Draft Environmental Assessment Report was written using specific guidelines. These two documents were submitted to each agency and all the appropriate permits were received by late November 2008.

In December 2008, the branch released *E. erythrinae* around the state in native Erythrina trees. Efforts to raise the parasitoid in large numbers at HDOA Insect Containment Facility (ICF) was intensified to build up the population levels required for successful field releases.

In anticipation of parasitoid release, the PPC staff had collaborated with researchers of CTAHR at UH Manoa to locate potential release sites and began pre-release surveys of infested Erythrina trees. Field activities included taking inventory of surviving Erythrina trees, particularly, native wiliwili, *E. sandwicensis*, assessment of tree stand and estimates of the rate of EGW infestation and qualitative (photo images) evaluation of several trees. The objective was to generate baseline information on the extent of EGW infestation prior to parasitoid release then compare this data to post-release data to determine if the parasitoid had successfully established itself and to document its impact on EGW. Release sites consist of a wide variety of habitats where native or exotic Erythrina trees or both are present. These include botanical gardens, dry forest habitats, hillsides, valleys and golf courses.

The 2nd promising biocontrol agent is also an ectoparasitoid that was collected in Kenya, East Africa. It is an undescribed species in the Genus *Aprostocetus*. A gravid female lays an egg singly by inserting it into a gall which then hatches into a larva that feeds on a developing immature of EGW within a gall. It takes about 15 days for a parasitoid immature to reach the adult stage. But, unlike *E. erythrinae*, the parasitoid utilizes only one host individual to complete its development. The risk assessment evaluation of *Aprostocetus* sp. is currently on-going at HDOA ICF.

Asian citrus psyllid [*Diaphorina citri* Kuwayama]. The Asian citrus psyllid (ACP) was initially found in Hawai`i in May 2006 when a Waiakea resident submitted a branch from a navel orange tree that was infested with aphids to the HDOA Hilo Office to obtain control recommendations. During microscopic examination of the aphids by PPC Branch personnel, one adult psyllid and some nymphs were found. The association of the ACP as the primary vector of citrus greening disease (CGD), also known as Huanglongbing (HLB), resulted in the immediate shipment of a sample of chlorotic foliage from the infested tree at the Waiakea residence to the National Plant Germplasm and Biotechnology Laboratory in Beltsville, Maryland. The results were negative for CGD, caused by the bacterium *Liberibacter asiaticus*. CGD has not been found in Hawai`i to date. Samples of mock orange foliage infested with psyllid nymphs have been collected from sites around Hilo to hold for parasitoid emergence, but none have been detected. Some ladybird beetles, including *Halmus chalybeus* (Boisduval), *Olla v-nigrum* (Mulsant), and *Coccinella septempunctata* L., have been observed feeding on ACP nymphs.

Varroa mite [*Varroa destructor* Anderson and Trueman]. In April 2007, an O`ahu beekeeper with a base yard in Manoa reported that he had observed tiny, red mites in three honey bee hives that he obtained from the Hawai`i Nature Center site several miles away in Makiki. The colonies were no longer being managed and were considered to be abandoned. After a report was received from the beekeeper via the HDOA Pest Hotline, specimens were collected by HDOA entomologists and identified as the varroa mite, *Varroa destructor* Anderson and Trueman. Prior to this discovery, Hawai`i was one of the few places in the world that was still free of this very destructive honey bee pest. The varroa mite is considered to be the most serious pest of honey bees in the world. It has been spreading rapidly throughout most of the beekeeping countries in the world. Adult varroa mites are tiny (1.0 x 1.5 mm), reddish-brown, crab-shaped, flattened mites. They are external parasites that attack honey bee adults, larvae, and pupae and use their piercing-sucking mouthparts to feed on the hemolymph ("blood") of bees.

In varroa mite-infested honey bee colonies, newly emerging bees are malformed. Severe infestations of the mite will result in an eventual decline of bee colonies and a reduced honey bee population. Commercial beekeeping in Hawai`i, which includes queen bee and honey production, has been estimated at more than $4 million. However, the greatest value of honey bees is their ability to pollinate fruit trees, vegetables, and seed crops. With the presence of the varroa mite in Hawai`i, a great decline in the honey bee population is anticipated. This will significantly reduce pollination of many commercial and residential fruit trees and vegetable crops, especially cucurbits, which are highly dependent on honey bees for pollination.

Immediately following the positive identification of varroa mite on O`ahu, surveys were launched statewide to determine the extent of infestation. Sampling was conducting utilizing the alcohol shake method and sampling of the drone brood. Sampling and surveys done both by HDOA staff and by bee keepers quickly determined that the island of O`ahu was infested. The rest of the state appeared to be free of varroa mite.

HDOA developed a varroa management strategy incorporating statewide surveillance for the rapid detection of varroa mite and other bee pests and to minimize the possibility of varroa mite moving from O`ahu to other islands. The surveillance program consists of swarm traps set up to capture bees as they attempt to create new hives and monitoring systems such as sticky trap boards sent to bee keepers. A total of 137 swarm traps were set up statewide with a focus around air and sea ports. Traps are monitored on a bi-monthly to monthly basis. Any trap found with bees are removed during routine servicing and tested for the presence of varroa mite and other bee parasites and diseases. All bees are killed in the process. No bees were found on other islands with signs of varroa as of June 30, 2008.

Maui Entomologist Mach Fukada (l) and Exploratory Entomologist Mohsen Ramadan (r) survey a beehive on Maui for varroa mites. Surveys on uninfested islands are key to early detection and determining whether control and eradication operations are appropriate.

Sticky board traps are a useful tool for monitoring the presence of varroa mite in managed hives. A board lined with adhesive is placed at the bottom of a hive. Mites that fall off of bees are caught on the boards and the level of infestation can be determined as a function of the number of mites caught per days the trap is placed in the hive. Traps are more effective when used in conjunction with the miticide Apistan, however, due to restrictions in the usage of apistan during honey production, some bee keepers are against the use of toxicants such as Apistan in their hives. Sticky boards and apistan were purchased by HDOA for distribution to bee keepers. Sticky boards are then sent to HDOA staff for readings. As of June 2008, no infestations of varroa mite were detected utilizing sticky boards on neighboring islands. On O`ahu, sticky boards can be used as a management tool for varroa mite infestation.

Movement of bees, whether accidental or deliberate, was identified as a high risk pathway for the potential spread of varroa mite from O`ahu to other parts of the state. On August 28, 2007, an interim rule was passed by the Board of Agriculture (Plant Quarantine Interim Rule 07-01) preventing the movement of live bees, dead bees and used bee equipment Interisland from infested areas within the state to uninfested areas.

HDOA staff has responded to over 73 calls and referrals from the public. These calls were for swarms and feral hives. The hives were sampled for varroa mite and other bee parasites and pathogens, then destroyed.

Miconia [*Miconia calvescens* DC]. Host range testing of the potential biocontrol gall forming, foliar nematode *Ditylenchus gallaeformis* sp. nov. from Brazil commenced this year in the plant pathogen containment facility. Nematode galls were chopped and secured to the tips of the test plants using dampened strands of cotton. The test plants, Koster's curse, *Clidemia hirta* (L.) D. Don, and ohia, *Metrosideros polymorpha* Gaud, were then placed in humid chambers and the cotton removed after two weeks. After three months incubation time, the plants were examined for gall formation. There were incipient gall formations on all of the clidemia plants but none were formed on ohia.

Research on the potential of the gall-forming nematode *Ditylenchus gallaeformis* as a classical type of biocontrol agent for Miconia was continued at the Plant Pathology Facility. Since a large number of nematodes is needed for the studies, various ways were tried in the past several months to increase and maintain the nematode population. These included developing methods for extracting the nematode from the gall tissues, optimizing the techniques of inoculating the nematode on the Miconia plants, and culturing the nematodes on various callus tissues that included *Miconia* and *Clidemia* species. While there have been successes in standardizing the extraction and inoculating methods, culturing of the nematode on callus tissues were met with initial difficulties due to contamination. The contamination probably occurred during the plant or nematode axenizing process and would probably be alleviated when the process is conducted under a laminar flow hood (part of the feature of a type 2a biosafety cabinet), which will be available in the Plant Pathology in the near future.

Production of the nematode on miconia plants with the developed methods is underway. Once large population

Left: Eric Garcia (l) and Mohsen Ramadan (r) install a swarm trap on Kaua`i. Swarm traps are used to capture feral bee swarms and to help in the early detection of varroa mites.

of the nematode and gall tissues are available, the biology of the nematode and its interaction with the host, including the environmental conditions that affect the epidemiology of the disease, can then be studied in details. Greenhouse tests of host range and efficacy can subsequently be conducted with confidence. In the meantime, a technique of staining the nematode inside the leaf tissue has also been developed to facilitate monitoring the nematode's infection process.

Fireweed [*Senecio madagascariensis* Poiret]. The Madagascar moth, *Secusio extensa* (Butler) (Lepidoptera: Arctiidae), is one of the most promising herbivores for the biocontrol of fireweed of the natural enemies collected in Africa during exploratory trips conducted by Plant Pest Control staff. The larvae of *S. extensa* are voracious defoliators of fireweed. More than 70 different species of endemic and naturalized plants in the Family Asteraceae have been screened in a risk assessment evaluation test. Results show that *S. extensa* is highly specific to fireweed. Given a choice, the larvae preferred to feed on fireweed rather than non-target plants.

Secusio extensa is the first biological control agent that has been proposed for release against fireweed to alleviate the spread of this invasive weed in Hawai`i. The application and supporting documents to request the release of *S. extensa* in Hawai`i have been submitted to the federal and state agencies. Pending approval by the regulatory agencies, the release of the Madagascar moth is anticipated to alleviate the spread of the invasive weed in the state.

The HDOA Exploratory Entomologist sent new stock of *S. extensa* from East Africa in FY07. This provided sufficient insect materials to re-establish the moth colony in the Insect Containment Facility (ICF). Colony maintenance is continuing until the necessary permits for release are obtained. Rearing techniques were developed to ensure that the moths do not lose their close affinity to the host plant (as oviposition substrate) as successive generations of progeny are continuously produced.

The CAPS project on the biological control of fireweed was extended by the funding agency (USDA APHIS) for another year until June 2008. As reported in Annual Report for FY07, the original project was proposed around the liberation and evaluation of the biocontrol agent, *S. extensa*. However, it was pushed back because of a delay in the approval of the permit to release the moth from the ICF. Consequently, the project was modified to include studies on fireweed phenology (plant development), ground survey of fortuitous organisms infesting fireweed, and development of an experimental larval diet formulation for mass production of the moth. The information currently being generated on fireweed phenology consists of recording the weather patterns in the fireweed habitat and monthly site visits in pre-selected sampling sites on Maui and Big Island to keep track of fireweed development and its encroachment capability.

Observations on fireweed phenology as affected by weather and other environmental conditions will be used to determine the proper timing of the liberation of the biocontrol agent and critical in ensuring the survival and performance of the Madagascar moth against the fireweed. The latest ground survey data from random locations on the islands of Hawai`i and Maui indicated that the likelihood of finding pest organisms on fireweed that are already present in Hawai`i is remote except for one species of aphid that was found infesting fireweed. On at least four occasions, the same aphid was observed to infest several fireweed plants on Hawai`i and Maui. A test was undertaken to determine if a semi-sythetic diet could be formulated for rearing the larvae of the Madagascar moth, *Secusio extensa*. The composition of the experimental diet was modified from a commercially available formulation that was developed for larval rearing of Arctiid moths, including, *Nyctemera* spp. and other closely related moth species to the Madagascar moth, *Secusio extensa.* These tests are not completed.

The HDOA Exploratory Entomologist had left recently for East Africa to resume collections of potential natural enemies of fireweed. Search and collection for the arctiid moth, *Nyctemera apicalis*, in South Africa and *Sphenella*

austrina Munro, a flower head feeding tephritid fly, have been given priorities.

Banana Poka [*Passiflora tarminiana* Coppens & Barney, sp. nov. (formerly *P. mollissima*)]. Releases of the banana poka biocontrol agent *Septoria passiflorae* continued for another year. A total of six shipments each consisting of 200 to 240 culture dishes of four-week old *S. passiflorae* were air-cargoed to Kahului, Maui over the winter months. DLNR DOFAW crew members prepared the fungal inoculum by scraping the spores from the cultures into a sugar/gelatin solution which promotes a faster spore germination and infection rate. The fungal solution was sprayed at Poli Poli State Park on the slopes of Haleakala. This collaborative project was highly successful in reducing the banana poka population in the treated area.

Little Fire Ant [*Wasmannia auropunctata* (Roger)]. Personnel of the Chemical/Mechanical (CM) Control Section continued surveying nurseries on Oahu for the presence of little fire ant (LFA). No detections of LFA have been made on O`ahu to date. CM staff continued to monitor and treat infestations of the LFA at one location on the Island of Kaua`i. On the Big Island of Hawai`i, CM staff continued to assist nurserymen in detecting LFA and training nursery personnel to detect and treat infested property. Chemical trials continued to be conducted jointly with UH-CTAHR-PEPS researchers to find effective insecticides for use at various LFA infestation sites, including plant nurseries, residences, golf courses, pastures, and fruit and nut orchards.

Coqui Frog [*Eleutherodactylus coqui* Thomas]. Coqui frog control efforts and sprayer loan programs have continued on the islands of Hawai`i, Maui, O`ahu, and Kaua`i. Community groups, plant nurseries, and private individuals are allowed to borrow spray equipment from the HDOA at no charge on these islands. On O`ahu, HDOA personnel assisted the O`ahu Invasive Species Committee (OISC) and the U.S. Army, with night surveys at the one wild population on the island. Coqui frogs have not been detected at this 15-acre site during the last two years. Selected O`ahu commercial nurseries were monitored, treated and nursery staff trained for coqui frog control by HDOA and OISC. Frog populations at the nurseries have declined but single frogs have been captured throughout the year at both residential and commercial sites. The O`ahu staff operated a steamer to sanitize nursery containers and vehicles to disinfest them of coqui frogs. On the Big Island, CM staff worked with researchers from the University of Hawai`i to create additional hot water shower boxes to be used by the nursery industry. Also on the Big Island, CM personnel continued to explore deterring coqui frogs with physical barriers and searching for better materials and barrier configurations for nursery use.

Banana Bunchy Top Virus (BBTV). Containment and management practices for the banana bunchy top virus (BBTV) continued on the Islands of Hawai`i, Kaua`i, and Maui, with limited chemical control work on commercial farms by HDOA personnel. Big Island and Maui personnel traveled to Moloka`i when BBTV infected plants were found. CM staff worked with personnel from the University of Hawai`i-Cooperative Extension Service and the Moloka`i Invasive Species Committee (MOMISC) to determine the extent of the infestation of diseased banana plants on Moloka`i. Efforts were made to meet with residents on the Island to provide educational materials and for training on detection and treating diseased plants.

Public Awareness Activities

CM Section personnel participated in educational outreach for public awareness at activities such as the Hawai`i County Fair, Maui County Fair, Earth Day on Moloka`i, and the Kaua`i County Fair. Personnel also made visits to public schools to support agricultural awareness. Topics of presentations included noxious weeds, little fire ant, nettle caterpillar, and coqui frogs.

Seed Inspection

Routine surveys of agricultural and vegetable seed vendors were conducted to ensure that seed packages sold to consumers were properly labeled. Examination of seed lots entering the United States from foreign ports were performed in the CM Control Section Seed Laboratory under an agreement with the U.S. Department of Agriculture, Animal and Plant Health Inspection Service. Seed lots containing prohibited noxious weed seeds or seeds of quarantine status were refused entry into U.S. commerce. Germination tests were performed on vegetable and agricultural seed lots to ensure compliance with standards. Tests upon requests were performed in the seed laboratory for Hawai`i seed distributors to ensure compliance with the Hawai`i Seed Rules.

PLANT QUARANTINE BRANCH
Carol Okada, *Manager*

The Plant Quarantine Branch provides essential services by protecting the people and environment of Hawai`i by preventing the introduction, further spread, and establishment of invasive species and dangerous non-domestic animals that cause harm to agriculture, natural resources, including native biota, and public health.

The branch regulates, through the permitting process, the importation of plants, non-domestic animals, including live seafood for consumption, some types of pets, and microorganisms for human diagnostics, research and bioremediation.

The continued introduction of invasive species is an extremely significant threat to Hawai`i's economy and natural environment and to the health and lifestyle of Hawai`i's people. Reports prepared for the U.S. Congress and USDA have stated that invasive species are entering Hawai`i two million times more rapidly than the natural rate and establishing in the islands five hundred times more than any other state in the nation.

The environmental impact of the high rate of pest introductions is reflected in the numbers of extinct, threatened, and endangered species. Although Hawai`i only occupies 0.2 percent of the nation, a third of the country's Federal Endangered Species list comes from Hawai`i. Furthermore, much of the unique plant and animal life is already extinct. Of all the plants and birds known to be extinct in the U.S., two-thirds are from Hawai`i.

The economic impact of the high rate of pest establishment is seen through the difficult problems that our agricultural industries face when exporting products to the mainland. Agricultural producers are left with increased production costs to combat pests in the field and additional costs for quarantine treatments upon shipment to domestic and foreign markets.

To address invasive species introductions, the branch has formulated and began to implement a new biosecurity program for the state consisting of preclearance programs, port-of-entry inspections, post-entry rapid response and eradication programs, and initiatives to spur the growth of agriculture in Hawai`i to reduce the state's dependency on imported agricultural products. The growth of the agriculture component is vital to reduce the amount of invasive species introductions by lessening the dependency on high-risk imports through locally-grown replacement crops.

Several major projects were undertaken. Specifically, the branch initiated:

- the planning and installation of joint-use facilities at the airports and harbors to mitigate environmental concerns for the improvements to the transportation infrastructure at ports statewide; and

- coordinated federal-state programs targeting risk assessments, diagnostics, detection, control and suppression, and emergency management programs.

By merging federal and state resources to implement a comprehensive pest prevention and detection program, we can take a pro-active stance on pest management that benefits Hawai`i and the Nation.

Joint-Use Inspection Facilities

- **Alien Species Inspection Facility at Kahului Airport**

  The Alien Species Action Plan (ASAP) inspection facility at Kahului Airport is the first joint-use inspection facility in the state. The inspection facility is part of the Alien Species Action Plan, which was developed to prevent the introduction of alien species into Maui via Kahului Airport to the greatest extent possible. It incorporated the measures set forth in the Final Environmental Impact Statement, the Biological Assessment and the Biological Opinion for Kahului Airport Improvements.

  The ASAP Inspection Facility houses the federal and state agencies responsible for receiving and inspecting articles arriving on domestic and foreign flights. The facility was designed so that inspection and treatment/destruction can be done within the inspection facility so invasive species cannot escape.

- **Joint inspection facilities at Honolulu International Airport**

  The joint inspection facilities incorporates ASAP methodology for Honolulu. The port of Honolulu clears 95 percent of the passengers and cargo into the state.

  Over the past 10 years, cargo volume has grown and shipping patterns have become more diverse and complex. The result is that federal and state quarantine agency workload and staffing requirements have increased dramatically requiring a fragmentation of inspection offices and working space because of

Plant Quarantine inspectors shake down every Christmas tree in containers where hitchhiking pests have been found during the initial inspection at the dock.

the unavailability of appropriate facilities. In order to address the need for a consolidated inspection facility, a study was funded to:

- Provide a secure facility for the inspection and quarantine of commodities for the interdiction of non-native species.
- Provide treatment options for incoming and outgoing commodities.
- Develop the facility to enhance communication and cooperation between agencies, and increase the efficiency and productivity of agency staffs.
- Provide a "one-stop" facility for incoming and outgoing commodities, especially for those shipments which require "multi-agency" inspection. The intent is to expedite the shipping and clearance process and simplify logistics for carriers and other members of the logistics chain.
- Provide facilities to reduce product spoilage that is sometimes the result of limited capacity to hold perishable products in a climate-controlled environment while awaiting shipping. This provides the added financial benefit of reduced insurance costs and direct shipping losses.
- Lastly, a centralized facility will facilitate truck movements and reduce airport traffic.

The joint inspection facilities will be constructed and operated by HDOA , USDA, and potentially US Customs and Border Protection. Inspection facilities would also serve the export and import markets for marshalling, consolidation and deconsolidation of cargo for smaller farm operators.

Preclearance Programs

To increase quarantine measures, HDOA is working toward conducting more pre-entry site inspections to help lower the amount of invasive species in high-risk commodities destined for Hawai`i.

◆ **Christmas Tree Pre-Entry Site Inspection**

HDOA inspectors met with officials of the Oregon Department of Agriculture (ODA) and Washington State Department of Agriculture (WSDA) to observe the harvest, production, inspection and export certification of Christmas trees destined for Hawai`i customers.

An inspection protocol was developed to prevent the introduction of harmful "hitchhiking" pests and to streamline port-of-entry inspection of containerized Christmas trees from Oregon and Washington. The protocol requires each shipment of Christmas trees destined for Hawai`i be accompanied by a phytosanitary certificate of inspection declaring that the trees originated in areas free of gypsy moth (*Lymantria dispar*), sudden oak death (*Phytopthora ramorum*), and were inspected and found to be

apparently free of the yellow jacket, *Vespula germanica*. Shippers are given the option of mechanically shaking 10 percent or 100 percent of trees in each shipment and the intensity of port-of-entry inspection in Hawai`i is dependent on the percentage of trees shaken prior to entry.

In all, 247 containers of fresh cut trees made its way to Hawai`i for Christmas in 2007. Pests of quarantine concern were intercepted in five containers and an option was given for those containers to be treated to 100 percent manual shaking at the HDOA Plant Quarantine office. Four containers were subjected to this treatment and later released to the importer. One container, whose owner did not find this option feasible, had the shipment returned to the shipper.

Other significant interceptions in 2007 include one container containing shrews; thought to have perished on the voyage to Hawai`i. A shrew is a small mouse-sized mammal with a long snout and sharp teeth which it uses to feed on insects. This container was taken to the Plant Quarantine office for treatment; however, no other shrews were discovered. The HDOA Rapid Response teams were dispatched to follow up pest alerts and were able to capture additional yellow jackets, a Pacific tree frog, a Southern alligator lizard, Wooly bear caterpillar, Western Conifer Seed bugs, and an African snail.

HDOA unexpectedly received its' first ***air*** shipment in a cargo hold containing 3,150 cut trees. It was also the first rejection of this kind when several different types of wasps were discovered along with dirt and rocks. Because there was no available method for moving the shipment to an enclosed area while keeping the shipment contained against pest escape, the treatment option was not presented to the importer and the shipment was refused entry into Hawai`i.

The importation of large shipments of containerized Christmas trees presents a unique challenge for Hawai`i's plant quarantine program. Plant material imported in bulk pose higher risks of introducing insects, pests and disease pathogens. Christmas trees in particular are proven hosts for hitchhiking pests such as yellow jackets, garter snakes, shrews, frogs, lizards, salamanders, snails, and slugs. Shaking the trees prior to importation will not guarantee a pest-free tree; however, it does provide an effective and feasible method of pest mitigation. Just as important to the quarantine effort is having full cooperation of the agricultural officials involved in pre-clearance inspection. With continued interaction and communication, these agencies might better understand Hawai`i's concerns and, in turn, take a more active role in providing cleaner shipments to Hawai`i.

Rapid Response Programs

In 1905, after 14 poisonous snakes were seized, the responsibility of preventing detrimental non-domestic animals from coming into the islands and establishing was added as a program mandate in order to protect Hawai`i's people and the native environment.

Rapid Response initiates a protocol of an immediate deployment of Plant Quarantine personnel to investigate, capture, monitor, survey, recover, or destroy an environmentally hazardous pest, utilizing modern methods and technology available. The Rapid Response mode is normally activated in response to a credible report (pest call), from a resident, company employee, military personnel, tourist, or law enforcement officer.

ANIMAL RAPID RESPONSE CALLS

Animal Type	# of calls	# of captures
Turtle	14	7
Snake	36	12
Monkey	1	0
Salamander	1	1
Lizard	80	29
Frog	145	50
Bird	2	2
Cat	1	1
Miscellaneous	9	1
TOTAL	**289**	**103**

Snapping turtle captured by a resident near Lake Wilson in Wahiawa. The turtle weighed 52 lbs.

- The Maritime office of the Plant Quarantine (PQ) Branch, received a report of a 7 ¼" dead snake discovered inside a surface container with furniture from Shanghai, China. PQ inspectors retrieved the recently dead snake and identified it as an Asian viper (*Gloydius blomhoffii*). The snake was taken to Bishop Museum for confirmation. The container held love seats and sofas. Due to the hazard and difficulties to inspect the furniture, the container and contents were fumigated and followed by a post-treatment inspection. No other snakes were found.

- Honolulu International Airport (HIA) received a report from a resident that captured a snapping turtle in the Wilson River near Lake Wilson. The animal was retrieved and identified as an alligator snapping turtle. The animal was turned over to the Honolulu Zoo for exhibition. The turtle weighed 52 lbs. and its carapace was about 20-inches in length. This is the second or third alligator snapping turtle caught in the Wahiawa area. The last one was an immature caught in November of 1995 according to documents provided by the Bishop Museum.

- Maui inspectors received a report of a large lizard in a shipping container with commercial roofing materials. The lizard was about eight-inches long with dark brown, brown and white markings. Maui inspectors retrieved the lizard and sent it to O`ahu for identification. The lizard was later identified as an alligator lizard (*Elgaria multicarinatus*).

- A large cat was sighted multiple times in Hilo by a Keaukaha resident. PQ inspectors responded by installing a pig trap in the area which was borrowed from DLNR. The cat was captured and sent to a special sanctuary on the mainland. The official at the sanctuary said that the animal is a hybirid cross between a Bengal and a Serval cat (Leptailurus servlal) and resembles a Savannah cat. Both Bengal and Savannah cat hybrids are prohibited in Hawai`i.

Education and Outreach Programs

Outreach consists of presentations given to school children, clubs, and senior citizen groups. We also participate at county fairs, expos, and job fairs to raise awareness about our inspection program, including information on imports/exports of agricultural commodities, invasive pests, career opportunities, and rapid response.

Emphasizing the importance of Hawai`i's statewide Pest Hotline assists the Plant Quarantine Branch's Rapid Response Program in the search, seizure, quarantine, and eradication of invasive pests into the state or from one island to another.

PUBLIC OUTREACH & EDUCATION ACTITITIES FY08

Type	*# of Groups*	*# of participants*
Schools	**51**	**6,700**
Senior Citizens	**4**	**75**
Community organizations	**5**	**650**
Career fairs & other public events	**11**	**12,500**

Outreach also includes training personnel of local transportation carriers to prevent the introduction of invasive species into Hawai`i and deter the movement of pests between islands.

Training consists of:

- Importing/exporting of agricultural items/non-domestic animals requirements.
- Intra-state movement of plants and parts/non-domestic animals.
- Prevention, control and eradication of invasive pests.
- Summary of the nursery export certification program.
- Responsibilities of businesses to follow state laws and other regulations.

QUALITY ASSURANCE DIVISION

John Ryan, Ph.D.
Administrator

The Quality Assurance Division consists of two branches, the Commodities Branch and the Measurement Standards Branch. The branches provide services and enforce laws that help to improve the market quality of agricultural commodities, promote fair trade and honest business practices, and maintain stability in the dairy industry.

COMMODITIES BRANCH
Jeri Kahana, *Manager*

The mission of the Commodities Branch is to "Set The Standards" and provide assurance that standardized, high quality, safe, and authentic Hawai`i agricultural products can be showcased in Hawai`i as well as throughout the world market through a fair and just agricultural business climate.

The Commodities Branch enhances the economic stability of Hawai`i's agricultural industries by maintaining grade standards for locally produced fruits and vegetables, nuts, coffee, flowers and foliage, processed foods and other agricultural products.

The branch provides unbiased, professional, and timely service-for-fee grade, condition, and origin certification and food safety audits, to add value and desirability to Hawai`i's agricultural products. Under federal-state cooperative agreements, the branch provides federal certification for fresh and processed fruits and vegetables, eggs, seafood, and meat, which may not otherwise be available to local clients, as well as state certification for origin and quality of green coffee, and origin of certain products.

In addition, the branch provides just, and unbiased enforcement to assure safety and fair business dealings in agricultural products, to protect the agricultural community as well as the general public. The branch administers laws and rules pertaining to fresh fruits, vegetables, coffee, egg labeling and advertising; minimum export quality; licensing of dealers in agricultural products; certificate of ownership requirements on the movement of agricultural commodities to deter agricultural theft; and sampling and testing of animal feed for label guarantee and adulteration.

The branch's Milk Control Section regulates and maintains the stability of the dairy industry in the Honolulu and Hawai`i milk sheds by licensing producers and distributors of milk, establishing milk production quotas, setting minimum class 1 price paid to dairy producers, and conducting retail milk surveys and inspections. This special funded section is entirely self-funded through license fees assessed to milk producers and processors.

Listed below are brief overviews of developments that have impacted the Branch's activities (See page 67 for a detailed table of activities):

- Due to the closure of the state's last pineapple cannery operation, the Branch no longer conducts certification of canned pineapple products.

- Entered into a cooperative agreement with the United States Department of Agriculture, Agricultural Marketing Service to conduct Country of Origin Labeling audits on fish and shellfish products. Audits were conducted at assigned retail establishments.

- Continued fee-for-service papaya non-transgenic testing program utilizing the "Identity Preservation Protocol" program for tighter control of non-transgenic papayas that are exported to Japan. More than 2.5 million pounds of papayas were checked and over $44,000 in fees were assessed during the year.

- Staff attended fresh fruits and vegetables, coffee, eggs and dairy industry meetings and conferences; and meetings for the "Island Fresh Buy Fresh, Buy Local" promotion program.

- Celebrated "June is Dairy Month" by participating in Island Fresh and Buy Fresh, Buy Local program to increase public awareness about the importance of buying Island Fresh milk.

- Hosted supervisory visits by USDA official from the Poultry Programs.

- Staff attended meetings with the coffee industry to discuss coffee grading certification and origin verification to ensure the quality of coffee being certified originated within the respective growing districts.

Eager 4-Hers on Hawai`i Island help promote Milk Month at the Puainako KTA Superstore.

- Staff continued to conduct audits and educational visits with farmers on food safety awareness. Conducted 33 food safety audits at farms, distributors, packing warehouse facilities.

- Staff conducted greater number of fruit and vegetable inspections due to the Defense Commissary Agency (DECA) implementing the use of a prime vendor for commissary orders.

- Increased number of fields inspected attributed to a greater volume of seed corn certified by the branch.

- The closure of the last O`ahu dairy ended the availability of locally produced milk on the island.

- Branch fee assessments collected totaled $761,504; approximately 2.6 percent greater than last year.

MEASUREMENT STANDARDS BRANCH
William Pierpont, *Manager*

The Measurement Standards Branch works to protect consumers, businesses, and manufacturers from unfair practices, based on a measurement process or subject to a standard of quality. The goal is to minimize losses and inaccuracies due to incorrect or fraudulent commercial measuring equipment, processes, or substandard products.

The Standards and Technical Services Section assures that state measurement standards conform to national standards. It performs metrological calibration of the enforcement standards used by the branch and the field standards used by registered service agencies in testing, repairing, and calibrating commercial devices.

The Standards and Trade Practices Enforcement Section has the responsibility of assuring the consumer that transactions involving measuring instruments, labeling, content of packaged commodities, and pricing are accurate and fair to all parties.

Listed below is a brief overview of the branch's activities (See page 67 for a detailed table of activities.)

- The Measurement Standards Branch hosted the 2008 Western Regional Metrology Conference. The conference was attended by nineteen Metrologists from various state and private laboratories and officials from the National Institute of Standards and Technology (NIST).

- The state metrology laboratory received re-certification by NIST.

- The metrology laboratory inspected and calibrated 179 mass test standards, 693 mass enforcement standards, and 530 field standards for service agencies conducting business in the State of Hawai`i.

- The metrology laboratory inspected and calibrated 15 volumetric test standards, 29 volumetric enforcement standards, and 31 volumetric field standards for service agencies conducting business in the State of Hawai`i.

- The branch received and investigated four odometer complaints.

- The compliance rate for stores inspected for price verification was 99 percent.

- The branch performed 87 retail gasoline octane tests.

AGRIBUSINESS DEVELOPMENT CORPORATION

Alfredo Lee
Executive Director

The Agribusiness Development Corporation (ADC) was established pursuant to Act 264, SLH 1994 to coordinate the development of Hawai`i's agricultural industry and to facilitate its transition from a dual-crop (sugar and pineapple) industry to a diversified, multi-crop and animal industry. One of ADC's major goals is to preserve agriculture land and infrastructure abandoned by former plantations for current or future agriculture use. For administrative purposes, ADC is attached to the Hawai`i Department of Agriculture (HDOA).

The ADC is headed by a board of directors consisting of eight private-sector members appointed by the governor and three ex-officio members to include the Chairperson of HDOA, Chairperson of the Department of Land and Natural Resources (DLNR), and Director of the Department of Business, Economic Development and Tourism (DBEDT).

Board members: Teena Rasmussen (Chair), Robert Sutherland (Vice-Chair), Robert Osgood, Robert Cooper, Christine Daleiden, Duane Lau, Wayne Katayama, David Rietow, Sandra Kunimoto (Ex-Officio), Ted Liu (Ex-Officio), and Laura Thielen (Ex-Officio).

The following summarizes ADC's various projects and activities during FY 2007-2008:

Kekaha Agricultural Lands and Infrastructure

A major rainstorm in December 2007 challenged ADC and its contractors to execute emergency procedures. We opened all the outfalls from Kekaha Town to the Pacific Missile Range Facility (PMRF) to facilitate flood water drainage and monitored discharge water quality following NPDES permit requirements. With both 200-hp pumps running, the discharge canal at Kawaiele pump station was at full capacity. Despite all the efforts, flooding occurred on some of the lower elevation fields resulting in crop damage. It took over a week to get the water back down to the target level of 1.5 ft. below sea level. No flooding was reported at the PMRF.

ADC continues to work on the issuance of long-term land licenses to its tenants. Currently tenants with 20-year licenses include Syngenta, Pioneer-Hi-Bred, BASF Plant Science, and Wines of Kauai.

Since a formal agreement with ADC has been executed, the Kekaha Agriculture Association (Coop) continues to make improvements on the deteriorating infrastructure. The Halemanu stave pipe, which supplies water to the Puu Lua reservoir, was replaced with a HDPP pipe. Security gates were also installed on main entrances to and from the property.

Pacific West Energy and Gay and Robinson approached ADC expressing interest to license approximately two thousand acres of land as the companies made plans to combine resources to create an energy company. A major component of the plan includes the production of ethanol using sugar cane as the feedstock.

ADC enlisted the help from experts of the College of Tropical Agriculture and Human Resources (CTAHR) and has completed preliminary assessment of the piggery area and recommended actions to isolate the piggery waste. The ADC board of directors approved a budget of $150,000 to make improvements on the ditch, piping and pumps.

By the end of September 2008, ADC will have completed a three-year contract awarded to the ADC by the U.S. Navy to operate and maintain the Kawaiele and Nohili pump stations and the related drainage canals. With experienced and reliable contractors in place, ADC encountered no major issues during this third optional year.

Waiahole Water System (WWS)

Except for a brief period in December 2007, O`ahu rainfall, like many areas in the state, had been below normal during this year. As a result demand for irrigation water remained stable and slightly above average.

The installation of a pump-back system at Reservoir 225 was completed during this fiscal year and has been working as expected. This new pump back system is an integral part of components being added to the WWS in recent years to improve the overall operating efficiency of the ditch and to reduce system loss.

ADC continued to work with the James Campbell Company and the new landowners to transfer water allocation from the old Campbell water use permit to the new permits. Staff also provided input into the design of the new water distribution lines as the landowners were preparing to upgrade the deteriorated infrastructure. Replacing the old plantation water lines has helped to reduce system loss since a section of the old line was known to leak badly.

The acquisition of thousands of acres of former Campbell land by major agribusinesses such as Monsanto and Pioneer was good news to agriculture and to the well being of the WWS. In addition, the land being preserved for agricultural use, millions of dollars of infrastructure improvements and construction have been planned for the area as well. In addition, many former Del Monte workers have found employment with the new landowners. It is estimated that several hundred agricultural jobs will be created in the future as these companies increase their production and research activities.

As part of the Waiahole Combined Contested Case Decision and Order III, reservoirs 225 and 155 were to be lined with an impermeable material and ADC's reduce system loss permit would be reduced from 2.03 mgd to 1.42 mgd by June 2008. The reservoir lining project is a 65/35 cost-sharing project between the U.S. Army Corps of Engineers and HDOA, the local sponsor. Unfortunately, due to cost escalation and dam modification processes, the project was delayed. ADC will need to go through a ground water use permit modification process to account for the system loss until the reservoirs are lined.

East Kaua`i Irrigation System

ADC continues to assist the East Kaua`i Water Users Cooperative to operate and maintain their irrigation system with a $50,000 contract. The set aside of the irrigation system to ADC has been on hold because of water diversion concerns relating to two hydroelectric plants owned and operated by the Kaua`i Island Utility Cooperative.

East Kaua`i (Kalepa) Land

At its April 25, 2008 meeting, the Board of Land and Natural Resources (BLNR) approved the set aside of approximately 6,200 acres of former sugar land located in Kalepa, Kaua`i, to the ADC. About 2,000 acres of this land are irrigated fields serviced by the East Kaua`i Irrigation System. The set aside will not take place until the subdivision of about 58 acres of land to the Division of Forestry and Wildlife has been completed.

Although management of land and water together are preferred, BLNR's decision to set aside the Kalepa land to ADC separately from the water system was expedited by the inquiry of available state land on Kaua`i for an energy project proposed by the Green Energy Team LLC. The proposed project would require the use of 2,000 acres of state land to grow molucca albizia, a highly invasive and fast growing tree, for energy production. The proposal was highly controversial due to several reasons: the cultivation of an invasive species on state land, the displacement of agricultural tenants on revocable permits, and the use of fertile agriculture land for energy production. ADC was asked to facilitate a co-existence plan between the energy company and the existing tenants resulting in a series of three meetings that took place on Kaua`i in December 2007. Green Energy Team eventually agreed to grow eucalyptus urophylla/grandis, instead of molucca albizia on state land and reduced its land request from 2,000 acres to 1,000 acres. In turn each of the existing tenants, mainly ranchers, would give up a portion of their permitted area to accommodate the energy project. Fence buy back agreements also had to be worked out. Subsequently the BLNR approved the issuance of a revocable permit to Green Energy Team and the re-issuance of new revocable permits to all the tenants.

The realignment of boundary lines between the tenants created another controversial issue, since about 200 acres of the 1,000 acres given up by the tenants to the Green Energy Team were irrigated fields. The use of irrigated land for a forestry project is not consistent with the master plan developed for the project area. Consensus from ADC and the Farm Bureau is that irrigated land should be reserved for diversified agriculture projects only. ADC plans on working with the Green Energy Team and the other tenants to resolve this issue in the future.

Ka`u Irrigation District

At its January 11, 2008 meeting, the BLNR approved the set aside of various Ka`u District irrigation water sources and a management right of entry to ADC. Before an executive order for the set aside can be initiated, ADC is required to provide a CAD map with metes and bounds descriptions of the water sources. This requirement has proven to be a challenging task because most of the tunnels are not clearly marked on state or plantation maps. Hence, ADC enlisted the help from key members of the Ka`u master coop to help locate the water tunnels and to identify the tunnels with GPS coordinates.

Farm and Ranch Land Protection Program

With $1.8 million secured from the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) and another $1.1 million from Department of Land and Natural Resource's Legacy Land Conservation fund, ADC continued to work with the various agencies and the landowner on issues relating to the purchase of the perpetual agriculture easement in Kunia. Within this year, an environmental assessment, a phase I inspection, a baseline report, and a yellow-book appraisal have been completed. The purchase cannot be closed until the appraisal is approved by the NRCS.

Kaua`i Tropical Fruit Disinfestation Facility

ADC continued to work with CTAHR, the Kaua`i Farm Bureau Development Corporation, the County of Kaua`i and the Kaua`i Economic Opportunity (KEO), on reopening Kaua`i's Tropical Fruit Disinfestation facility. The main focus for the group has been on increasing production.

ADC is the expending agency of a $250,000 legislative grant, awarded to the KEO, to papaya farmers and treatment facility workers. During this past year, several selected new farmers were being trained to grow papaya on 9 acres of private land. The USDA Animal and Plant Health Inspection Service (APHIS) will need to re-certify the plant before treatment for exporting can begin.

Wahiawa Irrigation System

Since Dole Food Company offered to gift the Wahiawa Irrigation System (WIS) to the state in late 2006, ADC commissioned an engineering study of the system to identify the potential benefits and liabilities, and to evaluate the cost of repairing the WIS. The report, completed in the fall of 2007, summarized major repairs needed on the reservoirs, siphons, tunnels, flumes, and outlets. Estimated repair costs within the first 5 years (2007 dollars) is $4.2 million of which approximately $1 million is required to repair the gate valves designed to release water from the Wahiawa reservoir. Dole reportedly has begun to do some of the repairs on their own. In the future, an estimated $2.9 million is required to repair some of the siphons and structures. The 2.8 mile Wahiawa tunnel has not been inspected and the cost to repair it is unknown.

In a draft Phase I engineering report prepared for the DLNR Engineering Division in 2008, the Wahiawa dam, a high-hazard dam, is described as "in poor condition and not safe, non-emergency." Among the various findings, the most critical is an undersized spillway which will not be capable of handling the Probable Maximum Flood (PMF). Preliminary estimates place the cost of construction of an auxiliary spillway to mitigate this issue in the range of $6 – 8 million. The engineering report also indicated the need to do further investigations, various repairs on the dam and spillway, and replacement of the monitoring instrumentation.

Since both the Wahiawa wastewater treatment plant and the Schofield wastewater treatment plant discharge R2 effluent into the irrigation system, a National Pollutant Discharge Elimination System (NPDES) permit is required to operate the WIS. As the Hawai`i Department of Health is still in the process of implementing Total Maximum Daily Load (TMDL) standards as part of the Clean Water Act requirements, concerns and liabilities relating to water quality standards are unknown at this time.

A preliminary report prepared by the HDOA estimated that in 2007 the WIS supported agricultural activities that generated about $38 million in farm gate value and 635 full-time and part-time jobs. The Wahiawa Reservoir impounds up to 3 billion gallons of irrigation water which is absolutely critical for agricultural operations on the north shore of O`ahu. Currently an average of 10 million gallons of water from this system is being used by pineapple and diversified agriculture operations daily. The WIS will continue be very important to the state's economy for the years to come as diversified agriculture continues its expansion.

Although there were no actions taken after an initial meeting between ADC and Dole, negotiations are on-going. The Wahiawa reservoir and dam issues are also directly related to the Galbraith Estate land, another project involving ADC.

New plantings of Norfolk pine in Ka`u

The spillway area at the Wahiawa Reservoir

Galbraith Estate Land

The Galbraith Estate land refers to about 2,200 acres of agriculture land located between Whitmore Village and Schofield Barracks on Oahu. Until a few years ago, the land was leased and farmed by Del Monte for pineapple production. The strategic importance of this land is its location, which is considered to be the gateway to the north shore of Oahu. The Galbraith Estate was dissolved in 2007 and Bank of Hawaii, its trustee, has been trying to sell the land without much success. Act 234, SLH 2008, authorized the Agribusiness Development Corporation (ADC) to purchase the land on behalf of the state. Funding of $13 million (G.O. bond) was also approved by the legislature for the purchase.

The Galbraith Estate land is relatively flat. A deep well on the property can provide up to about 2 mgd of irrigation water to the former pineapple fields. Due to its relatively high elevation (about 1000 ft), the land is not suitable for the commercial production of many crops grown around the island. However, crops that benefit from cooler temperatures such as lettuce, cabbage, and some orchard crops could do well in this area. A portion of the land could also be ideal for the establishment of a dairy since milk production tends to be higher in cooler climates.

This property comes with major liabilities as the Galbraith Estate owns half of the Wahiawa Reservoir (Lake Wilson) which was leased to Dole Food Company. The Galbraith half of the reservoir includes half of the dam and the entire spillway. Repair and upgrade costs were mentioned in the Wahiawa Irrigation System part of this report.

Other projects

- ADC, with help from the Manufacturing Extension Partnership (MEP) of the High Technology Development Corporation, finished an inter-island transportation study of agricultural products. Focus of the study was on less-than-container load cargo service and its potential impact to agricultural producers in the event that Young Brothers decides to discontinue its service.

- The ADC board of directors also approved funding to conduct several industry supporting projects during this fiscal year including: (1) an animal feed demonstrative project on Hawaii; (2) a waste stream handling project on Maui; and (3) a browse feeding workshop study tour for the cattle industry.

The Incentive Service Awards Program recognizes the "Cream of the Crop." Congratulations to the awardees for 2008!

State Employee of the Year & HDOA Employee of the Year

Dexter Cho
Plant Pest Control Branch

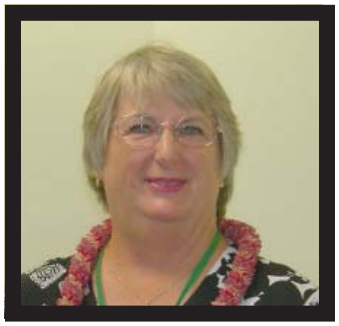
Dexter supports staff entomologists working on biological control measures by collecting and propagating host and test plants, mass producing biocontrol insects for release and assists in field evaluations of effectiveness of biocontrol programs.

HDOA Manager of the Year

Carol Okada
Plant Quarantine Branch

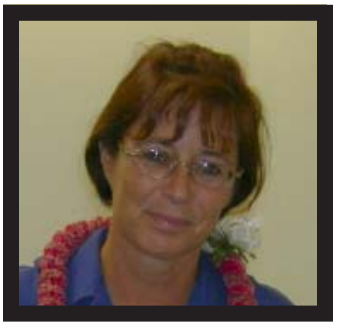
Carol oversees the statewide Plant Quarantine regulatory program, which includes 115 inspectors, pest control aids and clerical staff. She is responsible for Hawai`i's import and export programs.

Sustained Superior Performance Awards



Barbara Schafer
Market Development Branch

Barbara provides support for the entire division in an efficient and professional manner. She was instrumental in establishing and maintaining the Livestock Feed Subsidy Program and for managing the division's contracts and documents.



Laura Ayers
Livestock Disease Control Branch

As a livestock inspector, Laura was recognized for her mastery of the livestock database program. She was also cited for her sensitivity, professionalism and genuine care and concern for animals and their owners.

Dean Yoshizu
Pesticides Branch

Dean is responsible for managing federal grants, which allow the Pesticides program to enforce federal requirements to assure the safe use of pesticides and enforcing worker protection standards.

List of Tables and Charts

HAWAI`I BOARD OF AGRICULTURE

Sandra Lee Kunimoto
Chairperson
1/03 - present

Alan Gottlieb
Member-at-Large
1st term ends
6/09

Craig Rasmussen
Member-at-Large
1st term ends
6/09

Carl Carlson, Jr.
Member-at-Large
2nd term ended*
6/08

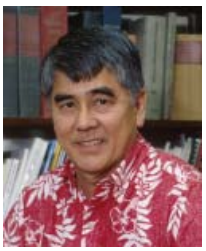
Douglas MacCluer
Maui County Member
2nd term ends
6/12

Laurie Ho
Kaua`i County Member
1st Term ends
6/10

Diane Ley
Hawai`i County Member
1st term ends
6/10

Laura Thielen
Ex Officio Voting Member
Chairperson,
Board of Land & Natural Resources
9/07 - present

Ted Liu
Ex Officio Voting Member
Director, Dept. of Business, Economic Development & Tourism
12/02 - present



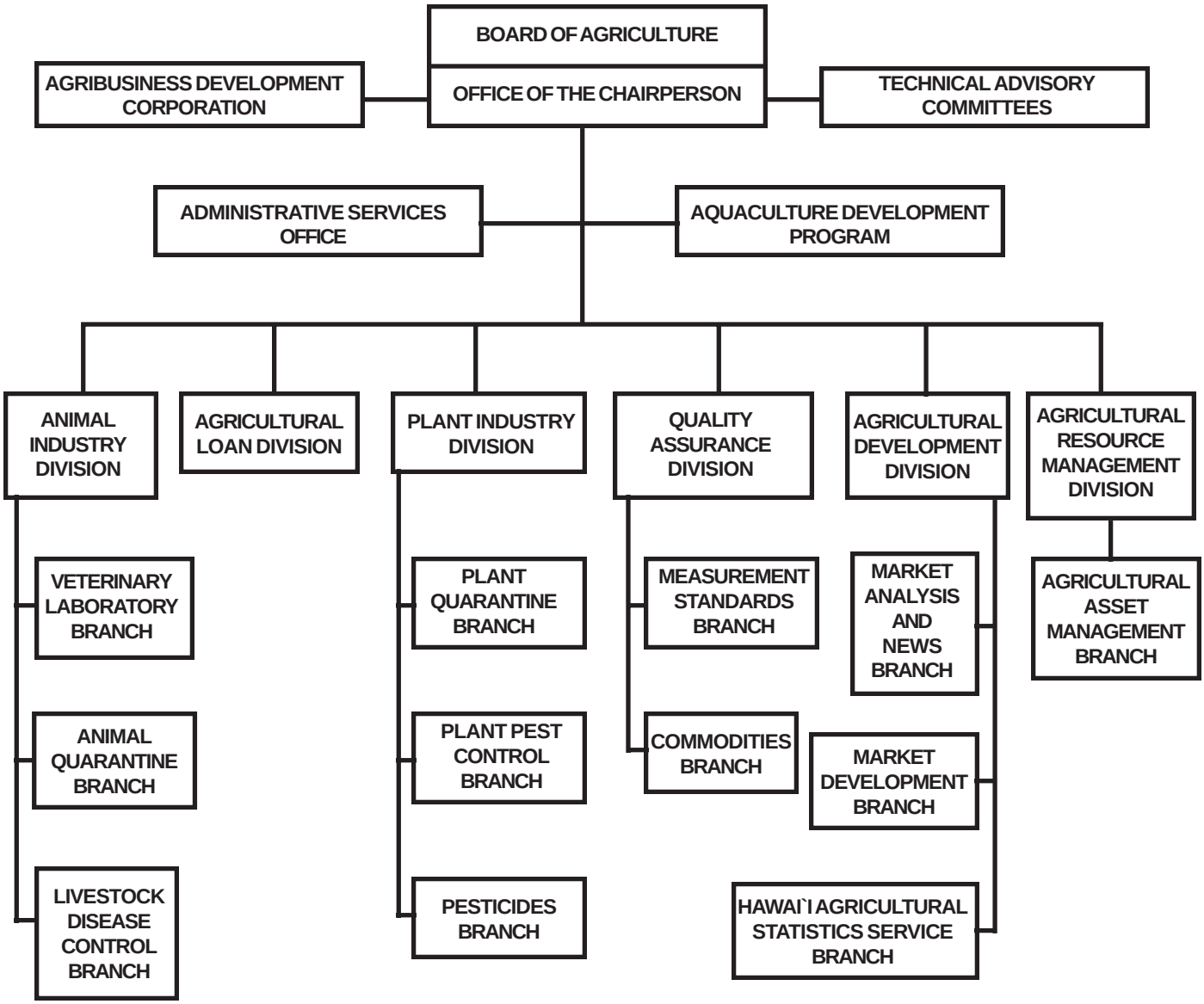
Dr. Andrew Hashimoto
Ex Officio Voting Member
Dean, College of Tropical Agriculture & Human Resources, University of Hawai`i
1/01 - present

DEPARTMENT OF AGRICULTURE
OFFICE OF THE CHAIRPERSON

Duane K. Okamoto
Deputy to the Chairperson
4/05 - present

*Derrick Nishimura appointed 7/08

HAWAI`I DEPARTMENT OF AGRICULTURE
ORGANIZATIONAL CHART



FINANCIAL STATEMENT - GENERAL FUND (Operating Funds)
July 1, 2007 - June 30, 2008

Title of Fund	Fund No.	Appropriation Incl Transfers 2007-2008	Restricted	Allocation 2007-2008	Personal Services	Other Current Expenses	Total Expenditures 2007-2008	Outstanding Encumbrances 06/30/08	Balance 06/30/08
AGR 122 - PLANT PEST & DISEASE CONTROL									
Administration	122-0045	255,728	0	255,728	143,448	18,806	162,254	93,474	0
Plant Quarantine	122-0050	5,454,124	38,700	5,415,424	4,103,853	493,480	4,597,333	329,382	488,709
Plant Pest Control									
Biological Control	122-0060	1,705,330	0	1,705,330	837,758	243,594	1,081,352	623,978	0
Chemical Mechanical	122-0070	660,091	0	660,091	533,177	56,084	589,261	63,106	7,724
AGR 131 - RABIES QUARANTINE									
Animal Quarantine	131-0038	100,000	100,000	0	0	0	0	0	0
AGR 132 - ANIMAL DISEASE CONTROL									
Administration	132-0015	187,438	0	187,438	172,010	12,311	184,321	1,767	1,350
Livestock Disease Control	132-0017	605,125	0	605,125	521,184	39,139	560,323	41,678	3,124
Veterinary Laboratory	132-0025	582,974	0	582,974	469,129	81,771	550,900	32,074	0
AGR 141 - AGRICULTURAL RESOURCE MANAGEMENT									
Administration	141-0009	152,857	0	152,857	141,243	5,664	146,907	5,856	94
Irrigation Systems	141-0011	425,000	0	425,000	0	425,000	425,000	0	0
State-October 2006 Earthquake	181-0011	4,570,166	0	4,570,166	0	573,523	573,523	3,982,159	14,484
AGR 151 - QUALITY & PRICE ASSURANCE									
Administration	151-0150	129,580	0	129,580	120,866	7,640	128,506	1,074	0
Commodities	151-0090	1,210,656	7,500	1,203,156	1,041,044	102,260	1,143,304	59,359	493
AGR 153 - AQUACULTURE DEVELOPMENT PROGRAM	153-0007	585,463	21,535	563,928	330,964	121,901	452,865	89,510	21,553
AGR 161 - AGRIBUSINESS DEVELOPMENT & RESEARCH									
Agribusiness Development Corp.	161-0003	140,558	0	140,558	0	140,558	140,558	0	0
AGR 171 - AGRICULTURAL DEVELOPMENT & MARKETING									
Agricultural Commodities Research & Development	171-0002	492,962	0	492,962	0	96,535	96,535	378,912	17,515
Administration	171-0085	130,249	0	130,249	113,269	11,972	125,241	5,008	0
Market Development	171-0095	1,178,418	5,000	1,173,418	282,392	138,367	420,759	517,484	235,175
Hawai`i Agricultural Statistics Services	171-0100	468,649	10,680	457,969	427,094	25,401	452,495	5,474	0
Market Analysis & News	171-0110	174,875	0	174,875	117,834	41,077	158,911	15,964	0
Livestock Revitalization Program	304-0095	3,000,000	0	3,000,000	0	1,107,610	1,107,610	88,372	1,804,018
AGR 192 - GENERAL ADMINISTRATION									
Administration	192-0001	1,795,011	0	1,795,011	1,535,118	202,664	1,737,782	56,945	284
Protocol Fund	198-0001	1,571	0	1,571	0	1,571	1,571	0	0
AGR 812 - MEASUREMENT STANDARDS									
Measurement Standards	012-0120	732,145	0	732,145	543,619	111,461	655,080	70,937	6,128
AGR 846 - PESTICIDES	046-0075	941,478	0	941,478	788,316	32,621	820,937	63,768	56,773
TOTAL		**25,680,448**	**183,415**	**25,497,033**	**12,222,318**	**4,091,010**	**16,313,328**	**6,526,281**	**2,657,424**

G-181 -State-October 2006 Earthquake - transfer of funds from DOD (JV 213 JG 0647 dated 12/28/07, JV 220(JG0733 dated1/22/08)
G-192 - General Administration transfer $677858 to DAGS for special repairs projects (JV152 JG0500 dated 11/26/07)
G-304 - Livestock Revitalization Program AW 82 (lapse date 12/31/10)

FINANCIAL STATEMENT - SPECIAL FUNDS
July 1, 2007 - June 30, 2008

Title of Fund	Fund No.	Cash Balance 07/01/07	Transfers 2007-2008	Receipts 2007-2008	Personal Services	Other Current Expenses	Total Expenditures 2007-2008	Cash Balance 06/30/08	Outstanding Encumbrances 06/30/08
AGR 101 - FINANCIAL ASSISTANCE FOR AGRICULTURE									
Agricultural Loan Reserve Fund	S-301	2,714,995	0	1,273,545	704,787	182,676	887,463	3,101,077	73,026
Aquaculture Loan Reserve Fund	S-310	272,062	0	71,063	0	0	0	343,125	0
AGR 122 - PLANT PEST & DISEASE CONTROL									0
Cooperative National Plant Pest Survey Program, Federal	S-201	133,601	0	181,903	31,598	197,730	229,328	86,176	81,737
Research & Development for the Brown Tree Snake, Federal	S-211	13,459	0	161,718	150,308	15,528	165,836	9,341	0
Alien Species Action Plan, Federal (DOT)	S-236	0	0	0	0	0	0	0	17,249
Survey/Detection of Red Imported Fire Ant, Federal	S-240	4,831	0	10,000	0	8,370	8,370	6,461	3,639
Seed Sampling Processing Services, Federal	S-246	0	0	2,007	0	2,007	2,007	0	0
Fireweed (Federal)	S-247	0	0	56,000	3,867	40,141	44,008	11,992	4,316
Pest Inspection, Quarantine and Eradication Fund	S-304	0	0	4,895	0	0	0	4,895	0
Plant Quarantine (Interagency Transfer)	S-314	70,646	0	833,483	303,615	5,834	309,449	594,680	500,000
Coqui Frog Control & Eradication	S-334	510,393	0	17,032	0	457,569	457,569	69,856	29,487
Hawai`i Invasive Species Council Funds(DLNR Delegation)	S-350	18,868	0	0	0	18,868	18,868	0	0
AGR 131 - RABIES QUARANTINE							0		
Animal Quarantine	S-318	1,378,062	(24,000)	2,693,972	1,710,817	745,561	2,456,378	1,591,656	189,521
AGR 132 - ANIMAL DISEASE CONTROL									
Animal Disease Control (Federal)	S-203	0	0	20,000	0	0	0	20,000	0
Voluntary Scrapie Flock Certification Program, Federal	S-232	0	0	23,000	12,593	1,260	13,853	9,147	3,472
Voluntary Johne's Disease Herd Status Program, Federal	S-233	9,137	0	18,036	57	20,146	20,203	6,970	763
Foreign Animal Disease and Bovine Spongiform Encephalopathy Surveillance, Federal	S-234	3,775	0	6,084	0	3,859	3,859	6,000	0
Swine Health Protection, Federal	S-235	8,150	0	24,450	10,315	18,264	28,579	4,021	2,010
National Animal Identification System (Federal)	S-245	33,660	0	37,020	0	56,780	56,780	13,900	0
State Homeland Security (Federal-Civil Defense)	S-249	24,850	0	0	0	24,295	24,295	555	0
Highly Pathogenic Avian Influenza Virus (Federal)	S-250	20,680	0	11,433	0	32,113	32,113	0	0
Moloka`i Bovine TB Mitigation (Federal)	S-252	14,003	0	14,449	0	10,143	10,143	18,309	911
Contribution of Animal Quarantine Holding Facility	S-316	6,480	0	424,662	430,884	0	430,884	258	0

(Table continued on next page)

FINANCIAL STATEMENT - SPECIAL FUNDS (continued)
July 1, 2007- June 30, 2008

Title of Fund	Fund No.	Cash Balance 07/01/07	Transfers 2007-2008	Receipts 2007-2008	Personal Services	Other Current Expenses	Total Expenditures 2007-2008	Cash Balance 06/30/08	Outstanding Encumbrances 06/30/08
(Continued from previous page)									
AGR 141 - AGRICULTURAL RESOURCE MANAGEMENT									
Hawaii Water Resources Study, Federal	S-218	0	0	0	0	0	0	0	94,612
Water Conservation Improvement Study (Federal)	S-251	0	0	24,870	0	24,870	24,870	0	32
Non-Agricultural Park Lands Special Fund	S-305	56,357	0	396,958	70,028	185,941	255,969	197,346	34,263
Agricultural Park Special Fund	S-317	972,139	0	431,164	214,992	108,072	323,064	1,080,239	38,506
Agricultural Park Special Fund Escrow Account	S-327	110,889	0	5,324	0	0	0	116,213	0
AGR 151 - QUALITY & PRICE ASSURANCE								0	
Commodities, Egg Product Inspection Act, Federal	S-202	3,818	0	11,061	9,879	3,140	13,019	1,860	0
Commodities, Seafood Inspection Program, Federal	S-220	187	0	2,464	2,421	35	2,456	195	0
Commodities, Meat Grading Program, Federal	S-221	959	0	0	0	0	0	959	0
Statewide Food Traceability System, Federal	S-256	0	0	50,000	0	5,697	5,697	44,303	10,148
Country of Origin Labeling—Retail Surveillance, Federal	S-258	0	0	2,479	0	2,479	2,479	0	0
Commodities, Milk Control	S-315	427,400	0	161,982	0	21,764	21,764	567,618	16,853
AGR 153 - AQUACULTURE DEVELOPMENT PROGRAM									
Aquaculture Development, Federal	S-206	0	0	0	0	0	0	0	0
Aquaculture Development	S-328	40,698	0	71,034	0	16,621	16,621	95,111	13,327
AGR 161 - AGRIBUSINESS DEVELOPMENT & RESEARCH									
FEMA – March 2006 Flood	S-292	0	0	119,687	0	119,687	119,687	0	0
AGR 171 - AGRICULTURAL DEVELOPMENT & MARKETING									
Agricultural Market Information System, Federal	S-212	23,900	0	13,500	0	20,110	20,110	17,290	17,290
National Organic Certification Cost -Share Program, Federal	S-230	88	0	11,524	0	11,230	11,230	382	0
Economic Assessment of Select Hawaii Agricultural Exports, Federal	S-238	19,251	0	0	0	19,251	19,251	0	0
Hawai`i Specialty Crops (Federal)	S-257	0	0	220,591	0	9,865	9,865	210,726	23,000
Seal of Quality Special Fund (Act 120, SLH 2007 lapse 6/30/08)	S-308	0	0	11,374	0	569	569	10,805	0
AGR 846 - PESTICIDES							0		
EPA/DOA Pesticide Enforcement Program, Federal	S-205	58,973	0	336,273	185,938	182,206	368,144	27,102	19,348
Cooperative Pesticide Recordkeeping Program, Federal	S-213	5,079	0	9,341	6,129	4,016	10,145	4,275	180
TOTAL		**6,957,390**	**(24,000)**	**7,764,378**	**3,848,228**	**2,576,697**	**6,424,925**	**8,272,843**	**1,173,690**

S-308 Seal of Quality Special Fund AW54
S-318 Transfer $14,000 JV 58 (JS0950 dated 8/31/07) & $10,000 JV 249 (JS3804 dated 2/8/08) to DAGS for kennel structural analysis

FINANCIAL STATEMENT - BOND FUNDS
July 1, 2007 - June 30, 2008

Title of Fund	Fund No.	Beg. Balance/ Appropriation 2007-2008	Reversion	Allocation 2007-2008 (Incl, O/S Enc)	Transfers	Lapses	Other Current Expenses	Outstanding Encumbrances 06/30/08	Total Expend & Enc 2007-2008	Available Balance 06/30/08
Upcountry Maui Watershed, Maui - Act 328/97 (116/98)										
Design	B-97-801	270	0	270	0	0	140	0	140	130
Construction	B-97-802	0	0	0	0	0	0	0	0	0
Lower Hamakua Ditch Water Project, Hawai`i - Act 328/97 (116/98)										
Design	B-98-403	0	0	6,300	0	0	0	6,300	6,300	0
Construction	B-98-404	36	0	3,717	0	0	36	3,681	3,717	0
Drainage Improvements, Waimanalo Irrigation System, O`ahu - Act 91/99										
Plans	B-99-401	48,061	0	48,061	0	0	0	0	0	48,061
Land	B-99-402	25,000	0	25,000	0	0	0	0	0	25,000
Construction	B-99-404	89,128	0	89,128	0	0	0	0	0	89,128
Lower Hamakua Ditch Watershed Project, Hawai`i - Act 91/99										
Land	B-99-407	57,606	0	57,606	0	0	0	0	0	57,606
Drainage Improvements, Waimanalo Irrigation System, O`ahu - Act 91/99 (281/00)										
Construction	B-00-400	27,484	0	27,484	0	0	0	0	0	27,484
Lower Hamakua Ditch Watershed Project, Hawai`i - Act 91/99 (281/00)										
Plans	B-00-402	0	0	1,362	0	0	0	1,222	1,222	140
Land	B-00-403	39,625	0	39,625	0	0	0	0	0	39,625
Construction	B-00-405	0	0	21,125	0	0	0	21,125	21,125	0
Plantation Irrigation/Drainage System Improvements, Statewide - Act 259/01										
Plans	B-01-400	134,578	0	136,169	0	0	356	1,591	1,947	134,222
Design	B-01-401	301,128	0	301,128	0	0	0	0	0	301,128
Construction	B-01-402	769,410	0	769,410	0	0	639	0	639	768,771
Equipment	B-01-403	0	0	200,114	0	0	0	200,114	200,114	0
Lower Hamakua Ditch Watershed, Hawai`i - Act 259/01										
Design	B-01-407	1,000	0	1,000	0	0	0	0	0	1,000
Construction	B-01-408	0	0	18,986	0	0	0	18,986	18,986	0
Upcountry Maui Watershed, Maui - Act 259/01(3/01, 177/02)										
Design	B-01-800	496,443	0	496,443	0	0	0	0	0	496,443
Construction	B-01-801	14	0	75,837	0	0	57,114	0	57,114	18,723
Land	B-01-802	213,227	0	237,227	0	0	10,608	24,000	34,608	202,619
Plans	B-02-400	0	0	24,825	0	0	0	24,825	24,825	0
Lower Hamakua Ditch Watershed, Hawai`i - Design, Act 259/01 (177/02)										
Design	B-02-401	309,641	0	340,000	0	0	932	30,483	31,415	308,585
Construction	B-02-402	1,584,074	0	2,273,321	0	0	602,948	68,215	671,163	1,602,158
State Agricultural Water/Use Development Plan, Statewide - Act 259/01 (177/02)										
Plans	B-02-406	26,441	0	28,159	0	0	0	1,718	1,718	26,441
Agricultural Water/Infrastructure Development, Statewide - Act 259/01 (177/02)										
Plans	B-02-407	1,000	0	1,000	0	0	0	0	0	1,000
Land	B-02-408	1,000	0	1,000	0	0	0	0	0	1,000
Design	B-02-409	1,000	0	1,000	0	0	0	0	0	1,000
Construction	B-02-410	1,672,188	0	1,761,695	0	0	0	89,507	89,507	1,672,188
Equipment	B-02-411	1,000	0	1,000	0	0	0	0	0	1,000

See footnotes at end of table. **(Table continued on next page)**

FINANCIAL STATEMENT - BOND FUNDS (continued)
July 1, 2007 - June 30, 2008

Title of Fund	Fund No.	Beg. Balance/ Appropriation 2007-2008	Rever-sion	Allocation 2007-2008 (Incl, O/S Enc)	Transfers	Lapses	Other Current Expenses	Outstanding Encumbrances 06/30/08	Total Expend & Enc 2007-2008	Available Balance 06/30/08
(Continued from previous page)										
Kekaha Drainage & Irrigation System, Kaua`i - Act 259/01 (177/02)										
Plans	B-02-417	250,000	0	250,000	0	0	0	0	0	250,000
Design	B-02-418	500,000	0	500,000	0	0	0	0	0	500,000
Construction	B-02-419	2,000,000	0	2,000,000	0	0	0	0	0	2,000,000
Equipment	B-02-420	250,000	0	250,000	0	0	0	0	0	250,000
Moloka`i Irrigation System Improvements, Moloka`i - Act 41/04 (200/03)										
Design	B-04-400	0	0	36,909	0	0	36,909	0	36,909	0
Plans	B-04-404	50,000	0	50,000	0	0	0	0	0	50,000
Agricultural Water & Infrastruction Development, Statewide - Act 41/04 (200/03)										
Land	B-04-405	250,000	0	250,000	0	0	0	0	0	250,000
Design	B-04-406	50,000	0	50,000	0	0	0	0	0	50,000
Construction	B-04-407	2,453,171	0	2,600,000	0	0	72,816	74,013	146,829	2,453,171
Equipment	B-04-408	50,000	0	50,000	0	0	0	0	0	50,000
Pauuilo Rendering Plant, Hawai`i - Act 41/04 (200/03)										
Plans	B-04-409	0	0	16,501	0	0	16,501	0	16,501	0
Design	B-04-410	0	0	34,971	0	0	20,339	14,632	34,971	0
Waimea Irrigation System, Hawai`i - Act 178/05										
Plans	B-05-400	1,000	0	1,000	0	66	636	298	934	0
Design	B-05-401	3,276	0	10,306	41,000	0	40,205	11,101	51,306	0
Construction	B-05-402	296,000	0	296,000	(41,000)	0	15,244	239,756	255,000	0
Moloka`i Irrigation System - Act 178/05										
Design	B-05-404	38,715	0	84,998	(37,489)	0	24,973	22,536	47,509	0
Construction	B-05-405	527,859	0	527,859	37,489	0	1,013	564,335	565,348	0
Upcountry Maui Watershed - Act 178/05										
Plans	B-05-407	10,000	0	10,000	(10,000)	0	0	0	0	0
Land	B-05-408	100,000	0	100,000	(100,000)	0	0	0	0	0
Design	B-05-409	100,000	0	100,000	233,178	0	0	333,178	333,178	0
Construction	B-05-410	113,178	0	1,279,737	(113,178)	0	0	1,166,559	1,166,559	0
Equipment	B-05-411	10,000	0	10,000	(10,000)	0	0	0	0	0
Lower Hamakua Ditch System, Hawai`i- (FF) Act 178/05										
Plans	B-05-413	0	0	32,000	0	0	32,000	0	32,000	0
Construction	B-05-415	910,950	0	968,000	0	0	53,090	3,960	57,050	910,950
Paauilo Rendering Plant, Hawai`i - Act 160/06 (178/05)										
Construction	B-06-400	1,186,000	0	1,186,000	0	0	1,183	1,184,817	1,186,000	0
Waimanalo Irrigation Sys Imp O`ahu - Act 213/07										
Plans	B-07-400	100,000	0	100,000	0	0	0	0	0	100,000
Design	B-07-401	580,000	0	580,000	0	0	0	0	0	580,000
Construction	B-07-402	5,320,000	0	5,320,000	0	0	0	0	0	5,320,000
Upcountry Maui Watershed - L/S, Act 213/07										
L/S	B-07-403	1,500,000	0	1,500,000	0	0	0	0	0	1,500,000
Kunia Agricultral Park, O`ahu - Act 213/07										
Plan	B-07-408	250,000	0	250,000	0	0	0	0	0	250,000

See footnotes at end of table.

(Table continued on next page)

FINANCIAL STATEMENT - BOND FUNDS (continued)
July 1, 2007 - June 30, 2008

Title of Fund	Fund No.	Beg. Balance/ Appropriation 2007-2008	Rever-sion	Allocation 2007-2008 (Incl, O/S Enc)	Transfers	Lapses	Other Current Expenses	Outstanding Encumbrances 06/30/08	Total Expend & Enc 2007-2008	Available Balance 06/30/08
(Continued from previous page)										
State Irrig Sys Reservoir Safety, S/W - Act 213/07										
Plan	B-07-409	520,000	0	520,000	0	0	0	0	0	520,000
Design	B-07-410	1,080,000	0	1,080,000	0	0	0	0	0	1,080,000
Construction	B-07-411	8,650,000	0	8,650,000	0	0	0	0	0	8,650,000
Irrigation System Improvements, O`ahu - Act 213/07										
Design	B-07-412	25,000	0	25,000	0	0	0	0	0	25,000
Construction	B-07-413	375,000	0	375,000	0	0	0	0	0	375,000
Misc Health, Safety, Code/Other Req S/W - Act 213/07										
Design	B-07-414	100,000	0	100,000	(100,000)	0	0	0	0	0
Construction	B-07-415	400,000	0	400,000	(305,100)	0	4,000	0	4,000	90,900
Hawaiian Humane Society, O`ahu - Act 213/07										
Design	B-07-416	1,000	0	1,000	0	0	0	0	0	1,000
Construction	B-07-417	124,000	0	124,000	0	0	0	0	0	124,000
TOTAL		**33,974,503**	**0**	**36,707,273**	**(405,100)**	**66**	**991,682**	**4,106,952**	**5,098,634**	**31,203,473**

Allot advice 08-0113 Trf $41,000 from B-05-402 to B-05-401
Allot advice 08-0467 Trf $37,489 from B-05-404 to B-05-405
Allot advice 08-0468 Trf $10,000 from B-05-407, $100,000 from B-05-408, $113,178 from B-05-410, $10,000 from B-05-411 to B-05-409
Allot advice 08-0222 Trf $80,000 from B-07-414 to DAGS
Allot advice 08-0226 Trf $20,000 from B-07-414 to DAGS and $130,000 from B-07-415 to DAGS
Allot advice 08-0211 Trf $154,900 from B-07-415 to DAGS
Allot advice 08-0473 Trf $20,200 from B-07-415 to DAGS

FINANCIAL STATEMENT - REVOLVING FUNDS
July 1, 2007 - June 30, 2008

Title of Fund	Fund No.	Cash Balance 07/01/07	Transfers 2007-2008	Receipts 2007-2008	Personal Services	Other Current Expenses	Total Expenditures 2007-2008	Cash Balance 06/30/08	Outstanding Encumbrances 06/30/08
AGR 101 - FINANCIAL ASSISTANCE FOR AGRICULTURE									
Agricultural Loan	S-303	10,341,996	0	1,992,078	0	973,388	973,388	11,360,686	0
Aquaculture Loan	S-311	358,608	0	80,783	0	0	0	439,391	0
AGR 122 - PLANT PEST & DISEASE CONTROL									
Microorganism Import Permit Fund	S-313	0	0	0	0	0	0	0	0
Permit Revolving Fund	S-326	20,803	0	19,225	6,337	6,170	12,507	27,521	712
AGR 141 - AGRICULTURAL RESOURCE MANAGEMENT									
Irrigation Systems	S-320	726,037	0	1,249,144	666,700	448,052	1,114,752	860,429	99,329
AGR 151 - QUALITY & PRICE ASSURANCE									
Certification Services	S-302	358,575	0	370,458	192,531	45,770	238,301	490,732	56,923
AGR 161 - AGRIBUSINESS DEVELOPMENT & RESEARCH									
Agribusiness Development	S-307	1,364,386	0	1,925,860	249,131	1,359,284	1,608,415	1,681,831	981,749
Waiahole Water System	S-325	947,130	0	1,022,055	376,229	584,972	961,201	1,007,984	55,155
AGR 846 - PESTICIDES									
Pesticide Use Program	S-324	815,365	0	888,077	220,654	470,376	691,030	1,012,412	630,934
TOTAL		**14,932,900**	**0**	**7,547,680**	**1,711,582**	**3,888,012**	**5,599,594**	**16,880,986**	**1,824,802**

S-324 expenditures include $205,103.86 transfer to general fund JV 62(JM0884 9/10/07)

FINANCIAL STATEMENT - CIP FUNDS (General, Special and Revolving)
July 1, 2007 - June 30, 2008

Title of Fund	Fund No.	Beg. Balance/ Appropriation 2007-2008	Rever-sion	Allocation 2007-2008 (Incl, O/S Enc)	Transfers	Lapses	Other Current Expenses	Outstanding Encumbrances 06/30/08	Total Expend & Enc 2007-2008	Available Balance 06/30/08
CIP Repair & Maintenance of Irrigation Systems, Act 233/06										
	G-06-400	11,740,662	0	11,872,022	0	501,362	362,011	11,008,649	11,370,660	0
Upcountry Maui Watershed, Maui										
Construction	S-97-276	370	0	370	0	0	0	0	0	370
Drainage, Waimanalo Irrigation System, O`ahu - Act 91/99										
Construction	S-99-274	64,405	0	64,405	0	0	0	0	0	64,405
Lower Hamakua Ditch Watershed, Hawai`i - Act 91/99										
Construction	S-99-279	88,675	0	88,675	0	0	0	0	0	88,675
Lower Hamakua Ditch Watershed, Hawai`i - Act 91/99 (281/00)										
Lump Sum	S-00-270	940,000	0	940,000	0	0	0	0	0	940,000
Construction	S-00-274	15,170	0	39,976	0	0	0	24,806	24,806	15,170
Lower Hamakua Ditch Watershed, Hawai`i										
Design & Construction										
	S-00-276	26,630	0	171,678	0	0	0	113,044	113,044	58,634
Construction	S-00-277	10,772	0	53,758	0	0	0	42,986	42,986	10,772
Design	S-01-270	10,420	0	10,420	0	0	0	0	0	10,420
Construction	S-01-271	134,426	0	151,458	0	0	0	0	0	151,458
Upcountry Maui Watershed, Maui										
Design	S-01-272	2,439	0	2,439	0	0	0	0	0	2,439
Construction	S-01-273	54,899	0	277,550	0	0	129,805	74,013	203,818	73,732
State Agricultural Water Use Development Plan, Statewide - Act 259/01(177/02)										
Plans	S-02-270	40,000	0	40,000	0	0	0	0	0	40,000
Lower Hamakua Ditch Watershed, Hawai`i										
Design	S-02-271	54,475	0	101,111	0	0	0	46,636	46,636	54,475
Construction	S-02-272	353,451	0	1,016,818	0	0	602,126	61,241	663,367	353,451
Upcountry Maui Watershed, Maui										
Design	S-02-273	176,932	0	560,899	0	0	52,619	351,348	403,967	156,932
Construction	S-02-274	5,000	0	1,171,559	0	0	0	1,166,559	1,166,559	5,000
State Agricultural Water Use Development Plan, Statewide - Act 200/03										
Plans	S-03-270	150,000	0	150,000	0	0	0	0	0	150,000
Agricultural Water & Infrastructure Development, Statewide - Act 41/04 (200/03)										
Lump Sum	S-04-270	2,150,000	0	2,150,000	0	0	0	0	0	2,150,000
Construction	S-04-274	1,100,000	0	1,100,000	0	0	0	0	0	1,100,000
Lower Hamakua Ditch System, Hawai`i - (FF) Act 178/05										
Design	S-05-272	0	0	267,150	0	0	0	0	0	267,150
Construction	S-05-273	2,732,850	0	2,732,850	0	0	0	0	0	2,732,850
Emergency Relief - Kailua Resevoir/Dam Flood Mitigation Act 118/06										
	S-05-400	0	0	0	0	(1,000,000)	0	0	0	1,000,000
South Kona Watershed Project, Hawai`i										
Plan	S-06-270	110,000	0	110,000	0	0	0	0	0	110,000
2006 Earthquake Damage, Hawai`i – Design & Construction										
	S-06-271	225,760	0	4,455,000	0	0	2,876,249	1,578,751	4,455,000	0
Upcountry Maui Watershed, Maui - L/S (FF) (Act 213, SLH 2007)										
	S-07-270	1,500,000	0	1,500,000	0	0	0	0	0	1,500,000
Flood-proofing Lower Hamakua Ditch (FF) (State Civil Defense FEMA)										
	S-07-275	0	0	2,999,944	0	0	255,270	11,880	267,150	2,732,794
South Kona Watershed Project, Hawaii (FF)										
Plans	S-07-276	0	0	80,000	0	0	0	0	0	80,000
TOTAL		**21,687,336**	**0**	**32,108,082**	**0**	**(498,638)**	**4,278,080**	**14,479,913**	**18,757,993**	**13,848,727**

See footnotes on next page.

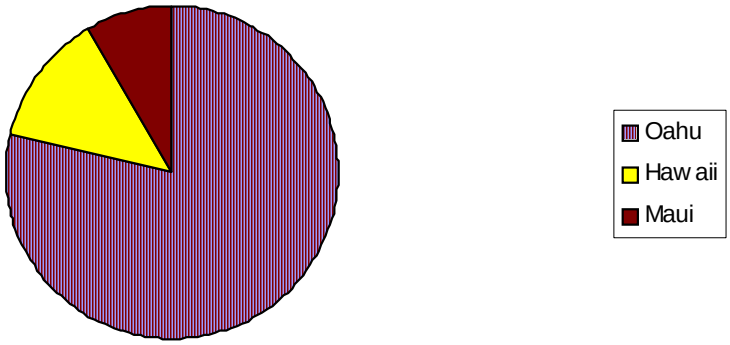
FINANCIAL STATEMENT - TRUST FUNDS
July 1, 2007 - June 30, 2008

Title of Fund	Fund No.	Cash Balance 07/01/07	Receipts 2005-2008	Personal Services	Other Current Expenses	Total Expenditures 2007-2008	Cash Balance 06/30/08	Outstanding Encumbrances 06/30/08
AGR 122 - PLANT PEST & DISEASE CONTROL								
Contribution of Overtime, Plant Quarantine Inspection								
	T-902	40,686	425,905	410,601	27,847	438,448	28,143	29,281
Temporary Deposit, Plant Industry (Bond for Animals)								
	T-904	17,600	7,000	0	16,000	16,000	8,600	0
AGR 132 - ANIMAL DISEASE CONTROL								
Interim Storage of Containerized Animals								
	T-910	2,000	3,000	0	0	0	5,000	0
AGR 141 - AGRICULTURAL RESOURCE MANAGEMENT								
OHA Ceded Land Proceeds Non-Ag Parks								
	T-901	0	115,177	0	115,177	115,177	0	0
OHA Ceded Land Proceeds Ag Parks								
	T-901	1,861	82,391	0	80,529	80,529	3,723	0
AGR 151 - QUALITY & PRICE ASSURANCE								
Temporary Deposit, Marketing								
	T-903	4,589	53,051	0	27,101	27,101	30,539	0
Producer's Settlement Fund	T-906	0	0	0	0	0	0	0
AGR 161 - AGRIBUSINESS DEVELOPMENT & RESEARCH								
OHA Ceded Land Proceeds	T-901	0	64,921	0	64,921	64,921	0	0
Security Deposits - Kekaha	T-909	45,733	0	0	0	0	45,733	0
AGR 192 - GENERAL ADMINISTRATION								
Temporary Deposit	T-908	18,962	24,200	0	24,200	24,200	18,962	0
TOTAL		**131,431**	**775,645**	**410,601**	**355,775**	**766,376**	**140,700**	**29,281**

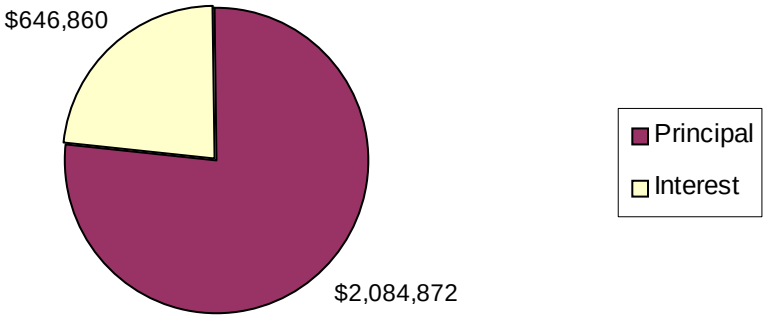
Footnotes to CIP Tables on previous page:
S-05-400 to unlapse appropriation JV 444 (JS6239 6/24/08)
S-07-270 appropriate $1,500,000 AW201 Upcountry Maui Watershed
S-07-275 appropriate $2,999,944 JV 20(JS0352 7/31/07) MOA with Dept of Defense for Lower Hamakua Ditch
S-07-276 appropriate $80,000 JV 272(JS4178 2/29/08) PA#65-9251-7-779 South Kona Watershed

Agricultural Loan Data for FY 2008

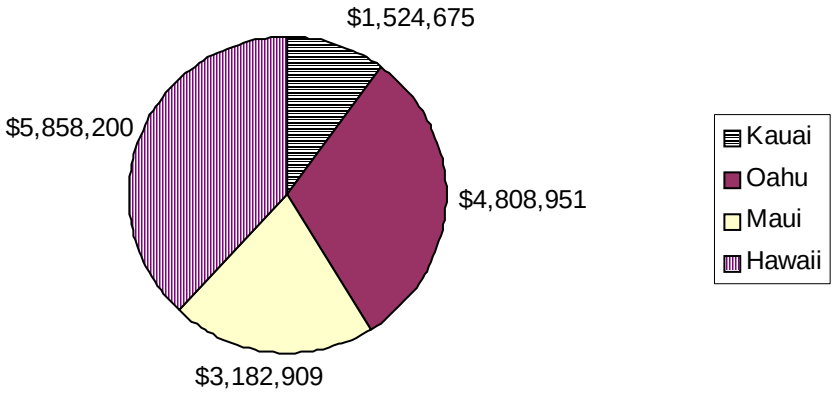
APPROVED LOANS FY 2008



COLLECTIONS FOR FY 2008



VOLUME OF LOANS OUTSTANDING (BY COUNTY)



LEASE DISPOSITIONS FY 2008

LESSEE/LEASE NO.	USE	TAX MAP KEY	RENT	DISPOSITION	AG PARK
HAWAI`I DISTRICT					
Delfin and Crisanta Ventura/S-4791	Diversified Ag	1-5-116:28	$600	Assignment	Pahoa
Delfin and Crisanta Ventura/S-4430	Diversified Ag	1-5-116:16	$2,681	Assignment	Pahoa
Resort Management Group, LLC/S-4682	Diversified Ag	7-3-49:03	$750	Assignment	Keahole
Resort Management Group, LLC/S-4681	Diversified Ag	7-3-49:02	$680	Assignment	Keahole
O`AHU DISTRICT					
Chai Yoshimura and Choon James/S-6003	Diversified Ag	5-6-06:31	$839.47	Assignment	Kahuku
Roy Thephsourinthone/S-1013	Diversified Ag	8-5-34:13	$2,952	Cancellation	Waianae

IRRIGATION SYSTEM ACTIVITIES FY 2008

HONOKA`A-PAAUILO IRRIGATION SYSTEM (LHP) FY 2008

Month	Water Sold (Gallons)	Acreage Served	Assessment Charges	Water Charges
2007				
July	551,000	758	$ 0.00	$ 220.40
August	730,000	758	0.00	292.00
September	227,000	758	0.00	90.80
October	967,000	758	0.00	386.80
November	456,000	758	0.00	182.40
December	167,000	758	0.00	.80
2008				
January	134,000	758	0.00	53.60
February	127,000	758	0.00	50.80
March	467,000	758	0.00	186.80
April	881,000	758	0.00	352.40
May	980,000	758	0.00	392.00
June	1,672,000	758	0.00	668.80
TOTAL	**7,359,000**		**0.00**	**$ 2,943.60**

HONOKA`A-PAAUILO IRRIGATION SYSTEM (LHL) FY 2008

Month	Number of Livestock	Water Sold (Gallons)	Acreage Served	Assessment Charges	Water Charges
2007					
July	1,547		6,271	$ 0.00	$
August	1,547		6,271	0.00	
September	1,547	214,000	6,271	0.00	34.24
October	1,547		6,271	0.00	
November	1,547	282,000	6,271	0.00	45.12
December	1,547	374,000	6,271	0.00	59.84
2008					
January	1,547	476,000	6,271	0.00	76.16
February	1,547	487,000	6,271	0.00	77.92
March	1,547	564,000	6,271	0.00	90.24
April	1,547	563,000	6,271	0.00	90.08
May	1,547	436,000	6,271	0.00	69.70
June	1,547	711,000	6,271	0.00	113.76
TOTAL		**4,107,000**		**$ 0.00**	**$ 657.06**

WAIMANALO IRRIGATION SYSTEM FY 2008

Month	Water Sold (Gallons)	Acreage Served	Assessment Charges	Water Charges
2007				
July	10,781,400	1,115	$ 3,008.58	$ 4,312.56
August	11,887,700	1,115	3,008.58	4,755.08
September	8,582,900	1,115	3,008.58	3,433.16
October	8,078,600	1,115	3,008.58	3,231.44
November	3,685,900	1,115	3,008.58	1,474.36
December	795,100	1,115	3,008.58	318.04
2008				
January	4,389,800	1,115	3,008.58	1,755.92
February	9,324,700	1,115	3,008.58	3,729.88
March	15,612,400	1,115	3,008.58	6,244.96
April	9,865,800	1,115	3,008.58	3,946.32
May	10,569,400	1,115	3,008.58	4,227.76
June	11,495,000	1,115	3,008.58	4,598.00
TOTAL	**105,068,700**		**36,102.96**	**42,027.48**

KAHUKU AG PARK IRRIGATION SYSTEM FY 2008

Month	Water Sold (Gallons)	Acreage Served	Assessment Charges	Water Charges
2007				
July	6,130,100	168	$ 565.82	$ 2,758.58
August	6,450,900	168	565.82	2,902.94
September	5,014,400	168	565.82	2,256.50
October	6,336,600	168	565.82	2,851.53
November	2,836,200	168	565.82	1,276.33
December	1,512,400	168	565.82	680.61
2008				
January	2,976,200	168	565.82	1,339.32
February	2,155,600	168	565.82	970.07
March	6,633,300	168	565.82	2,985.05
April	5,299,400	168	565.82	2,384.76
May	5,706,500	168	565.82	2,567.97
June	6,498,800	168	565.82	2,924.49
TOTAL	**57,550,400**		**6789.84**	**25,898.15**

MOLOKA`I IRRIGATION SYSTEM FY2008

Month	Water Sold (Gallons)	Acreage Served	Assessment Charges	Water Charges
2007				
July	118,200,000	2,769	$ 3,311.46	$ 39,597.42
August	129,639,000	2,769	3,311.46	43,429.46
September	106,740,000	2,804	3,353.32	35,758.24
October	102,954,000	2,804	3,353.32	34,489.93
November	54,696,000	2,804	3,353.32	18,323.49
December	48,820,000	2,804	3,353.32	16,355.06
2008				
January	87,993,000	2,804	3,353.32	29,477.98
February	101,757,000	2,804	3,353.32	34,088.95
March	105,882,000	2,799	3,347.34	35,470.83
April	106,423,000	2,799	3,347.34	35,652.03
May	124,426,000	2,728	3,262.44	41,683.76
June	91,759,000	2,728	3,262.44	30,739.61
TOTAL	**1,179,289,000**		**39,962.40**	**395,066.76**

WAIMEA IRRIGATION SYSTEM FY 2008

Month	Water Sold (Gallons)	Acreage Served	Assessment Charges	Water Charges
LALAMILO SECTION				
2007				
July	41,735,000	284	$ 747.50	$ 16,694.00
August	40,761,000	284	747.50	16,304.40
September	29,511,000	284	747.50	11,804.40
October	40,006,000	284	747.50	16,002.40
November	16,311,000	284	747.50	6,524.40
December	4,257,000	284	747.50	1,702.80
2008				
January	12,162,000	284	747.50	4,864.80
February	13,659,000	284	747.50	5,463.60
March	23,619,000	284	747.50	9,447.60
April	27,993,000	284	747.50	11,197.20
May	26,695,000	284	747.50	10,678.00
June	20,679,000	284	747.50	8,271.60
Sub-total	**297,388,000**		**$ 8,970.00**	**$ 118,955.20**
HAWAIIAN HOMES SECTION				
2007				
July	597,000	189	$ 497.30	$ 238.80
August	998,000	189	497.30	399.20
September	1,338,000	189	497.30	535.20
October	1,552,000	189	497.30	620.80
November	1,823,000	189	497.30	729.20
December	901,000	189	497.30	360.40
2008				
January	509,000	189	497.30	203.60
February	551,000	189	497.30	220.40
March	1,014,000	189	497.30	405.60
April	1,509,000	189	497.30	603.60
May	1,424,000	189	497.30	569.60
June	1,417,000	189	497.30	566.80
Sub-total	**13,633,000**		**$ 5,967.60**	**$ 5,453.20**
PUUKAPU SECTION				
2007				
July	2,241,000	159	$ 418.45	$ 896.40
August	4,073,000	159	418.45	1,629.20
September	4,236,000	159	418.45	1,694.40
October	5,294,000	159	418.45	2,117.60
November	1,580,000	165	434.24	632.00
December	300,000	165	434.24	120.00
2008				
January	1,087,000	165	434.24	434.80
February	1,363,000	165	434.24	545.20
March	3,130,000	165	434.24	1,252.00
April	3,262,000	165	434.24	1,304.80
May	3,039,000	165	434.24	1,215.60
June	3,414,000	165	434.24	1,365.60
Sub-total	**33,019,000**		**$ 5,147.72**	**$ 13,207.60**
TOTAL:	**344,040,000**		**$ 20,085.32**	**$ 137,616.00**

ANIMAL IMPORTATION AND INSPECTION FY 2008

Bird (Caged)	3,832
Bird (Exotic)	17
Cat (Quarantine)	2,737
Cattle	221
Chickens/Gamecocks	2,318
Chicks (Day-Old)	121,084
Chinchilla	55
Chukar (Day-Old)	125
Dik Dik	1
Dog (Service)	222
Dog (Service-Outer Island)	29
Dog (Military)	57
Dog (FBI/ATF)	3
Dog (Quarantine)	6,716
Dog/Cat (Australia, New Zealand, British Isles, Guam)	1,946
Geese (Day-Old)	133
Goat	4,767
Guinea Pig	57
Hamster	15
Horse	399
Mice	8,029
Monkey	2
Pheasant (Day-Old)	5,101
Pigeon	798
Rabbit	102
Rat	177
Sheep	391
Swine	13,661
Tortoise	255
Turkey (Day-Old)	30
Turtle	536
Water Buffalo	1
Water Monitor	1
TOTAL	**173,818**

Hatching Eggs (30 dozen per case)	1,519 cs.
Direct Airport Release (Dogs/Cats) (included in Quarantine count)	7,305
Direct Airport Release (Dogs/Cats-Outer Island)	598

NON-COMPLIANCE: PRE & POST-SHIPMENT REQUIREMENTS FOR ANIMALS ENTERING THE STATE OF HAWAI`I

Investigations	52
Citations Issued	4
Written Warning Issued	178
Refused Entry	19 poultry/bird

DISEASE SURVEILLANCE TESTING FY 2008

Disease	Infected Herds	Livestock Tested	Negative	Suspect	Reactor	% Suspect/ Reactor
BRUCELLOSIS						
Swine						
Domestic	0	747	747	0	0	0.00
Transitional	1	39	20	1	13	35.90
Feral (wild)	2	474	427	0	47	9.92
Others	0	0	0	0	0	0.00
Cattle						
Domestic	0	8,857	8,856	1	0	0.01
Feral	0	0	0	0	0	0.00
Others*	0	6	6	0	0	0.00
BRT						
Dairy Herd	0	11	11	0	0	0.00
ANAPLASMOSIS						
Cattle						
Domestic	0	5,570	5,531	0	39	0.70
Feral	0	0	0	0	0	0.00
Others*	0	2	2	0	0	0.00
TUBERCULOSIS						
Cattle						
Domestic	0	1,364	1,363	0	1^	0.07
Others*	0	2	2	0	0	0.00
PSEUDORABIES						
Swine						
Domestic	0	785	785	0	0	0.00
Transitional	1	20	19	0	1	5.00
Feral (wild)"	2	525	384	0	141	26.86
Others*	0	0	0	0	0	0.00
JOHNES						
Cattle						
Live	0	956	956	0	0	0.00
Slaughter	0	0	0	0	0	0.00
SCRAPIE	0	160	160	0	0	00.0

*Others include: Llama, Water Buffalo, Equine, Elk,
"Each island's feral swine population considered as a herd
^ One reactor with no gross lesions was found in a Big Island dairy herd. A complete herd test found no additional reactors.

SPECIMEN EXAMINATIONS BY VETERINARY LAB FY 2008

Section	Test	Number of Specimens
Serology	Anaplasmosis	5,963
	Brucellosis	10,009
	Equine Inf. Anemia	714
	Johne's Disease	999
	Pseudorabies	1,336
	Total:	**19,021**
Clinical Path	Parasite ID	6,060
Pathology	Necropsy	279
	Histology	1,089
	Others	42
	Total:	**1,410**
Surveillance	Avian Influenza	159
	West Nile virus	42
	Exotic Newcastle disease	1
	Scrapie	164
	Total:	**366**

PESTICIDES BRANCH ACTIVITIES FY 2008

INSPECTIONS	NUMBER
Producer Establishment Inspections	11
Samples	6
Producer Establishment Inspections	13
Samples	1
Market Surveillance Inspections	41
Samples	52
Agricultural Use Inspections	105
Samples	14
Worker Protection Standard Inspections	34
USDA Recordkeeping Inspections	42
Non-Agricultural Use Inspections	
Urban Structural	88
PCO Headquarters	16
Samples	45
Import Inspections	5
Samples	0
Restricted-Use Dealer Inspections	16
Certified Applicator Records	71
Experimental Use Permit Inspections	1
Complaints	
Received	57
Investigated	57
Episodes	1
Annual Use Purchase Permits Issued	0
Aerial Permits Issued	1

EDUCATION & CERTIFICATION ACTIVITIES

Private Applicators	
New certificates	32
Renewals	54
Examinations	104
Replacement cards	19
Fees collected	$7,825
Commercial Applicators	
New certificates	196
Renewals	106
Examinations	595
Replacement cards	45
Fees collected	$27,890
Consultative visits (w/o fee)	159
Continuing Education Credit	
Course Applications Review	139
Presentations (w/o fee)	30
RUP Dealers	
Examinations	2
Certificates	2
Fees Collected	$100
Training Services for Fee	
Consultations, presentations and "emergency" quiz sessions	7
Fees collected	$325

REGISTRATION ACTIVITIES

Pesticides licensed	2,893
Fees collected	$777,240
Dealer licenses issued	22
Fees collected	$4,150
Special Local Need	
Registrations issued	7
Emergency Exemptions	0
Experimental-Use Permits	7

CHEMICAL ANALYSES LABORATORY ACTIVITiES

Feed samples tested for chemical contaminants	2
Regulatory samples to support Hawaii pesticide investigations	82
Regulatory samples analyzed to support EPA - Pacific Island pesticide investigations	0
Environmental samples to support pesticide research	764

PESTICIDES BRANCH ACTIVITIES FY 2008 (cont.)

ENFORCEMENT ACTIVITIES

Warning Letters	24
Stop Sale Actions	0
Civil Complaints	17
Informal Settlement Meetings	9
Consent Agreements	15
Penalties Collected	$32,675
Hearings Conducted	0

NOXIOUS WEED CONTROL ACTIVITIES FY 2008 CHEMICAL/MECHANICAL CONTROL SECTION

Number of plants treated with herbicide or removed mechanically:

	Island	Acres	
Rubus niveus	Maui	2,000	*
Fountaingrass	O`ahu	12	
	Kaua`i	4	
Thorny kiawe	O`ahu	190	
	Kaua`i	3,719	**
Gorse	Maui	500	
Miconia	Kaua`i	1,054	**
Turkeyberry	O`ahu	169	
	Kaua`i	78	
Russian Thistle	O`ahu (properties infested)	2	
Tibouchina	O`ahu	2	
Misc. other			
Arundo	Kaua`i	2,414	**
Cattail	Kaua`i	2,974	**
Salvinia	Kaua`i	313,631	**
Cats Claw	O`ahu	50	

* Work done cooperatively with DLNR-Forestry & Wildlife - Maui

** Plants found during surveys; performed cooperatively with Kaua`i Invasive Species Committee (KISC)

SEED REGULATORY ACTIVITIES FY 2008 CHEMICAL/MECHANICAL CONTROL SECTION

Seed Importer Licenses issued	47
Foreign seed lots examined	137
Federal Seed Act - Rejections due to prohibited contaminants	6
Hawai`i Seed Law - seed lots tested	
Germination tests performed	88
Lots testing below standard	3
Seed tests performed upon request	8
Seed vendor inspections performed	12
Number of pounds of seed removed from sale	1,082
Number of seed packets removed	48
Noxious weed seed interceptions	2
Seed regulatory fees collected test on request	$40
Seed License fees	$1,175
Total fees collected	$1,215

PLANT PEST CONTROL ACTIVITIES FY 2008

BANANA BUNCHY TOP PROJECT

O`ahu:
- Number of mats tagged, commercial farms 1,800
- Number of mats tagged, residential 45

Hawai`i:
- Number of diseased mats rouged (West Hawai`i) 79
- Number of diseased mats rouged (East Hawai`i) 261

Kaua`i:
- Number of diseased mats tagged, commercial farms 4,156
- Number of mats destroyed, residential 50

Maui:
- Number of mats tagged commercial farms 318
- Number of mats destroyed, residential 50 *3a

PAPAYA RINGSPOT VIRUS PROJECT

Kaua`i:
- PRV free as of June 2008 (Acres surveyed Island-wide) ~1,000

Lana`i:
- Number diseased plants tagged 50 *7

CARIBBEAN FROG CONTROL

O`ahu:
- Number of acres treated with citric acid, estimated 1 *1
- Number of gallons of citric acid applied 140 *1
- Number of frog calls received 97 *6
- Number of commercial nurseries assisted 3 *1
- Number of frogs caught by hand- residential, commercial 7

Maui:
- Number of days 400 gallon sprayer loaned out 300 *5
- Number of days 100 gallon sprayer loaned out …… 365 *5
- Number of days 50 gallon sprayer loaned out 365 *3
- Number of frog calls received 15 *6

Kaua`i:
- Number of acres treated with citric acid 106 *2
- Number of acres treated with hydrated lime 60 *2
- Number of acres surveyed 1,218 *2
- Number of commercial nurseries assisted 5 *2
- Number of known wild frog population sites treated 1 *2
- Number of frog calls received 13 *6

Hawai`i:
- Number of loans made for 100 gallon sprayer
  - East Hawai`i 77 *5
  - West Hawai`i 98 *5
- Number of educational outreach sessions 6 *4
  - Number of calls received 152
  - Number of commercial nurseries assisted 16

LITTLE FIRE ANT

O`ahu:
- Number of properties surveyed 10
- Number of properties infested 0

Kaua`i:
- Number of acres infested 0.4
- Number of properties infested 2

Hawai`i:
- Number of new nursery sites infested
  - East Hawai`i 11
    Number of properties surveyed
  - East Hawai`i 16
    Number of sites treated
  - East Hawai`i 34
  - West Hawai`i 0

NETTLE CATERPILLAR

O`ahu:
- Number of sites surveyed 450 *8
- Number of sites infested and treated 1

Hawai`i:
- Number of sites surveyed 25

Maui:
- Number of sites surveyed 110

---

*1 Cooperative effort with OISC, DLNR
*2 Cooperative effort with, KISC
*3 Cooperative effort with Maui Invasive Species Committee (MISC)
*3a Cooperative effort with Moloka`i (Maui) Invasive Species Committee (MoMISC)
*4 Cooperative effort with University of Hawai`i, College of Tropical Agriculture & Human Resources, Cooperative Extension Service – Hilo & Manoa Campuses
*5 Sprayer Loan Program; residents purchase citric acid and borrow HDOA sprayer
*6 Majority of calls revealed green house frog, *Eleutherodactylus planirostris*
*7 Cooperative effort with MoMISC
*8 Cooperative effort with USDA-APHIS, USDA-ARS, OISC

PLANT QUARANTINE IMPORT ACTIVITIES FY 2008

AIRPORTS AND HARBORS	TOTAL
Ship & Aircraft Arrivals	39,306
Passengers	6,704,913
Baggage, Cargo, & Mail Inspected (parcels)	15,925,564
Treated & Released (parcels)	1,203
Safeguarded Material (parcels)	64
Refused Entry (parcels)	3,000
Destroyed Material (parcels)	6,665
Insect Interceptions	1,579
Insect Interceptions-confirmed not known in Hawaii	336
Violation Notices Issued	1,339
Import Permits Issued	1,254
Post Entry Inspections	1,387
Amnesty Bin (items deposited)	7,242
Amnesty Bin (regulated items deposited)	27
Investigative Activities	103

PLANT QUARANTINE DETECTOR DOG PROGRAM

AIR TERMINAL	TOTAL
Number of Flights Monitored	1,611
Number of Passengers	336,041
Number of Baggage Inspected	*8,172
Declared Materials Detected	973
Undeclared Materials Detected	2,793
Regulated Materials Detected at Baggage (parcels)	129
Parcels Destroyed	26
Parcels Treated & Released	13
Parcels Safeguarded	2
Parcels Refused Entry	0

*Totals include baggage/parcels with residual odor of agricultural items.

PLANT QUARANTINE BROWN TREESNAKE ACTIVITIES FY 2008

Commercial/Private Aircraft from Guam, Saipan, & northern Australia

Flights Inspected	660
Parcels Inspected	59,255
Equipment/Personal Vehicles Inspected	1

Military Aircraft from Guam, Saipan, & northern Australia

Flights Inspected	544
Parcels Inspected	289,901
Passengers Inspected	11,409
Equipment/Personal Vehicles Inspected	118

Commercial/Private Ships from Guam

Ships Inspected	0
Parcels Inspected	0
Equipment/Personal Vehicles Inspected	0

Military Ships from Guam

Ships Inspected	2
Parcels Inspected	0
Equipment/Personal Vehicles Inspected	0

PLANT QUARANTINE EXPORT ACTIVITIES FY 2008

PLANT INSPECTION OFFICE	U.S.	FOREIGN	TOTAL
Horticultural material inspected & certified at PIO (parcels)	191,365	4,461	195,826
Horticultural Material Treated & Certified at PIO (parcels)	181	384	565
Phytosanitary Certificates Issued	1,631	189	1,820

NURSERY CERTIFICATIONS

New Certifications	20
Nursery Inspections	421
Nursery Certification Suspended	6
Nursery Certification Terminated	25
Plants Exported	2,989,133

BURROWING NEMATODE LABORATORY ACTIVITIES

Lots of Plant Material Accepted	186
Test Samples Prepared	1,483
Parcels Certified	12
Samples Rejected	1

DISINFESTATION TREATMENT

Treatments	85
Parcels Treated & Certified	248

PLANT QUARANTINE INTER-ISLAND ACTIVITIES FY 2008

Ship, Barge Arrival & Departures Monitored	289
Aircraft Arrival & Departures Monitored	3,077
Baggage & Cargo Inspected (parcels)	72,415
Restricted Material Rejected (parcels)	25
Restricted Material Treated (parcels)	500

PLANT QUARANTINE REVENUES

Treatment Fees	$1,589.60
Burrowing Nematode Laboratory Test Fees	$1,150.00
Nursery Certification Fees	$14,777.90
Quarantine House Rental Fees	$650.00
Permit Fees	$14,527.20
Site Inspection Fees	$704.31
Office Misc.	$116.75
Phytosanitary Fees	$1,182.20
TOTAL REVENUE	**$34,677.96**

PLANT QUARANTINE CITATIONS AND SUMMONS FY 2008

Citations Issued	24
Bail Forfeiture	$6,915.00

PLANT QUARANTINE EDUCATIONAL ACTIVITIES

Talks and Tours of Plant Quarantine Station	24
Individuals Receiving Talks and Tours	1,318

QUALITY ASSURANCE DIVISION COMMODITIES BRANCH ACTIVITIES FY 2008

CERTIFICATION SERVICE ACTIVITIES

FFV Certification (1,000 lb) 18,039
FFV quality certificates issued 490
Fees assessed $145,560
Papaya letter reports/
identity preservation pounds checked (1000 lb) ... 700
Fees assessed $39,022
Egg Quality certification (cases) 71,583
Fees assessed $96,861
Processed Foods Certification
Canned pineapple certified (1000 cs) 34
Fees assessed $5,177
Seafood inspection visits 20
Federal reimbursement $11,037
Coffee certification, green (1000 lb) 5,203
Fees assessed $104,025
Other products, certificates issued 8
Fees assessed $496
Meat Grading (Carcasses) 0
Fees assessed $0
Seed Certification (Fields) 798
Total Acres 3,193
Pounds Harvested (1000 lb) 7,940
Fees assessed $304,997

EGG PRODUCTS INSPECTION ACT SURVEILLANCE

Visits 42
Federal reimbursement $7,576

COMMERCIAL FEED INSPECTION

Labeling enforcement (lots) 60
Labeling enforcement (lots) 0
Store visits 0
Feed tonnage reported (tons) 40,623
Fees assessed $15,300
Samples submitted for guarantee analysis 0
Samples analyzed for guarantee by UH/ADSC 0
Samples submitted for adulteration analysis 0
Penalty fees assessed $0
Registration fees assessed $540

COUNTRY OF ORIGIN LABELING

No. of audits 10
Federal reimbursement $5,454

DEALER LICENSING

Licenses issued 890
Fees collected $15,553

SHELL EGG INSPECTION

Origin stamp, imports (cases) 574,257
Retail grade enforcement (dozen) 66,409
Store visits 340

FRESH FRUITS AND VEGETABLES

Wholesale grade enforcement (1000 lb) 390
Retail grade enforcements (lots) 29,579
Store visits 288
Minimum export requirements (1000 lb) 2,295
Advertising: Number inspected 14,582

FOOD SAFETY

No. of audits 33
Fees assessed $9,906

TOTAL FEES ASSESSED $761,504

MEASUREMENT STANDARDS BRANCH ACTIVITIES FY 2008

STANDARDS AND TECHNICAL SERVICES

Metrology

Mass standards calibrated
Laboratory test standards 179
Enforcement standards 693
Field standards 530
Total units tested 1,402
Volumetric standards calibrated
Laboratory test standards 15
Enforcement standards 29
Field standards 31
Total units tested 75

STANDARDS AND TRADE PRACTICES ENFORCEMENT

Devices
Small capacity weighing devices (≤500 LBS),
Number registered 5,805
Total tests 917
Compliance rate (percent) 89
Medium capacity weighing devices (>500 LBS & ≤9000 LBS)
Number registered 696
Total tests 35
Compliance rate (percent) 91
Large capacity weighing devices (>9000 Lbs) 270
Total tests 1
Compliance rate (percent) 100
Gasoline pumps, Number registered 6,909
Total tests 3,155
Compliance rate (percent) 74
Taxi meters, Number registered 2,461
Total tests 2,271
Compliance rate (percent) 90
Other linear measuring devices, Number registered 204
Total tests 9
Compliance rate (percent) 100
Revenue from device registration $320,535
Licensed Measure masters 211
Revenue from licensing Measure masters $23,575
Odometer tampering complaints investigated 4
Octane tests performed 87
Packages inspected for content (thousands) 86
Lots inspected 141
Compliance rate (percent) 98.9
Package labels inspected 2,324
Compliance rate (percent) 96.8
Labels submitted for review 130
Acceptance rate (percent) 37.7
Price verification
Number of stores visited to identify businesses subject to price verification inspection 8
Number of stores added to list of businesses subject to price verification inspection 8
Number of store inspections 136
Total items audited 7,375
Percentage of stores meeting minimum compliance rate (≤2% overcharges) 99
Packaging and labeling complaints received and resolved 4
(Note: Received 4 / Resolved 4)

STATISTICS OF HAWAII AGRICULTURE 2007

January 2009

A Partnership Between the

Hawaii
Department of Agriculture
Agricultural Development Division

United States
Department of Agriculture
National Agricultural Statistics Service

USDA, NASS, HAWAII FIELD OFFICE

1428 South King Street, Honolulu, Hawaii 96814-2512
Phone: (808) 973-9588 FAX: (808) 973-2909
http://www.nass.usda.gov/hi/

Mark E. Hudson
Director

King J. Whetstone
Deputy Director

Research/Agricultural Statisticians
Regina Wong Hidano
Sara Kamibayashi
Naomi Landgraf
David Mattice
Nils Morita
Ronald Nakamura
June Okamura

Support Staff
Ungnam Ha
Carol Igawa
Joyce Jay
Karen Lee
Sandy Nakasone

Computer Programmer
Jan Yokogawa

A Partnership Between the

Hawaii
Department of Agriculture
Agricultural Development Division

United States
Department of Agriculture
National Agricultural Statistics Service

The National Association of State Departments of Agriculture (NASDA) is a nonprofit, nonpolitical organization comprised of the 50 State Departments of Agriculture. NASDA and USDA-NASS have a cooperative agreement for NASDA to employ enumerators in the collection of agricultural statistics.

Hawaii
Earl Arakaki
Charlotte Branco
Soledad Francisco
Shirley Fuke
Kathleen Lui
Toni O'Connell
Teresa Yumi Radtke
Milton Yamasaki

Honolulu/Kauai
Kathryn Leloy Banks
Andres Ferrer
Brook Kimo Franklin
Larke Golaski

Maui/Molokai
Deborah Painchaud

USDA, NASS, HAWAII FIELD OFFICE

"Fact Finders for Hawaii Agriculture"

United States Department of Agriculture - National Agricultural Statistics Service
In cooperation with Hawaii Department of Agriculture - Agricultural Development Division

MESSAGE FROM THE STATE DIRECTOR

The primary information source for this publication is agricultural producers. We appreciate the cooperation they extend when we contact them for information. Also, we are aware and sensitive to the frequent contacts made to producers throughout Hawaii. Many options are available for producers to respond including responding by mail, facsimile, the Internet (for certain selected surveys), by phone, and personal interviews. The vast majority of producers understand that farmers and ranchers are the very best source, often the only source, for the information required to meet specific data needs and publication results. We truly appreciate and thank all the agricultural producers and organizations who have so willingly and faithfully provided survey information. Supplemental information is provided by grower organizations and agribusiness firms. Without their vital cooperation and support on the many surveys conducted throughout the year, these reports would not be possible.

A very important component of our data collection efforts is performed by our National Association of State Department of Agriculture (NASDA) enumerators. Their efforts are very worthy of special recognition for their important and significant contributions.

The direct value of this data is not always transparent to the producer, but reliable numbers are needed for business and policy decisions. The uses of this information are many, but often the data is needed for developing marketing strategies, obtaining farm loans, writing business plans, testifying before local or state governing bodies, justifying claims for disaster relief, and evaluating and developing risk aversion plans.

Results of the 2007 Census of Agriculture, which is conducted every 5 years by our agency, were released on February 4, 2009. The Census of Agriculture serves as a benchmark to our estimation program for crop acreage and livestock inventories. Also, the economic data collected is very important to measure the economic standing of farms and ranches in Hawaii and other states. The Census of Agriculture also provides demographic information which is critical for outreach planning by many private and public organizations.

Our website, http://www.nass.usda.gov/Statistics_by_State/Hawaii/index.asp, contains all the data published by our office including the 2007 Census of Agriculture results. This site contains this publication in electronic format along with other numerous commodity releases issued throughout the year. Due to budget constraints and increasing printing costs, next year's *Statistics of Hawaii Agriculture 2008* may not be available in printed form. However, CD distribution will be available upon request and all information will continue to be on our website.

Thank you,

Mark E. Hudson
Director, USDA NASS Hawaii Field Office

1428 South King Street ◇ Honolulu, HI 96814-2512 ◇ TEL: (808) 973-9588 ◇ FAX: (808) 973-2909

TABLE OF CONTENTS

GENERAL

CROPS

LIVESTOCK

MISCELLANEOUS STATISTICS

2007 Farm Revenues Down Slightly from Previous Year

Farm level revenues for 2007 totaled $579.1 million compared to the revised 2006 level of $579.6 million. Compared to the previous year, 7 of the 20 ranked commodities for 2007 were higher including seed crops, coffee, papayas, potted palms, potted dracaena, watermelons, and potted oncidiinae.

The value of diversified agriculture, by the current definition, cannot be published to protect the individual confidentiality of large pineapple companies. Record high levels were set for seed crops which increased 42 percent from 2006. World demand for ethanol production has increased the need for foundation corn seed. Papaya revenues were up 19 percent for 2007 due to increased production of 16 percent and overall price rising 2 percent. Potted dracaena revenues increased 7 percent and potted palms rose 5 percent. Coffee revenues were up slightly compared to 2006.

Revenue declines include macadamia nuts as weather conditions for 2007 were mixed. Some macadamia nut growers reported wet conditions caused increased spoilage while others reported dry conditions during the critical phase of maturation which also lowered output. Many growers reported that the lack of an outlet to sell their nuts was a problem and with lower nut prices, the crop was not harvested by some growers. Growers related that feral pigs were a problem in some areas. Milk production declined 38 percent in 2007 as two commercial dairies stopped operations during the year. The value of egg production fell by 9 percent in 2007 as fewer operations remain in business due to high operation costs, including fuel and feed.

The equivalent farm value of sugarcane (this does not include the processed value of raw sugar) was set at $47.6 million, down 5 percent from 2006. Sugar value has dropped eight of the last ten years.

Farm level values shown in this publication are an important measure of production agriculture, but they do not truly reflect the total contribution of agriculture to the State and county economies. For the better understanding of the overall picture, refer to “Agriculture’s Contribution to Hawaii’s Economy 2005” - (CTAHR Economic Issue EI 13, Jan 2008) a publication prepared jointly by the College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa, and the Hawaii State Department of Agriculture.

Farmers Challenged by Dry Conditions

Windy start to the year

A mixture of moderate to strong trade winds and its associated showers hampered agriculture across the State at the onset of 2007. A Kona low then brought another round of heavy showers to Kauai and Oahu. Despite the wet start to the year, January turned out to be drier than normal for many areas of the State because of ongoing El Nino conditions. Alternating periods of dry and short-lived rainy periods characterized the remainder of Hawaii's wet season (October-April). According to the National Weather Service website, all but two of the 109 rain gauges posted for Hawaii showed lower than normal cumulative rainfall totals for the first four months of 2007.

Water measures imposed

A relatively dry winter and prospects of a drier summer prompted the State Department of Agriculture to impose a voluntarily 10 percent curtailment of water usage for customers of the Waimanalo Irrigation System on May 18. By the end of May, Department of Water Supply officials on the Big Island issued a mandatory 25 percent reduction in water use for residents of Waimea Town to Kawaihae, upper Paauilo, and Ahualoa, districts of South Kohala and Hamakua. This was in addition to an ongoing mandatory 30 percent reduction in water consumption for users of the Big Island's Honokaa-Paauilo System due to damage caused by a major earthquake on October 15, 2006. June saw cooling trade winds bring beneficial showers to windward areas of most islands, but leeward areas remained dry. In response, new water conservation measures took effect and existing measures tightened. In early June, water officials on the Big Island asked for a voluntary 10 percent reduction in water usage for residents of North and South Kohala, Hamakua, and Ka`u districts. At mid-month, Maui officials issued their first water restriction of the year by imposing a mandatory 10 percent cut in usage for Upcountry residents. Agricultural users on Maui were exempt from this mandatory reduction. Finally, in late June the State Department of Agriculture raised the level of conservation for Waimanalo Irrigation System users to a mandatory reduction of 20 percent. Showers carried in by trade winds, weak cold fronts, and the passage of Tropical Depression Cosme to the south enabled numerous windward and upslope areas of the State to post near normal rainfall totals in July. Many leeward areas, however, continued to see drought conditions. On July 31, the U.S. Department of Agriculture (USDA) designated Hawaii, Honolulu, Kauai, and Maui counties as primary natural disaster areas due to losses caused by the ongoing drought. Affected farmers could apply for low interest government emergency loans. Major vegetable growing regions in Kula (Maui), Waimea (Big Island), and Oahu did not have water conservation measures imposed at any time during the year. The dry weather did increase the risk of brushfires with major breakouts occurring on the Big Island (January and July), Maui (January and June), and Oahu (August). While some of these bushfires burned several thousand acres and resulted in various crop and livestock losses, they did not severely impact overall agriculture.

Downgraded Hurricane Flossie passes safely to the south

Flossie, a Category 4 hurricane at its peak, weakened to a tropical storm by the time it passed safely to the south of the Big Island in mid-August. Heavy showers associated with the storm pelted Hilo and its surrounding areas. Maui also received some showers from the passing storm, but the remainder of the State was relatively dry. Maui county water officials upgraded conservation efforts on August 23rd when they asked users of the Central Maui Water System for a voluntary reduction of 10 percent. All other water conservation measures across the State remained in effect. Except for the windward side of the Big Island where frequent trade wind induced showers helped push monthly totals above the norm, most areas in the State continued to experience lower than average rainfall during September. On September 6, mandatory cutbacks increased to 30 percent for Waimanalo Irrigation System customers.

Rains slow farming activities, but eases water restrictions

Hawaii's wet season started ominously when October rainfall totals remained below normal. Dry conditions began to ease at the outset of November when a Kona low generated heavy showers from Kauai to Molokai. Wet conditions slowed farming and some fields experienced flooding. Heavy showers also pelted the entire State in the closing days of November; once again slowing farming activities. More rain arrived in early December as a strong low-pressure system and its associated cold front swept through the State. Additional showers hit the islands when a Kona low developed and drew in moisture-laden air from the south. The USDA's Farm Service Agency lifted its natural disaster designation for Hawaii, Honolulu, Kauai, and Maui counties in late November. The two months of winter rains enabled Maui officials to lift the mandatory 10 percent restriction for Upcountry residents on December 21. A week later, Big Island water officials downgraded their mandatory 25 percent reduction for residents of Waimea Town to Kawaihae, upper Paauilo, and Ahualoa, districts of South Kohala and Hamakua to a voluntary 10 percent cutback. All other water conservation measures remained in effect at the end of the year.

WEATHER: Precipitation, selected stations, State of Hawaii, 2007

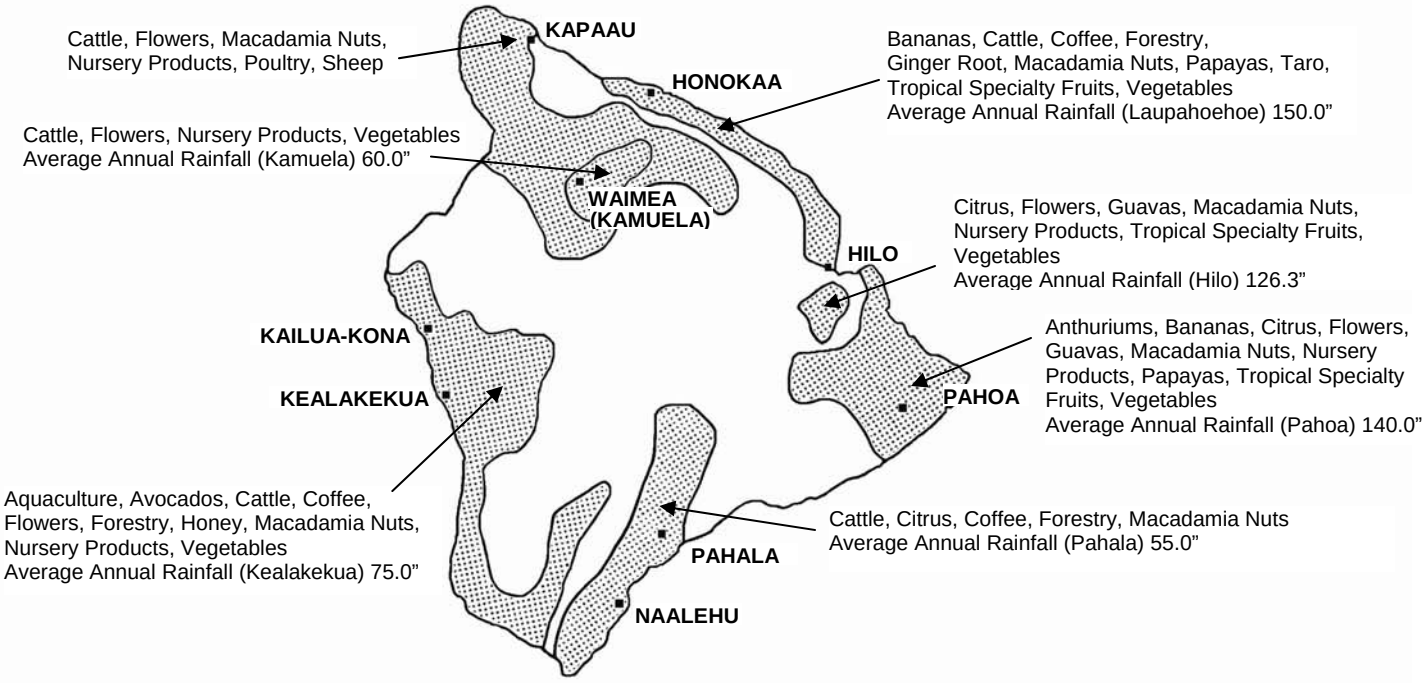
STATIONS	Year & normal	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual	% Annual normal
HAWAII COUNTY															
Hilo International Airport	Normal	9.7	8.9	14.4	12.5	8.1	7.4	10.7	9.8	9.1	9.6	15.6	10.5	126.3	
	2007	12.23	14.23	4.25	7.39	2.32	6.38	7.26	7.77	8.74	8.24	10.38	17.56	106.75	84.5
Kamuela (HI86)	Normal	6.6	6.0	7.9	6.9	4.0	2.2	3.7	4.1	2.2	3.3	5.8	7.3	60.0	
	2007	1.44	3.78	1.27	.93	.39	1.89	2.87	1.62	1.08	.93	4.33	6.80	27.33	45.6
Kealakekua (HI84)	Normal	4.7	3.4	5.6	6.2	7.7	8.2	8.7	8.3	8.2	6.2	4.4	3.4	75.0	
	2007	2.61	2.03	1.44	1.58	3.35	4.31	8.66	5.18	7.73	3.23	6.85	7.48	54.45	72.6
Laupahoehoe (HI80)	Normal	13.5	13.2	19.5	18.9	11.7	6.2	10.0	12.4	6.9	9.3	13.6	14.8	150.0	
	2007	6.68	14.20	4.45	--	1.10	3.05	3.67	5.74	5.40	7.96	4.73	17.52	--	
Pahala (HI85)	Normal	7.7	6.1	6.3	5.0	3.8	2.2	2.1	3.3	3.4	4.2	5.5	5.4	55.0	
	2007	1.69	.44	4.19	1.13	.57	.11	1.94	2.44	.92	.23	7.68	--	--	
Pahoa (HI83)	Normal	13.9	10.9	14.7	13.9	10.5	7.1	9.8	10.6	9.2	11.5	13.3	14.6	140.0	
	2007	12.01	17.16	5.37	7.70	2.72	6.77	7.58	8.11	10.67	9.59	14.82	25.04	127.54	91.1
HONOLULU COUNTY															
Kahuku (HI09)	Normal	6.3	4.2	5.3	4.0	2.5	1.8	2.2	2.6	2.2	4.0	4.6	5.3	45.0	
	2007	3.42	1.42	4.24	1.00	1.07	1.23	1.59	.91	1.71	1.15	5.67	6.57	29.98	66.6
Waianae (HI17)	Normal	3.8	2.3	2.5	1.6	.7	.3	.3	.7	.7	1.8	2.0	3.3	20.0	
	2007	2.17	.33	2.66	.60	1.17	.08	.03	.93	.15	.08	4.35	4.93	17.48	87.4
Waimanalo (HI13)	Normal	6.8	4.6	3.6	3.2	3.2	1.5	1.6	1.5	2.0	3.7	5.6	5.5	42.8	
	2007	2.52	1.42	3.35	1.89	.42	.63	1.24	.52	.96	.79	13.68	10.56	37.98	88.7
KAUAI COUNTY															
Anahola (HI48)	Normal	6.8	4.4	6.0	4.6	3.2	1.6	2.5	2.5	2.0	5.1	5.4	5.9	50.0	
	2007	3.15	3.78	4.56	2.38	2.44	1.57	2.87	1.50	1.38	.71	--	--	--	
Hanalei (HI45)	Normal	11.8	9.4	13.4	12.2	9.3	6.5	9.8	8.7	6.9	8.5	10.2	12.0	118.7	
	2007	4.87	10.48	6.51	4.51	1.34	3.46	4.12	3.06	5.71	5.36	8.42	16.37	74.21	62.5
Omao (HI51)	Normal	6.9	4.5	5.5	5.2	4.2	3.4	4.7	4.6	3.7	4.7	5.9	6.7	60.0	
	2007	3.93	4.62	4.02	2.02	1.50	3.52	3.40	3.34	--	--	8.03	12.33	--	
MAUI COUNTY															
Hana (HI61)	Normal	8.5	5.7	9.1	7.5	5.9	4.1	5.9	5.8	6.1	7.3	8.0	6.1	80.0	
	2007	1.49	4.53	4.35	4.10	2.23	2.48	4.37	4.37	5.52	5.27	6.22	10.89	55.82	69.8
Kula (HI65)	Normal	3.5	3.0	2.5	1.6	1.1	.8	.8	.8	1.1	1.5	2.3	3.3	22.3	
	2007	1.23	.91	2.44	.56	.40	.20	.55	2.43	.64	.39	2.66	11.20	23.61	105.9
Wailuku (HI66)	Normal	5.2	3.8	3.6	3.0	1.2	.4	.6	.7	.6	1.7	2.9	4.3	28.0	
	2007	.72	1.58	3.50	1.77	.15	.03	.68	.35	.13	.85	2.74	11.71	24.21	86.5
Molokai Airport	Normal	4.3	3.2	3.7	2.2	1.0	.5	.7	.7	.7	1.9	2.8	4.0	25.7	
	2007	.60	1.08	3.62	.33	.09	.03	.11	.33	.10	.87	5.28	4.45	16.89	65.7

-- = No record. Data not recorded.

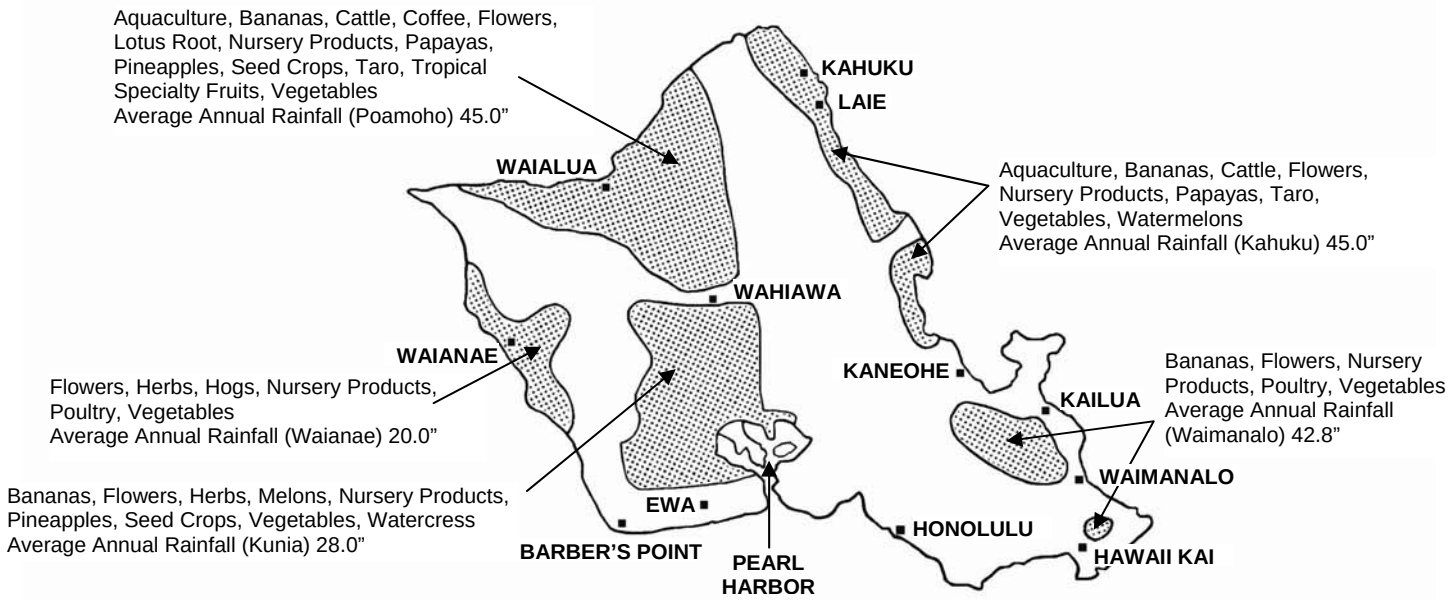
Source: U. S. Department of Commerce, National Oceanic and Atmospheric Administration. Most rainfall stations were selected from the National Weather Service's hydronet system of automated gauges, and those data have not been quality controlled to date, and therefore are not certified by the National Weather Service.

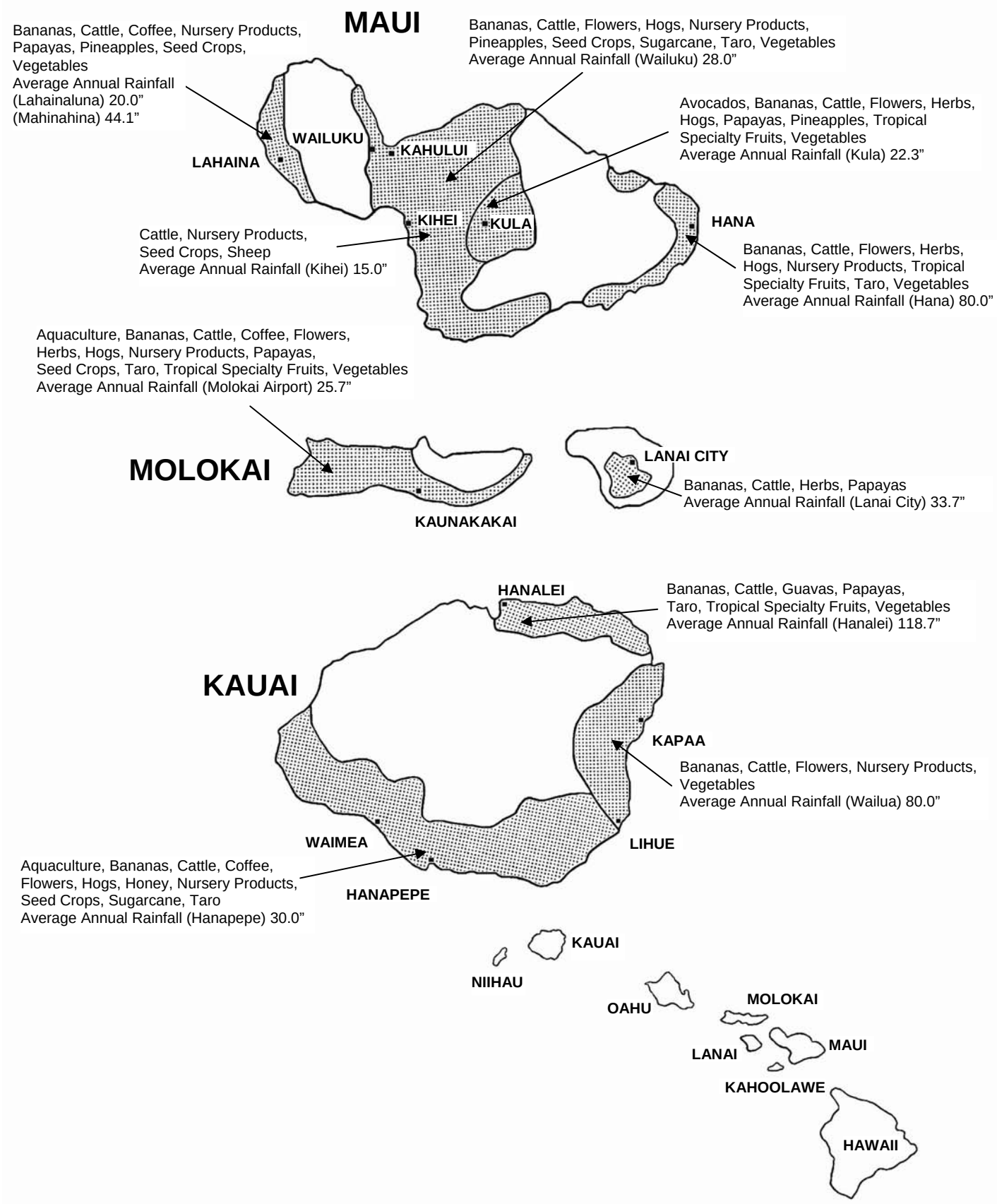
MAJOR AGRICULTURAL AREAS, STATE OF HAWAII, 2007

HAWAII



OAHU




MAUI
Bananas, Cattle, Coffee, Nursery Products, Papayas, Pineapples, Seed Crops, Vegetables
Average Annual Rainfall (Lahainaluna) 20.0"
(Mahinahina) 44.1"
Bananas, Cattle, Flowers, Hogs, Nursery Products, Pineapples, Seed Crops, Sugarcane, Taro, Vegetables
Average Annual Rainfall (Wailuku) 28.0"
Avocados, Bananas, Cattle, Flowers, Herbs, Hogs, Papayas, Pineapples, Tropical Specialty Fruits, Vegetables
Average Annual Rainfall (Kula) 22.3"
WAILUKU
KAHULUI
LAHAINA
KIHEI
KULA
HANA
Cattle, Nursery Products, Seed Crops, Sheep
Average Annual Rainfall (Kihei) 15.0"
Bananas, Cattle, Flowers, Herbs, Hogs, Nursery Products, Tropical Specialty Fruits, Taro, Vegetables
Average Annual Rainfall (Hana) 80.0"
Aquaculture, Bananas, Cattle, Coffee, Flowers, Herbs, Hogs, Nursery Products, Papayas, Seed Crops, Taro, Tropical Specialty Fruits, Vegetables
Average Annual Rainfall (Molokai Airport) 25.7"
MOLOKAI
LANAI CITY
Bananas, Cattle, Herbs, Papayas
Average Annual Rainfall (Lanai City) 33.7"
KAUNAKAKAI
HANALEI
Bananas, Cattle, Guavas, Papayas, Taro, Tropical Specialty Fruits, Vegetables
Average Annual Rainfall (Hanalei) 118.7"
KAUAI
KAPAA
Bananas, Cattle, Flowers, Nursery Products, Vegetables
Average Annual Rainfall (Wailua) 80.0"
WAIMEA
LIHUE
Aquaculture, Bananas, Cattle, Coffee, Flowers, Hogs, Honey, Nursery Products, Seed Crops, Sugarcane, Taro
Average Annual Rainfall (Hanapepe) 30.0"
HANAPEPE
KAUAI
NIIHAU
OAHU
MOLOKAI
LANAI
MAUI
KAHOOLAWE
HAWAII

Top 20 commodities, State of Hawaii, 2006-2007 [1]

Commodity [2]	Rank		Value of production	
	2006	2007	2006	2007
	--- Number ---		--- 1,000 dollars ---	
Seed crops	1	**1**	103,040	**146,270**
Sugarcane (unprocessed)	3	**2**	50,200	**47,600**
Coffee	5	**3**	31,820	**31,875**
Cattle	6	**4**	26,452	**26,196**
Macadamia nuts	4	**5**	38,860	**24,600**
Papayas	10	**6**	11,049	**13,094**
Algae	8	**7**	11,914	**10,941**
Bananas	11	**8**	10,780	**10,496**
Tomatoes	9	**9**	11,319	**9,867**
Milk	7	**10**	14,508	**9,673**
Palms, Potted	12	**11**	8,309	**8,753**
Eggs	13	**12**	8,192	**7,428**
Dracaena, potted	15	**13**	5,540	**5,949**
Dendrobiums, potted	14	**14**	5,600	**5,062**
Anthuriums, cut	17	**15**	4,878	**4,840**
Basil	16	**16**	5,320	**4,720**
Sod [3]		**17**		**4,515**
Watermelons	21	**18**	2,912	**3,930**
Oncidiinae, potted	31	**19**	1,310	**3,686**
Hogs	19	**20**	4,158	**3,682**

[1] Beginning 2007, pineapples not ranked due to disclosure of individual operations. [2] Floriculture categories include only growers with total sales of $10,000 or more. [3] Data series began in 2007.

Farm values, State of Hawaii, 1988-2007

Year	Sugar (unprocessed cane)	Pineapples (fresh equivalent)	Diversified agriculture [1]	Total [2]
		1,000 dollars		
1988	209,900	107,402	256,660	573,962
1989	210,300	98,310	276,438	585,048
1990	213,800	106,365	275,789	595,954
1991	174,900	107,775	268,707	551,382
1992	153,700	102,100	264,427	520,227
1993	163,000	79,850	271,094	513,944
1994	160,100	78,890	273,826	512,816
1995	127,700	87,360	291,632	506,692
1996	108,100	95,914	307,329	511,343
1997	85,500	91,721	327,484	504,705
1998	87,300	92,776	329,886	509,962
1999	86,800	101,448	342,846	531,094
2000	62,200	101,530	358,170	521,900
2001	57,800	96,337	370,241	524,378
2002	64,300	100,616	374,602	539,518
2003	64,400	101,470	382,253	548,123
2004	61,500	83,104	407,453	552,057
2005	58,900	79,288	444,597	582,785
2006	50,200	73,652	455,738	579,590
2007	**47,600**	[3]	[3]	**579,107**

[1] Aquaculture included beginning 1993. [2] Includes all agricultural commodities. [3] Pineapples and diversified agriculture not shown separately to avoid disclosure of individual operations.

Diversified agriculture ranked by value, State of Hawaii, 2006-2007

Commodity	Rank		Value of production			Percent of diversified agriculture [1]	
	2006	2007	2006	2007	Year-to-year percent change	2006	2007
	--- Number ---		----- 1,000 dollars -----		---------- Percent ----------		
Seed crops	1	**1**	103,040	**146,270**	+42	22.6	**31.8**
Flowers and nursery products	2	**2**	98,725	**105,918**	+7	21.6	**23.1**
Vegetables and melons [2]	3	**3**	73,038	**47,744**	NA	16.0	**10.4**
Coffee	5	**4**	31,820	**31,875**	0	7.0	**6.9**
Fruits (excluding pineapples)	6	**5**	27,215	**30,592**	+12	6.0	**6.7**
Cattle	7	**6**	26,452	**26,196**	-1	5.8	**5.7**
Aquaculture	8	**7**	21,257	**25,250**	+19	4.7	**5.5**
Macadamia nuts	4	**8**	38,860	**24,600**	-37	8.5	**5.4**
Milk	9	**9**	14,508	**9,673**	-33	3.2	**2.1**
Eggs	10	**10**	8,192	**7,428**	-9	1.8	**1.6**
Hogs	11	**11**	4,158	**3,682**	-11	.9	**.8**
Other livestock and crops			8,473	[3]		1.9	
Total			455,738	[3]		100.0	**100.0**

[1] Percentages are of displayed items only. [2] Includes ginger root and herbs. Year-to-year value of production not comparable. Beginning 2007, non-published vegetable commodities not included to avoid disclosure of individual operations, but are included in total farm value. [3] Data for 2007 not shown separately to avoid disclosure of individual operations but included in total farm value.

SUMMARY: Acreage in crop and total farm acreage, by county, 2003-2007

Year	Sugarcane	Pineapples [1]	Vegetables and melons [2 3]	Fruits (excluding pineapples)	Coffee	Macadamia nuts	All other crops [4]	Total farm acreage [5]
				1,000 acres				
State [6]								
2003	47.8	16.0	6.4	6.4	7.3	18.0	9.3	1,300
2004	43.0	13.0	6.7	6.0	7.7	18.0	9.4	1,300
2005	40.1	14.0	6.3	6.2	7.9	18.3	9.2	1,300
2006	42.1	12.6	5.5	6.1	8.2	17.0	9.2	1,300
2007	**39.3**	[7]	**4.5**	**6.5**	**7.8**	**17.0**	**19.6**	**1,120**
County:								
Hawaii								
2003	0	*	1.6	4.1	3.6	[8]	2.9	820
2004	0	*	1.7	3.8	3.8	[8]	3.0	820
2005	0	*	1.6	4.1	3.8	[8]	2.7	820
2006	0	*	1.1	3.8	3.8	[8]	2.9	820
2007	**0**	[7]	**1.0**	**4.3**	**3.8**	[8]	**3.0**	**680**
Honolulu								
2003	0	10.1	3.4	1.0	[9] 3.7	[8]	2.8	70
2004	0	7.5	3.8	.8	[9] 3.9	[8]	3.0	70
2005	0	[8]	3.5	.8	[9] 4.1	[8]	2.6	70
2006	0	[8]	3.5	.9	[9] 4.4	[8]	2.7	70
2007	**0**	[7]	**2.7**	**.9**	[9] **4.0**	[8]	**7.3**	**60**
Kauai								
2003	11.1	*	.3	.8	[9]	[8]	1.7	150
2004	8.2	*	.3	.9	[9]	[8]	1.7	150
2005	7.1	*	.2	.8	[9]	[8]	1.7	150
2006	7.2	*	.1	.8	[9]	[8]	1.9	150
2007	**6.9**	[7]	**.1**	**.7**	[9]	[8]	**2.5**	**150**
Maui								
2003	36.7	5.9	1.1	.5	[9]	[8]	1.9	260
2004	34.8	5.5	.9	.5	[9]	[8]	1.7	260
2005	33.0	[8]	1.0	.5	[9]	[8]	2.2	260
2006	34.9	[8]	.8	.6	[9]	[8]	1.7	260
2007	**32.4**	[7]	**.7**	**.6**	[9]	[8]	**6.8**	**230**

* Less than 50 acres

[1] Land used for pineapple.

[2] Harvested acreage.

[3] Includes ginger root and herbs, 2003-2006.

[4] Beginning 2007, includes non-published vegetable commodities, and ginger root. Includes taro, seed crops, feed and forage crops (excluding pineapple feed products), flowers, nursery products, noni, kava (`awa), and others.

[5] Includes land not in crop and pasture such as farm house lots, roads, woodlots, etc.

[6] Sum of county estimates may not add to State total due to rounding.

[7] Data not shown separately to avoid disclosure of individual operations but combined and included with "All other crops".

[8] Data not shown separately to avoid disclosure of individual operations but combined and included in the State total.

[9] Kauai and Maui combined with Honolulu to avoid disclosure of individual operations.

SUMMARY: Number of crop farms, by county, 2003-2007

Year	Sugarcane	Pineapples [1]	Vegetables and melons [2]	Fruits (excluding pineapples)	Coffee	Macadamia nuts	Taro	Flowers and nursery products
State								
2003	2	25	570	1,426	715	650	150	865
2004	2	30	620	1,290	750	650	130	920
2005	2	30	600	1,265	790	650	110	955
2006	2	30	610	1,245	820	570	105	930
2007	**2**	**40**	**650**	**1,300**	**830**	**525**	**105**	**935**
County:								
Hawaii								
2003	0	11	230	746	690	630	40	395
2004	0	15	253	687	710	630	30	425
2005	0	15	215	664	745	600	30	425
2006	0	15	226	668	775	520	25	415
2007	**0**	**18**	**230**	**690**	**790**	**500**	**25**	**430**
Honolulu								
2003	0	2	190	179	0	3	15	230
2004	0	2	188	147	7	3	10	235
2005	0	2	213	159	3	10	10	265
2006	0	2	215	153	3	10	15	250
2007	**0**	**1**	**230**	**160**	**3**	**5**	**15**	**250**
Kauai								
2003	1	7	55	216	4	7	70	80
2004	1	8	72	196	6	7	65	80
2005	1	8	65	184	8	20	50	80
2006	1	8	63	174	10	20	45	75
2007	**1**	**12**	**70**	**190**	**7**	**10**	**45**	**75**
Maui								
2003	1	5	95	285	21	10	25	160
2004	1	5	107	260	27	10	25	180
2005	1	5	107	258	34	20	20	185
2006	1	5	106	250	32	20	20	190
2007	**1**	**9**	**120**	**260**	**30**	**10**	**20**	**180**

[1] Includes specialty pineapple.
[2] In 2003-2006, includes ginger root, herbs, noni, kava (`awa), and others. Beginning 2007, ginger root, herbs, noni, kava (‘awa) and others combined and included in the Total (non-duplicated).

SUMMARY: Number of livestock operations and total number of farms, by county, 2003-2007

Year	Cattle [1]	Hogs	Milk	Eggs	Honey	Total (non-duplicated) [2]
State						
2003	750	210	30	80	29	5,500
2004	800	250	30	80	31	5,500
2005	800	230	30	80	34	5,500
2006	800	230	30	80	35	5,500
2007	**1,100**	**230**	**15**	**80**	**40**	**7,500**
County:						
Hawaii						
2003	440	60	14	37	14	3,250
2004	470	70	14	37	16	3,250
2005	470	70	14	37	20	3,250
2006	470	70	14	37	17	3,250
2007	**730**	**70**	**7**	**37**	**18**	**4,650**
Honolulu						
2003	50	70	6	15	8	800
2004	50	80	6	15	8	800
2005	50	70	6	15	9	800
2006	50	70	6	15	12	800
2007	**60**	**70**	**3**	**15**	**14**	**950**
Kauai						
2003	120	30	4	8	5	600
2004	120	40	4	8	4	600
2005	120	30	4	8	4	600
2006	120	30	4	8	4	600
2007	**130**	**30**	**1**	**8**	**5**	**750**
Maui						
2003	140	50	6	20	2	850
2004	160	60	6	20	3	850
2005	160	60	6	20	1	850
2006	160	60	6	20	2	850
2007	**180**	**60**	**4**	**20**	**3**	**1,150**

[1] Includes beef, dairy, and dairy replacement operations.

[2] Based on the definition of a farm as a place with estimated (or expected) annual sales of agricultural products of at least $1,000. Total includes farms having commodities that are not listed separately; e.g. aquaculture, goats, seed crops, and sheep. Prior to 2007, the total unduplicated farm number was not adjusted for coverage.

SUMMARY: Value of crop sales, by county, 2003-2007

Year	Sugar (unprocessed cane)	Pineapples (fresh equivalent)	Vegetables, ginger root, herbs, and melons [1]	Fruits (excluding pineapples)	Coffee (parchment)
			1,000 dollars		
State [4]					
2003	64,400	101,470	64,173	26,819	24,070
2004	61,500	83,104	67,892	24,533	19,880
2005	58,900	79,288	67,717	25,747	37,310
2006	50,200	73,652	73,038	27,215	31,820
2007	**47,600**	[5]	[6] **47,744**	**30,592**	**31,875**
County:					
Hawaii					
2003	0	[7]	14,235	19,881	15,200
2004	0	[7]	18,859	18,504	14,880
2005	0	[7]	18,172	18,353	31,030
2006	0	[7]	18,630	18,584	25,600
2007	**0**	[5]	[6] **10,140**	**22,837**	**25,350**
Honolulu					
2003	0	71,029	37,214	3,748	[8] 8,870
2004	0	54,704	37,661	2,791	[8] 5,000
2005	0	[7]	38,725	3,715	[8] 6,280
2006	0	[7]	41,812	4,961	[8] 6,220
2007	**0**	[5]	[6] **29,120**	**4,961**	[8] **6,525**
Kauai					
2003	13,500	[7]	2,495	1,739	[8]
2004	15,300	[7]	1,740	1,922	[8]
2005	14,700	[7]	1,670	1,641	[8]
2006	9,500	[7]	1,543	1,717	[8]
2007	**9,800**	[5]	[6] **2,250**	**1,060**	[8]
Maui					
2003	50,900	30,441	10,229	1,451	[8]
2004	46,200	28,400	9,632	1,316	[8]
2005	44,200	[7]	9,150	2,038	[8]
2006	40,700	[7]	11,053	1,953	[8]
2007	**37,800**	[5]	[6] **6,234**	**1,734**	[8]

See footnotes at end of table.

Continued

SUMMARY: Value of crop sales, by county, 2003-2007 -- Continued

Year	Macadami nuts (in-shell)	Taro	Seed crops	Flowers and nursery products [2]	Total crops [3]
			1,000 dollars		
State [4]					
2003	32,330	2,700	49,160	95,601	461,680
2004	41,245	2,808	62,600	95,178	459,702
2005	43,740	2,322	77,330	100,962	493,991
2006	38,860	2,565	103,040	98,725	499,684
2007	**24,600**	**2,360**	**146,270**	**105,918**	**499,416**
County:					
Hawaii					
2003	[7]	335	[7]	50,206	132,331
2004	[7]	288	[7]	50,414	143,972
2005	[7]	168	[7]	53,449	164,772
2006	[7]	180	[7]	50,527	152,302
2007	**[7]**	**173**	**[7]**	**51,755**	**140,618**
Honolulu					
2003	[7]	[9] 605	[7]	31,092	154,229
2004	[7]	[9] 441	[7]	32,173	138,878
2005	[7]	[9] 511	[7]	32,399	133,918
2006	[7]	[9] 570	[7]	33,438	146,013
2007	**[7]**	**[9] 563**	**[7]**	**38,373**	**139,486**
Kauai					
2003	[7]	1,760	[7]	3,067	47,077
2004	[7]	2,079	[7]	3,056	47,652
2005	[7]	1,643	[7]	3,204	49,318
2006	[7]	1,815	[7]	2,937	60,352
2007	**[7]**	**1,624**	**[7]**	**3,374**	**65,372**
Maui					
2003	[7]	[9]	[7]	11,236	128,043
2004	[7]	[9]	[7]	9,535	129,200
2005	[7]	[9]	[7]	11,910	145,983
2006	[7]	[9]	[7]	11,823	141,017
2007	**[7]**	**[9]**	**[7]**	**12,416**	**153,940**

[1] Includes noni, kava (`awa), and others.
[2] Flowers, foliage, and nursery products.
[3] Total crop values shown for individual counties are actual. Sum of individual commodities may not add to total. Forage crops' and forest product's value combined and included in total crop value.
[4] Sum of county estimates may not add to State total due to rounding.
[5] Data not shown separately to avoid disclosure of individual operations but combined and included in total crop value.
[6] Beginning 2007, non-published commodities not included to avoid disclosure of individual operations but combined and included in total crop value.
[7] Data not shown separately to avoid disclosure of individual operations but combined and included in the State total.
[8] Kauai and Maui combined with Honolulu to avoid disclosure of individual operations.
[9] Maui combined with Honolulu to avoid disclosure of individual operations.

SUMMARY: Value of livestock sales, total value of crop, livestock sales, aquaculture, and government payments, by counties, 2003-2007

Year	Cattle [1]	Hogs [1]	Milk	Eggs	Aquaculture	Total livestock and aquaculture [2]	Total crops, livestock, and aquaculture	Government payments [3]
				1,000 dollars				
State [4]								
2003	17,192	4,345	21,449	9,396	27,650	86,443	548,123	1,483
2004	22,534	4,463	20,175	10,670	28,100	92,355	552,057	2,392
2005	22,548	4,553	18,387	8,979	28,398	88,794	582,785	4,727
2006	26,452	4,158	14,508	8,192	21,257	79,906	579,590	3,796
2007	**26,196**	**3,682**	**9,673**	**7,428**	**25,250**	**79,691**	**579,107**	**2,378**
County:								
Hawaii								
2003	13,811	440	[5]	[5]	19,639	46,900	179,231	NA
2004	16,873	407	[5]	[5]	21,211	51,627	195,599	NA
2005	16,790	319	[5]	[5]	20,179	50,432	215,204	NA
2006	19,809	256	[5]	[5]	17,470	48,345	200,647	NA
2007	**19,676**	**185**	**[5]**	**[5]**	**20,155**	**52,738**	**193,356**	**NA**
Honolulu								
2003	203	2,594	13,502	6,789	[5]	29,298	183,527	NA
2004	681	2,715	[5]	8,131	[5]	30,297	169,175	NA
2005	1,382	2,762	[5]	6,705	[5]	26,737	160,655	NA
2006	1,515	2,371	[5]	[5]	[5]	21,013	167,026	NA
2007	**942**	**1,974**	[5]	[5]	**[5]**	**17,782**	**157,268**	**NA**
Kauai								
2003	912	414	[5]	[5]	[5]	4,139	51,216	NA
2004	1,965	482	[5]	[5]	[5]	3,921	51,573	NA
2005	1,689	592	[5]	[5]	[5]	3,218	52,536	NA
2006	1,725	611	[5]	[5]	[5]	4,299	64,651	NA
2007	**1,318**	**638**	**[5]**	**[5]**	**[5]**	**3,088**	**68,460**	**NA**
Maui								
2003	2,266	897	[5]	[5]	[5]	6,106	134,149	NA
2004	3,015	859	[5]	[5]	[5]	6,510	135,710	NA
2005	2,686	880	[5]	[5]	[5]	8,408	154,391	NA
2006	3,403	920	[5]	[5]	[5]	6,249	147,266	NA
2007	**4,260**	**885**	**[5]**	**[5]**	**[5]**	**6,083**	**160,023**	**NA**

NA= Not available.

[1] Excludes interfarm sales; includes out-of-State sales of slaughter cattle and feeder calves.

[2] Sum of individual commodities may not add to total. Includes sheep, wool, turkeys, horses, honey, beeswax, broilers, and chickens.

[3] Includes government payments, such as Agricultural Conservation Program, Cattle Indemnity Payment Program, Dairy Indemnity Payment Program, Emergency Conservation Program, Forestry Incentives Program, Emergency Feed Program, wool payments, and sugar support.

[4] Sum of county estimates may not add to State total due to rounding.

[5] Data not shown separately to avoid disclosure of individual operations but combined and included in the State total.

FOOD: U.S. expenditures by families and individuals, selected years, 1929-2007

Year	Disposable personal income	Expenditures for food					
		At home [1]		Away from home [2]		Total [3]	
	Billion dollars	*Billion dollars*	*Percent*	*Billion dollars*	*Percent*	*Billion dollars*	*Percent*
1929	83.4	16.9	20.3	2.6	3.1	19.5	23.4
1934	52.8	11.1	21.0	1.7	3.2	12.8	24.2
1939	71.4	13.0	18.1	2.3	3.2	15.2	21.3
1944	148.3	22.1	14.9	5.1	3.4	27.2	18.4
1949	190.4	34.3	18.0	7.8	4.1	42.0	22.1
1954	264.3	42.4	16.0	9.3	3.5	51.7	19.6
1959	350.5	50.1	14.3	12.1	3.5	62.3	17.8
1964	462.5	55.5	12.0	15.7	3.4	71.2	15.4
1969	674.0	69.0	10.2	23.4	3.5	92.3	13.7
1974	1,071.6	107.3	10.0	38.5	3.6	145.8	13.6
1979	1,793.5	164.0	9.1	76.9	4.3	240.9	13.4
1984	2,912.0	224.0	7.7	121.9	4.2	345.8	11.9
1989	4,021.7	[4] 274.8	6.8	165.4	4.1	[4] 440.2	10.9
1994	5,151.8	[4] 337.1	6.5	216.5	4.2	[4] 553.5	10.7
1999	6,695.0	[4] 408.8	6.1	272.0	4.1	[4] 680.8	10.2
2003	8,162.5	[4] 473.1	5.8	[4] 329.8	4.0	[4] 802.9	9.8
2004	[4] 8,680.9	[4] 491.1	5.7	[4] 348.5	4.0	[4] 839.6	9.7
2005	[4] 9,092.0	[4] 518.8	5.7	[4] 368.8	4.1	[4] 887.6	9.8
2006	9,629.1	550.0	5.7	396.3	4.1	946.3	9.8
2007	**10,177.0**	**581.4**	**5.7**	**415.8**	**4.1**	**997.3**	**9.8**

[1] Food purchases from grocery stores and other retail outlets, including purchases with food stamps and WIC vouchers and food produced and consumed on farms (valued at farm prices) because the value of these foods is included in personal income. Excludes government-donated foods.

[2] Purchases of meals and snacks by families and individuals, and food furnished to employees since it is included in personal income. Excludes food paid for by government and business, such as donated foods to schools, meals in prisons and other institutions, and expense-account meals.

[3] Total may not add due to rounding.

[4] Revised.

Source: Economic Research Service, USDA.

Record highs and lows for selected items, State of Hawaii

Item	Unit	Record high		Record low		Year estimate started
		Quantity	Year [1]	Quantity	Year [1]	
Anthuriums						
Total sold	1,000 dozs.	2,532	1980	216	1959	1959
Price [2]	$/doz.	9.09	1997	.71	1967	1959
Avocados						
Harvested	Acres	330	1986	90	1975	1946
Production	1,000 lbs.	1,600	1982	400	1996	1946
Price [2]	¢/lb.	68.0	2007	6.1	1959	1946
Bananas						
Harvested	Acres	1,490	2001	550	1977	1946
Production	1,000 lbs.	29,000	2000	4,470	1983	1946
Price [2]	¢/lb.	49.0	2006	4.6	1946	1946
Cabbage, head						
Harvested	Acres	740	1947	360	2004	1946
Production	1,000 lbs.	15,750	1989	6,800	1953	1946
Price [2]	¢/lb.	30.0	2004	3.0	1959	1946
Coffee						
Harvested	Acres	6,800	2000	1,650	1985	1946
Production	1,000 lbs.	18,496	1957	990	1982	1946
Price [2]	¢/lb.	455.0	2005	17.8	1946	1946
Foliage, potted (indoor)						
Sales (value)	$1,000	19,236	2001	171	1972	1972
Ginger Root						
Harvested	Acres	360	2001	11	1974	1946
Production	1,000 lbs.	18,000	2001	352	1974	1946
Price [2]	¢/lb.	92.3	1982	16.2	1949	1946
Guavas						
Harvested	Acres	1,040	1990	60	1957	1955
Production	1,000 lbs.	24,100	1990	1,737	1957	1955
Price [2]	¢/lb.	15.7	2007	3.1	1956	1955
Macadamia nuts						
Harvested	Acres	19,300	1995	830	1953	1946
Production *(net, wet-in-shell)*	1,000 lbs.	58,000	2006	630	1946	1946
Price [2] *(net, wet-in-shell)*	¢/lb.	90.0	1988	15.2	1946	1946
Papayas						
Harvested	Acres	2,650	1985	320	1952	1946
Production	1,000 lbs.	80,500	1984	5,525	1947	1946
Price [2]	¢/lb.	48.9	1997	3.2	1946	1946

See footnotes at end of table.

Continued

Record highs and lows for selected items, State of Hawaii -- Continued

Item	Unit	Record high		Record low		Year estimate started
		Quantity	Year [1]	Quantity	Year [1]	
Pineapples [3]						
Total in crop	Acres	76,700	1957	12,600	2006	1946
Production	1,000 tons	1,048	1955	185	2006	1950
Value (farm)	$1,000	107,775	1991	29,700	1951	1950
Sugar [4]						
Harvested	Acres	145,000	1933	19,300	2001	1909
Yield/acre (sugar)	Tons/acre	13.15	2003	4.81	1910	1909
Production (raw sugar)	1,000 tons	1,234	1966	206	2007	1909
Price [2] (sugar)	$/ton	633.00	1974	52.00	1940	1909
Taro						
Harvested	Acres	1,020	1948	320	1980	1946
Production	1,000 lbs.	14,195	1948	4,000	2007	1946
Price [2]	¢/lb.	59.0	2007	3.1	1949	1946
Tomatoes						
Harvested	Acres	740	2007	150	1972	1946
Production	1,000 lbs.	17,500	2003	3,300	1972	1946
Price [2]	¢/lb.	77.0	2006	9.1	1947	1946
Watermelons						
Harvested	Acres	870	1950	125	1979	1946
Production	1,000 lbs.	20,400	1995	1,130	1979	1946
Price [2]	¢/lb.	30.0	2007	6.4	1955	1946
Cattle and calves						
Jan. 1 inventory	Head	249,000	1971	130,000	1946	1946
Production (live weight)	1,000 lbs.	64,750	1989	25,470	1953	1946
Price [2]	$/cwt.	76.70	2006	12.30	1946	1946
Hogs and pigs						
Dec. 1 inventory	Head	72,000	1965	15,000	2007	1960
Production (live weight)	1,000 lbs.	13,159	1978	3,880	2007	1960
Price [2]	$/cwt.	94.90	2007	29.50	1964	1960
Milk						
Marketings	Million lbs.	157.1	1988	34.3	2007	1946
Production per cow	lbs./cow	14,667	2002	8,750	1960	1960
Price [2]	$/cwt.	28.20	2007	6.75	1946	1946
Eggs						
Layers Dec. 1	Birds	1,037,000	1974	302,000	1950	1950
Production	Million eggs	229.3	1979	81.8	2007	1958
Price [2]	¢/doz.	109.0	2007	39.2	1968	1958

[1] In case of a tie, the most recent year was used.
[2] Prices are annual or crop-year average.
[3] Beginning 2007, data series not shown to avoid disclosure of individual operations.
[4] Primary data source, Hawaii Agricultural Research Center.

AGRICULTURE'S CONTRIBUTIONS TO HAWAII'S ECONOMY, 2005

This sequel to two previous CTAHR publications, EI-2 (2000) and EI-3 (2002), provides an update to the estimates of agriculture's contribution to Hawai`i's economy. As mentioned in the earlier publications, estimates of agriculture's contributions vary depending on what is defined as "agriculture" and on the methodology used to develop those estimates. Agriculture as defined in this current publication uses the latest industry classification based on the North American Industry Classification System (NAICS) including crop and animal production; forestry, fishing and related activities; and food (including beverage and tobacco) product manufacturing.

The most comprehensive measure of the contribution of an industry is the value added or industry's gross domestic product[1] (GDP) as it avoids possible double-counting. The inclusion of other economic yardsticks such as employment, labor income and sales value provides a fuller picture of the performance of an industry.

Industry sales value is probably the most common measure of economic activities. For example, the Hawaii Department of Agriculture reports routinely the farmgate values of production agriculture. Despite its double counting problem, sales value measures the size of economic transactions of an industry based on which general excise and use taxes are generally levied.

Employment (number of full- and part-time wage-and-salary plus proprietors' jobs) provides another good indicator for measuring the contribution of an industry to the economy. Labor income (earnings), which primarily consists of the income received by persons from participation in production, provides yet another measure of an industry's contribution to the economy.

Against this background, the purpose of this publication is to summarize and compare the four measures described above – value-added or GDP, employment, labor income and sales value – in assessing the contribution of agriculture to Hawaii's economy for the years 1997, 2002 and 2005.

Agriculture's contribution to GDP

Hawaii's overall economy as measured by total GDP increased at an annual rate of 3.0% from 1997 to 2002 but has since grown quite rapidly at an annual rate of 8.0%. Agriculture GDP on the other hand reveals an opposite trend, growing at an annual rate of 2.8% from $594 million in 1997 to $682 million in 2002 but since then decreasing at an annual rate of 0.9% to $664 million in 2005. While farm production was relatively stable throughout the period 1997-2005, food product manufacturing steadily increased and forestry, fishing and related activities decreased quite rapidly. For the entire period, agriculture increased slightly at an average annual rate of 1.4%, while the overall economy grew at the faster rate of 4.8% per year. Hawaii seems to be following the national trend where agriculture's growth falls behind the overall growth of the economy.

Agriculture's contribution to employment

Total employment in the State increased at an annual rate of 1.6% from 740,028 jobs in 1997 to 838,740 jobs in 2005. However, total employment in agriculture decreased at an annual rate of 1.3% from 25,809 jobs in 1997 to 23,200 jobs in 2005. The decrease can be attributed primarily to decreases in the forestry, fishing and related activities sector, and to a lesser extent the food product manufacturing sector.

Agriculture's contribution to labor income

The trends of labor income for the economy, farm production, forestry, fishing and related activities, and food product manufacturing closely follow the corresponding employment trends. The share of agriculture labor income to total labor income declined from 2.1% in 1997 to 1.5% in 2005. Thus, the share of labor income for agriculture would tend to be lower than its employment share, reflecting the lower income of agricultural jobs.

Agriculture sales

Total agriculture sales (including farm production, forestry, fishing and related activities, and food product manufacturing) increased from $1,643 million in 1997 to $1,836 million in 2002 and further increased slightly to $1,900 in 2005. The share of agriculture sales as compared to the total Hawaii sales decreased slightly from 2.8% in 1997 to 2.6% in 2002 and further decreased in 2005 to 2.1%. This is similar to the GDP trend, since agricultural sales have been increasing at a slower rate than total sales of the economy.

To summarize, in 2005, agriculture contributed to 2.1% of total Hawaii sales, 1.2% of GDP, 2.8% of employment, and 1.5% of labor income. The complete publication, including an analysis on the total economic contributions with distribution margins is available at http://www.ctahr.hawaii.edu/oc/freepubs/pdf/EI-13.pdf

Source: PingSun Leung, UH-CTAHR Department of Molecular Biosciences & Bioengineering, and Matthew K. Loke, Hawaii Department of Agriculture, Agricultural Development Division.

[1]GDP by industry for each state replaces the former GSP (Gross State Product) by industry reported by the U.S. Bureau of Economic Analysis.

FARM BUSINESS BALANCE SHEET: State of Hawaii, December 31, 2003-2007

	2003	2004 [1]	2005 [1]	2006 [1]	2007 [1]
			1,000 dollars		
Farm assets	4,463,007				
Farm debt [2]	282,687				
Real estate	161,281				
Nonreal estate	121,406				
Equity	4,180,320				
Ratio:					
Debt/equity	6.8				
Debt/assets	6.3				

[1] Data discontinued.
[2] Excludes debt for nonfarm purposes.
Source: Economic Research Service, USDA.

FARM FINANCIAL INDICATORS: Value added to the Hawaii economy by the agricultural sector via the production of goods and services, 2003-2007 [1]

Item [2]	2003	2004	2005	2006	2007
			1,000 dollars		
Value of crop production	461,351	461,375	494,885	499,245	**458,019**
Value of livestock production	89,292	91,772	92,194	77,603	**71,757**
Revenues from services and forestry	68,729	74,064	69,763	71,932	**75,248**
Machine hire and customwork	15,715	17,598	14,892	14,197	**13,569**
Forest products sold	400	400	400	400	**400**
Other farm income	20,673	22,917	19,250	20,837	**21,159**
Gross imputed rental value of farm dwellings	31,941	33,149	35,221	36,498	**40,120**
Value of agricultural sector production	619,372	627,211	656,842	648,780	**605,024**
less: Purchased inputs	221,249	226,123	245,700	249,752	**253,098**
Farm origin	48,413	51,957	50,360	46,696	**46,685**
Manufactured inputs	67,019	74,111	88,324	91,391	**95,562**
Other purchased inputs	105,817	100,055	107,016	111,665	**110,851**
plus: Net government transactions	(5,824)	(5,415)	(3,863)	(5,547)	**(4,050)**
Gross value added	392,299	395,674	407,279	393,481	**347,875**
less: Capital consumption	40,038	41,957	43,966	45,582	**46,913**
Net value added	352,261	353,717	363,313	347,899	**300,962**
less: Payments to stakeholders	209,217	218,131	215,762	220,831	**225,542**
Employee compensation (total hired labor)	181,594	189,946	185,744	189,241	**192,748**
Net rent received by nonoperator landlords	11,224	11,611	11,244	10,285	**10,223**
Real estate and nonreal estate interest	16,399	16,574	18,774	21,305	**22,571**
Net farm income	143,044	135,586	147,551	127,068	**75,420**

[1] Revised.
[2] Value of agricultural sector production is the gross value of the commodities and services produced within a year. Net value-added is the sector's contribution to the National Economy and is the sum of the income from production earned by all factors-of-production, regardless of ownership. Net farm income is the farm operators' share of income from the sector's production activities. The concept presented is consistent with that employed by the Organization for Economic Cooperation and Development.
Source: Economic Research Service, USDA.

- **Sugar**

  Sugar production for 2007 was 206,000 tons of 96° raw sugar, a decrease of 3 percent from the previous year. This was the fifth consecutive year for which raw sugar production declined. Sugar price during 2007 declined 2 percent to $344 per ton of 96° raw sugar, which generated a raw sugar total value of $70.9 million, 5 percent less than in 2006. Hawaii's sugar plantations were able to harvest 1.5 million tons of sugarcane from 20,400 acres. This was 7 percent less than during 2006 and also the fifth year of decline. The average yield for sugarcane harvested in 2007 was 73.2 tons per acre.

- **Coffee**

  Coffee farmers harvested 6,400 acres of coffee during the 2007-2008 growing season, 2 percent higher than the previous year. Production increased to 7.5 million pounds, 1 percent higher than last year. The average farm price for coffee from the 2007-2008 season was $4.25 a pound (parchment equivalent basis), this was 5.0 cents a pound below the revised average price from the 2006-2007 season. Total farm revenues generated was an estimated $31.9 million (parchment equivalent basis), fractionally above the revised 2006-2007 value of $31.8 million. Coffee production from Hawaii county decreased 3 percent from a year earlier to 3.9 million pounds (parchment basis), while production from the rest of the State (Honolulu, Kauai, and Maui counties) increased 6 percent to 3.6 million pounds (parchment basis). The total value of sales for the county of Hawaii was $25.4 million (parchment equivalent basis), 1 percent less than the 2006-2007 season. The total value of sales for the combined counties of Honolulu, Kauai, and Maui was $6.5 million (parchment equivalent basis), 5 percent more than during the 2006-2007 season.

- **Macadamia Nuts**

  Hawaii's 2007-2008 macadamia nut harvest is estimated at 41.0 million pounds net, wet-in-shell, down 17.0 million pounds from last season's harvest. While not the lowest on record, this season's output was the lowest since the 1984-1985 crop year.

  Low prices made it uneconomical for many operators to hire pickers, which caused nuts to go unharvested. Many growers reported that the lack of an outlet to sell their nuts was a problem and with lower nut prices, the crop was not harvested by some growers. Growers also related that feral pigs were a problem in some areas. This is probably related to growers leaving nuts on the ground which provided a food source for pigs; which in turn increased survival of offspring, lending itself to more pigs foraging for food. Some macadamia nut growers reported wet conditions caused increased spoilage while others reported dry conditions during the critical phase of maturation also lowered output.

  Overall, yields averaged 2,730 pounds per acre (net, wet-in-shell), 29 percent lower than the 2006-2007 crop year. Total acreage and harvested acreage for 2007-2008 remained unchanged at 17,000 acres and 15,000 acres, respectively. The farm price for net, wet-in-shell macadamia nuts averaged 60.0 cents per pound, 7.0 cents less than the 2006-2007 average.

COFFEE: Number of farms, acreage, yield, marketings, price, and value, by county, 2003/2004-2007/2008 crop years

Crop year [1]	Farms	Acreage		Yield per acre [2]	Marketings [3]	Farm prices			Value of sales	Green production
		In crop	Harvested			Cherry	Parchment	All [4]		
	Number	*---------- Acres ----------*		*----- 1,000 pounds -----*		*---------- Cents per pound ----------*			*1,000 dollars*	*1,000 pounds*
State										
2003-2004	715	7,300	5,900	1.4	8,300			290.0	24,070	6,600
2004-2005	750	7,700	5,800	1.0	5,600			355.0	19,880	4,500
2005-2006	790	7,900	6,100	1.3	8,200			455.0	37,310	6,600
2006-2007	820	8,200	6,300	1.2	7,400			430.0	31,820	5,900
2007-2008	**830**	**7,800**	**6,400**	**1.2**	**7,500**			**425.0**	**31,875**	**6,000**
County:										
Hawaii										
2003-2004	690	3,600	3,000	1.3	4,000	85.0	365.0	380.0	15,200	3,200
2004-2005	710	3,750	3,300	1.0	3,200	110.0	660.0	465.0	14,880	2,560
2005-2006	745	3,800	3,300	1.8	5,800	120.0	670.0	535.0	31,030	4,700
2006-2007	775	3,800	3,000	1.3	4,000	135.0	765.0	640.0	25,600	3,200
2007-2008	**790**	**3,800**	**3,000**	**1.3**	**3,900**	**140.0**	**820.0**	**650.0**	**25,350**	**3,100**
Honolulu/Kauai/Maui [5]										
2003-2004	25	3,700	2,900	1.5	4,300			206.3	8,870	3,400
2004-2005	40	3,950	2,500	1.0	2,400			208.3	5,000	1,940
2005-2006	45	4,100	2,800	.9	2,400			261.7	6,280	1,900
2006-2007	45	4,400	3,300	1.0	3,400			182.9	6,220	2,700
2007-2008	**40**	**4,000**	**3,400**	**1.1**	**3,600**			**181.3**	**6,525**	**2,900**

[1] Coffee harvesting occurs throughout the year in Hawaii. The main harvest normally begins in late summer and extends to the early part of the following year.

[2] Average yields based on parchment equivalent marketings and harvested acreage.

[3] Expressed in parchment equivalent pounds. Coffee marketed in cherry form was converted to an equivalent parchment weight and added to parchment marketings.

[4] Represents an average farm price for parchment equivalent sales. Obtained by dividing farm revenues from the sale of cherry and parchment coffee by total marketings (parchment equivalent basis).

[5] Kauai and Maui combined with Honolulu to avoid disclosure of individual operations.

GINGER ROOT, KAVA (`AWA)

Hawaii's ginger root production is estimated at 1.8 million pounds for the 2007-2008 season, this was 36 percent less than in the previous season. The ginger root was harvested from 60 acres, a decrease of 20 acres from the 2006-2007 season. The average farm price for this season is estimated at 160.0 cents per pound, an increase of 88 percent from the 2006-2007 season. Farm value for the 2007-2008 harvest is estimated at $2.9 million, 21 percent above the previous season.

GINGER ROOT: Acreage, yield, production, price, and value, State of Hawaii, 2003/2004-2007/2008 crop years

Crop year [1]	Harvested acres	Yield per acre	Production	Farm price	Value of sales
		1,000 pounds		*Cents per pound*	*1,000 dollars*
2003-2004	150	40.0	6,000	90.0	5,400
2004-2005	120	42.5	5,100	80.0	4,080
2005-2006	100	43.0	4,300	70.0	3,010
2006-2007	80	35.0	2,800	85.0	2,380
2007-2008	**60**	**30.0**	**1,800**	**160.0**	**2,880**

[1] Harvesting normally begins in December and continues into the following year.

GINGER ROOT: U.S. imports, 2003-2007

Year	Unground (including fresh)	Ground	Sweet	Candied	Total [1]
			1,000 pounds		
2003	57,548	2,746	4,828	3,139	68,261
2004	59,336	4,603	5,790	2,955	72,684
2005	66,864	3,742	7,578	3,472	81,656
2006	68,739	3,029	8,034	4,268	84,068
2007	**75,084**	**3,206**	**9,468**	**4,568**	**92,325**

[1] Sum of categories may not add to total due to rounding.
Source: Foreign Agricultural Trade of the United States, Economic Research Service, U.S. Department of Agriculture.

KAVA (`AWA): Number of farms, acreage, production, price, and value, State of Hawaii, 2003-2007

Year	Farms	Acreage [1]		Total sales [3]	Farm price [4]	Value of sales
		Total [2]	Harvested			
	Number	*Acres*		*1,000 pounds*	*Dollars per pound*	*1,000 dollars*
2003	25	20	10	25	4.40	110
2004 [5]						
2005 [5]						
2006 [5]						
2007 [5]						

[1] Includes kava inter-planted with another crop. [2] As of December 31. [3] Fresh weight basis. Dried kava (`awa) sales were converted to a fresh weight basis by multiplying by five. Includes all type of sales, including organic. [4] Represents average farm price for fresh sales. [5] Beginning 2004, data series discontinued.

FRESH HERBS: Production, price, and value, State of Hawaii, 2003-2007

Year	Basil			Parsley	Chinese parsley (Cilantro)	Other herbs [1]	All herbs
	Sweet (Italian)	Asian	Total				
Production – *1,000 pounds*							
2003	2,000	1,200	3,200	310	250	440	4,200
2004	1,800	1,000	2,800	280	240	580	3,900
2005	1,700	1,300	3,000	250	200	950	4,400
2006	2,000	1,600	3,600	250	200	1,650	5,700
2007	**1,700**	**1,600**	**3,300**	**140**	**150**	**1,410**	**5,000**
Farm price – *dollars per pound*							
2003	2.00	.80		2.20	2.10	2.45	
2004	2.05	.95		2.00	2.20	2.15	
2005	2.45	1.10		1.85	2.60	2.15	
2006	1.90	.95		1.85	2.40	1.70	
2007	**1.60**	**1.25**		**2.10**	**2.60**	**2.20**	
Farm value – *1,000 dollars*							
2003	4,000	960	4,960	682	525	1,078	7,245
2004	3,690	950	4,640	560	528	1,247	6,975
2005	4,165	1,430	5,595	463	520	2,043	8,621
2006	3,800	1,520	5,320	462	480	2,805	9,067
2007	**2,720**	**2,000**	**4,720**	**294**	**390**	**3,102**	**8,506**

[1] Includes spearmint, dill, and other herbs; some of which cannot be published separately to avoid disclosure. Also includes small amount of basil and parsley for which an individual total could not be obtained.

SEED CROPS: Number of farms, acreage, outshipments, and value, State of Hawaii, 2003/2004-2007/2008

Crop year [1]	Farms	Acreage				Total outshipments of seed	Value [2]		
		Total	Nursery	Seed increase	Grow-out or observation		Total	Seed corn	Other seed crops
	Number	*Acres*				*1,000 pounds*	*1,000 dollars*		
2003-2004	10	3,900	1,045	2,730	125	6,500	49,160	47,435	1,725
2004-2005	10	3,680	1,090	2,450	140	6,900	62,600	60,200	2,400
2005-2006	10	4,140	1,360	2,740	40	7,550	77,330	74,800	2,530
2006-2007	10	4,260	1,295	2,910	55	10,470	103,040	98,050	4,990
2007-2008	**10**	**6,010**	**1,810**	**4,140**	**60**	**16,140**	**146,270**	**140,560**	**5,710**

[1] Seed crops are grown year-round in Hawaii with the main season from November to June.
[2] Value is based on sales or gross operational budgets.

SUGARCANE: Number of farms, acreage, yield, production, price, and value, by county, 2003-2007 [1]

Year	Farms [2]	Acreage		Yield per acre		Production of cane for sugar	Farm price [3]	Value of cane for sugar [4]
		In crop [2]	Harvested for sugar	Sugarcane [3]	Raw sugar 96 º			
	Number	*--------- 1,000 acres ---------*		*---------- Tons ----------*		*1,000 tons*	*Dollars per ton*	*Million dollars*
State								
2003	2	47.8	19.9	102.0	13.15	2,030	31.70	64.4
2004	2	43.0	21.8	90.8	11.83	1,979	31.10	61.5
2005	2	40.1	21.7	80.8	11.61	1,753	33.60	58.9
2006	2	42.1	20.4	79.1	10.44	1,614	31.10	50.2
2007	**2**	**39.3**	**20.4**	**73.2**	**10.11**	**1,493**	**31.90**	**47.6**
County:								
Kauai								
2003	1	11.1	4.2	92.6	13.19	389	34.70	13.5
2004	1	8.2	4.9	87.8	12.06	430	35.60	15.3
2005	1	7.1	5.1	82.7	11.70	422	34.80	14.7
2006	1	7.2	3.5	83.1	11.44	291	32.70	9.5
2007	**1**	**6.9**	**3.5**	**86.6**	**11.89**	**303**	**32.20**	**9.8**
Maui								
2003	1	36.7	15.7	104.5	13.14	1,641	31.00	50.9
2004	1	34.8	16.9	91.7	11.77	1,549	29.80	46.2
2005	1	33.0	16.6	80.2	11.58	1,331	33.20	44.2
2006	1	34.9	16.9	78.3	10.24	1,323	30.80	40.7
2007	**1**	**32.4**	**16.9**	**70.4**	**9.74**	**1,190**	**31.80**	**37.8**

[1] Primary data source, Hawaii Agricultural Research Center.
[2] At end of year.
[3] Yield and farm price may not compute exactly due to rounding.
[4] Value of cane for sugar estimated by deducting processing and marketing costs from value of sugar and molasses.

SUGAR: Production of raw sugar and molasses, price, and value, by county, 2003-2007 [1]

Year	Mill production		Average returns received [2]		Value of production		
	Raw sugar 96 °	Molasses [3]	Raw sugar 96 °	Molasses [3]	Raw sugar 96 °	Molasses [3]	Total
	1,000 tons		*Dollars per ton*		*Million dollars*		
State							
2003	261	90	367	35.20	95.9	3.1	99.0
2004	258	80	355	29.50	91.7	2.4	94.1
2005	253	73	347	63.30	87.9	4.6	92.5
2006	213	66	351	74.70	74.8	4.9	79.7
2007	**206**	**62**	**344**	**85.80**	**70.9**	**5.4**	**76.3**
County:							
Kauai							
2003	55	15	365	34.90	20.1	.5	20.6
2004	59	15	386	40.00	22.8	.6	23.4
2005	60	16	365	75.00	21.9	1.2	23.1
2006	40	10	356	70.00	14.2	.7	14.9
2007	**41**	**12**	**353**	**79.30**	**14.5**	**1.0**	**15.5**
Maui							
2003	206	75	368	35.30	75.8	2.6	78.4
2004	199	65	346	27.10	68.9	1.8	70.7
2005	193	57	342	60.00	66.0	3.4	69.4
2006	173	56	350	75.50	60.6	4.2	64.8
2007	**165**	**50**	**342**	**87.30**	**56.4**	**4.4**	**60.8**

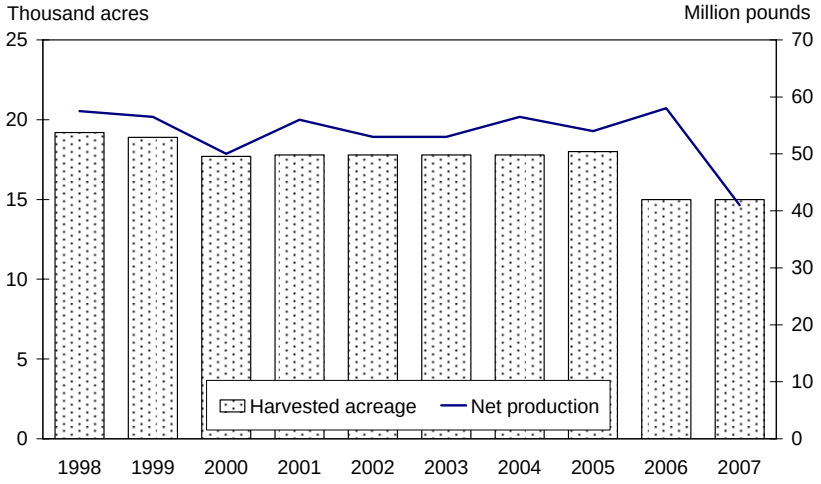
[1] Primary data source, Hawaii Agricultural Research Center.
[2] Derived from production and value. State and county prices may not compute exactly due to rounding.
[3] Commercial.

MACADAMIA NUTS: Number of farms, acreage, yield, production, moisture, price, and value, State of Hawaii, 2003/2004-2007/2008 crop years

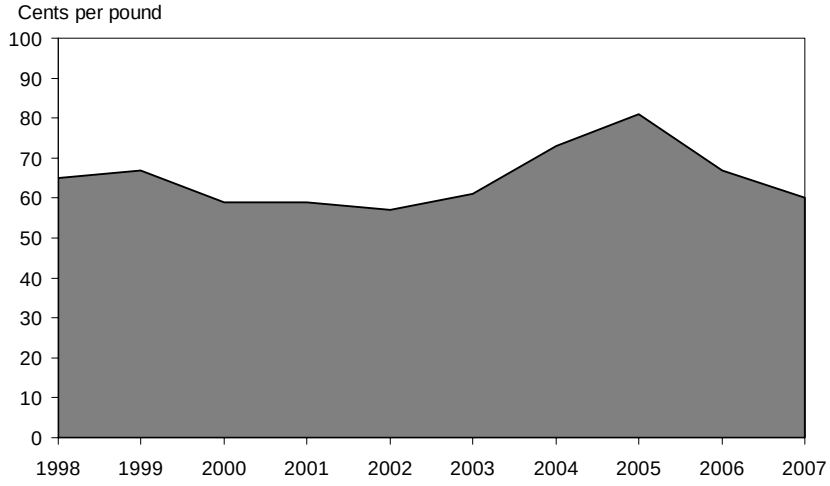
Crop year [1]	Farms	Acreage		Yield per acre [2]	Utilized production [3]		Average moisture		Farm prices [3]		Farm value [6]
		In crop	Harvested		Gross	Net [4]	Entire crop	Purchases only	Gross [5]	Net	
	Number	*---------- Acres ----------*		*-------- 1,000 pounds --------*			*------- Percent -------*		*Cents per ------ pound ------*		*1,000 dollars*
2003-2004	650	18,000	17,800	3.0	60,000	53,000	20.2	20.7	53.9	61.0	32,330
2004-2005	650	18,000	17,800	3.2	63,000	56,500	20.7	21.0	65.5	73.0	41,245
2005-2006	650	18,300	18,000	3.0	62,000	54,000	20.7	20.4	70.5	81.0	43,740
2006-2007	570	17,000	15,000	3.9	65,000	58,000	21.2	22.1	59.8	67.0	38,860
2007-2008	**525**	**17,000**	**15,000**	**2.7**	**48,000**	**41,000**	**21.3**	**21.5**	**51.3**	**60.0**	**24,600**

[1] Season begins July 1st and ends June 30th of the following year. [2] Net production divided by acreage harvested. [3] Wet-in-shell basis. [4] Gross pounds less total spoilage. [5] Farm value divided by gross production. [6] Net production multiplied by net farm price.

MACADAMIA NUTS: Harvested Acreage and Net Production, State of Hawaii, 1998-2007 Seasons



MACADAMIA NUTS: Net, Wet-in-shell Farm Prices, State of Hawaii, 1998-2007 Seasons



All counties generated more sales in 2007 compared to the previous year. Hawaii county's 430 producers comprised of nearly half the State's total wholesale value of flowers and nursery products with $51.8 million, 2 percent higher than 2006. Honolulu county's 250 producers accounted for 36 percent of the State's total wholesale value of flowers and nursery products. Farmers reported sales of $38.4 million, increasing 15 percent from the previous year. Maui county's 180 producers contributed $12.4 million in sales, 5 percent more than a year ago. Kauai county's 75 producers registered $3.4 million in sales, 15 percent above 2006.

FLORICULTURE AND NURSERY PRODUCTS: Value of grower sales, by county, 2003-2007

Year	Cut flowers [1]	Orchids [2]	Lei flowers	Foliage [3]	Potted flowering plants	All other nursery products [4]	Unspecified sales [5]	Total
				1,000 dollars				
State								
2003	14,183	23,439	3,704	16,966	5,563	30,391	1,355	95,601
2004	13,204	22,769	3,397	17,621	6,004	30,848	1,335	95,178
2005	13,997	22,225	3,687	19,509	6,278	33,796	1,470	100,962
2006	13,536	21,510	3,520	17,967	6,092	34,645	1,455	98,725
2007	**12,415**	**21,823**	**3,640**	**19,290**	**6,343**	**40,882**	**1,525**	**105,918**
County:								
Hawaii								
2003	10,321	14,220	1,081	14,358	1,086	8,505	635	50,206
2004	9,752	14,514	911	15,083	1,083	8,431	640	50,414
2005	10,160	14,302	933	16,826	965	9,663	600	53,449
2006	9,564	13,825	811	14,821	1,160	9,751	595	50,527
2007	**8,406**	**14,206**	**880**	**15,792**	**919**	**10,907**	**645**	**51,755**
Honolulu								
2003	639	7,134	1,400	2,157	3,293	16,099	370	31,092
2004	733	6,813	1,554	2,024	3,488	17,221	340	32,173
2005	806	6,490	1,482	2,143	3,409	17,669	400	32,399
2006	955	6,197	1,342	2,292	3,569	18,718	365	33,438
2007	**768**	**6,204**	**1,436**	**2,800**	**4,521**	**22,264**	**380**	**38,373**
Kauai								
2003	261	456	109	86	140	1,885	130	3,067
2004	189	524	52	64	159	1,928	140	3,056
2005	193	442	23	58	283	2,045	160	3,204
2006	232	496	33	341	98	1,597	140	2,937
2007	**194**	**431**	**42**	**130**	**72**	**2,355**	**150**	**3,374**
Maui								
2003	2,962	1,629	1,114	365	1,044	3,902	220	11,236
2004	2,530	918	880	450	1,274	3,268	215	9,535
2005	2,838	991	1,249	482	1,621	4,419	310	11,910
2006	2,785	992	1,334	513	1,265	4,579	355	11,823
2007	**3,047**	**982**	**1,282**	**568**	**831**	**5,356**	**350**	**12,416**

[1] Cut orchids included in "Orchids" category. [2] Includes cut and potted orchids. [3] Includes potted, cut, and unfinished. [4] Includes bedding/garden plants, plant rentals, landscape plants, propagation materials, sod, trees, and any other nursery products not elsewhere classified. [5] Includes grower sales greater than $999 but less than $10,000 which were not categorized.

FLORICULTURE AND NURSERY PRODUCTS: Number of farms, quantity, and value, State of Hawaii, 2003-2007 [1]

Crop	Farms having sales [2]	Quantity sold	Value of sales
	Number	*1,000*	*1,000 dollars*
CUT FLOWERS			
Anthuriums - *dozens*			
2003	61	810	5,832
2004	59	617	4,665
2005	58	592	5,101
2006	58	661	4,878
2007	**57**	**658**	**4,840**
Birds of Paradise - *dozens*			
2003	29	74	586
2004	30	51	426
2005	33	49	380
2006	31	46	352
2007	**33**	**38**	**327**
Chrysanthemums, pompon - *bunches*			
2003	4	229	480
2004	4	217	453
2005	4	211	447
2006	5	205	441
2007	**5**	**201**	**452**
Ginger, pink - *dozens*			
2003	40	54	477
2004	45	47	456
2005	47	62	454
2006	52	69	549
2007	**46**	**58**	**522**
Ginger, red - *dozens*			
2003	57	140	1,013
2004	57	132	1,044
2005	64	134	995
2006	60	135	1,059
2007	**56**	**115**	**1,003**
Gingers, other - *dozens*			
2003	27	23	228
2004	32	23	261
2005	24	18	163
2006	20	21	206
2007	**18**	**16**	**163**
Heliconias - *dozens*			
2003	58	66	792
2004	60	71	853
2005	60	71	762
2006	64	68	822
2007	**57**	**67**	**816**

See footnotes at end of table.

Continued

FLORICULTURE AND NURSERY PRODUCTS: Number of farms, quantity, and value, State of Hawaii, 2003-2007 [1] -- Continued

Crop	Farms having sales [2]	Quantity sold	Value of sales
	Number	*1,000*	*1,000 dollars*
Proteas - *stems*			
2003	24	2,012	1,515
2004	32	1,921	1,416
2005	28	1,635	1,928
2006	31	2,293	1,828
2007	**27**	**1,865**	**2,094**
Other cut flowers - *dozens*			
2003	49	NA	3,260
2004	49	NA	3,630
2005	47	NA	3,767
2006	38	NA	3,401
2007	**40**	**NA**	**2,198**
ORCHIDS			
Cymbidiums, cut			
2003	11	464	229
2004	13	408	291
2005	13	428	311
2006	8	356	261
2007	**9**	**380**	**226**
Dendrobiums, cut - *dozens*			
2003	50	410	3,069
2004	50	453	3,194
2005	48	391	3,078
2006	43	309	2,481
2007	**37**	**320**	**2,495**
Oncidiinae, cut - *dozens*			
2003	34	79	770
2004	29	60	706
2005	28	59	674
2006	26	59	630
2007 [3]	**22**	**54**	**644**
Other cut orchids [4] **-** *dozens*			
2003	17	NA	656
2004	18	NA	183
2005	13	NA	107
2006	15	NA	721
2007	**16**	**NA**	**762**

See footnotes at end of table.

Continued

FLORICULTURE AND NURSERY PRODUCTS: Number of farms, quantity, and value, State of Hawaii, 2003-2007 [1] -- Continued

Crop	Farms having sales [2]	Quantity sold	Value of sales
	Number	*1,000*	*1,000 dollars*
Dendrobiums, potted [5]			
2003	81	1,096	6,154
2004	80	1,236	6,679
2005	77	1,142	6,056
2006	76	994	5,600
2007	**61**	**917**	**5,062**
Dendrobiums, seedlings			
2003			
2004			
2005			
2006			
2007 [6]	**7**	**NA**	**254**
Oncidiinae, potted			
2003 [7]			
2004	43	464	3,113
2005	46	403	2,942
2006	37	222	1,310
2007 [3]	**45**	**568**	**3,686**
Phalaenopsis, potted			
2003	31	246	1,695
2004	32	174	1,018
2005	23	80	717
2006	23	90	752
2007	**19**	**138**	**1,020**
Other potted orchids			
2003	88	1,814	10,866
2004	78	1,352	7,585
2005	75	1,374	8,340
2006	78	1,615	9,755
2007	**62**	**1,403**	**7,674**
FOLIAGE			
Dracaena, potted			
2003	32	NA	5,573
2004	29	NA	5,735
2005	28	NA	7,030
2006	26	NA	5,540
2007	**27**	**NA**	**5,949**

See footnotes at end of table.

Continued

FLORICULTURE AND NURSERY PRODUCTS: Number of farms, quantity, and value, State of Hawaii, 2003-2007 [1] -- Continued

Crop	Farms having sales [2]	Quantity sold	Value of sales
	Number	*1,000*	*1,000 dollars*
Palms, potted			
2003	49	NA	7,404
2004	45	NA	7,311
2005	49	NA	8,135
2006	49	NA	8,309
2007	**41**	**NA**	**8,753**
Hanging baskets, potted			
2003	17	NA	146
2004	16	NA	208
2005	13	NA	178
2006	15	NA	110
2007	**12**	**NA**	**132**
Other potted foliage			
2003	32	NA	2,209
2004	28	NA	2,702
2005	31	NA	2,499
2006	29	NA	2,170
2007	**29**	**NA**	**2,769**
Ti leaves, cut - *leaves*			
2003	43	7,900	746
2004	39	6,100	571
2005	41	5,800	668
2006	45	6,400	704
2007	**39**	**5,000**	**614**
Other cut greens			
2003	31	NA	317
2004	34	NA	352
2005	46	NA	382
2006	44	NA	530
2007	**42**	**NA**	**536**
Unfinished foliage stock (for further growing on)			
2003	9	NA	571
2004	11	NA	742
2005	10	NA	617
2006	10	NA	604
2007	**9**	**NA**	**537**
LEI/INDIVIDUAL BLOOMS			
Carnations – *blooms*			
2003	7	5,000	268
2004	5	3,800	242
2005 [8]			
2006 [8]			
2007 [8]			

See footnotes at end of table.

Continued

FLORICULTURE AND NURSERY PRODUCTS: Number of farms, quantity, and value, State of Hawaii, 2003-2007 [1] -- Continued

Crop	Farms having sales [2]	Quantity sold	Value of sales
	Number	*1,000*	*1,000 dollars*
Dendrobiums - *blooms*			
2003	30	25,700	847
2004	26	18,100	580
2005	21	17,300	588
2006	23	14,900	535
2007	**21**	**14,800**	**503**
Pikake - *strands*			
2003	7	67.0	202
2004	5	56.0	158
2005	5	25.0	79
2006	6	56.0	160
2007	**6**	**65.0**	**183**
Plumerias - *blooms*			
2003	14	21,200	537
2004	13	16,000	510
2005	14	14,500	506
2006	15	13,200	397
2007	**15**	**12,300**	**486**
Tuberoses - *blooms*			
2003	7	32,200	1,484
2004	7	28,200	1,301
2005 [8]			
2006 [8]			
2007 [8]			
Vandaceous - *blooms*			
2003	6	2,700	86
2004	8	5,700	210
2005	6	8,300	306
2006	5	10,800	423
2007 [9]	**4**	**7,800**	**351**
Other lei/individual - *blooms*			
2003	NA	NA	280
2004	NA	NA	396
2005	NA	NA	2,208
2006	NA	NA	2,005
2007	**NA**	**NA**	**2,117**
POTTED FLOWERING PLANTS			
Anthuriums			
2003	30	148	804
2004	28	164	883
2005	17	101	549
2006	19	110	500
2007	**14**	**104**	**471**

See footnotes at end of table.

Continued

FLORICULTURE AND NURSERY PRODUCTS: Number of farms, quantity, and value, State of Hawaii, 2003-2007 [1] -- Continued

Crop	Farms having sales [2]	Quantity sold	Value of sales
	Number	*1,000*	*1,000 dollars*
Bromeliads			
2003	12	117	461
2004	11	131	583
2005	14	126	580
2006	11	140	648
2007	**8**	**131**	**617**
Chrysanthemums			
2003	5	108	497
2004	5	93	468
2005 [10]			
2006 [10]			
2007 [10]			
Poinsettias			
2003	31	344	1,351
2004	30	327	1,409
2005	31	360	1,644
2006	30	329	1,560
2007	**22**	**315**	**1,418**
Other potted flowering plants			
2003	29	NA	2,450
2004	21	NA	2,661
2005	31	NA	3,505
2006	28	NA	3,384
2007	**24**	**NA**	**3,837**
POTTED BEDDING/GARDEN			
Impatiens, New Guinea			
2003	11	132	217
2004	14	139	223
2005	13	132	213
2006	10	162	292
2007	**8**	**111**	**155**
Impatiens, other			
2003	12	444	304
2004	13	440	303
2005	15	286	176
2006	11	254	146
2007	**9**	**203**	**115**
Other bedding/garden			
2003	29	NA	3,269
2004	31	NA	3,137
2005	26	NA	2,551
2006	25	NA	2,828
2007	**21**	**NA**	**3,110**

See footnotes at end of table.

Continued

FLORICULTURE AND NURSERY PRODUCTS: Number of farms, quantity, and value, State of Hawaii, 2003-2007 [1] -- Continued

Crop	Farms having sales [2]	Quantity sold	Value of sales
	Number	*1,000*	*1,000 dollars*
PLANT RENTALS			
2003	37	NA	2,959
2004	45	NA	3,385
2005	43	NA	4,931
2006	42	NA	5,199
2007	**40**	**NA**	**6,513**
LANDSCAPE PLANT MATERIAL			
Sod			
2003			
2004			
2005			
2006			
2007 [11]	**13**		**4,515**
Other landscape plant material [12]			
2003	125		18,653
2004	128		19,219
2005	154		20,887
2006	138		20,813
2007	**132**		**21,449**
OTHER NURSERY PRODUCTS [13]			
2003			4,989
2004			4,581
2005			5,038
2006			5,367
2007			**5,025**
UNSPECIFIED SALES [14]			
2003			1,355
2004			1,335
2005			1,470
2006			1,455
2007			**1,525**
TOTAL			
2003	865		95,601
2004	920		95,178
2005	955		100,962
2006	930		98,725
2007	**935**		**105,918**

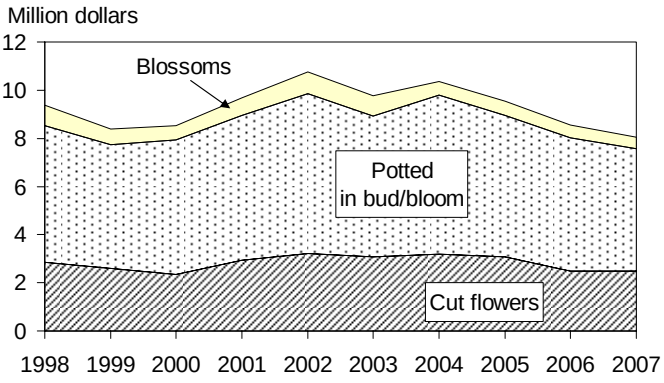
NA = Not available. [1] Includes only producers having total sales of $10,000 or more. [2] Number for each individual crop item is count of those having sales of that item during each year; "Total" is unduplicated count. [3] Prior to 2007, formerly called Oncidium. [4] Includes cattleyas, vandaceous, phalaenopsis, and others. [5] Prior to 2007, included in bud/bloom and community pots. Beginning 2007, includes in bud/bloom. Community pots included with "Dendrobiums, seedlings". [6] Data series beginning 2007. Includes community pots, liners, tissue culture flasks, plugs, etc. [7] Included with "Other potted orchids". [8] Included with "Other lei/individual". [9] Prior to 2007, formerly called Vanda, Miss Joaquim. [10] Included with "Other potted flowering plants." [11] Data series beginning 2007. [12] Includes broadleaf and coniferous evergreens, deciduous and flower trees, palms, and citrus, fruit and nut trees. Does not include palms or potted foliage for indoor or patio use, bedding and garden plants, propagative floriculture material, and items which are included in published categories. Beginning 2007, excludes sod. [13] Includes other flowers or nursery products not elsewhere classified. [14] Includes grower sales greater than $999 but less than $10,000 which were not categorized.

FLORICULTURE AND NURSERY PRODUCTS: Number of farms and growing area, by county, 2003-2007

Year	Farms	Greenhouse[1]	Artificial shade	Natural shade	Open field	Total area
	Number	*1,000 square feet*		*Acres*		
State						
2003	865	2,540	27,465	16	3,185	3,890
2004	920	2,620	26,560	0	3,160	3,830
2005	955	2,095	27,015	0	3,320	3,988
2006	930	2,190	25,410	0	3,430	4,064
2007	**935**	**2,160**	**25,050**	**0**	**3,450**	**4,075**
County:						
Hawaii						
2003	395	1,895	21,295	16	1,860	2,408
2004	425	1,990	20,840	0	1,880	2,404
2005	425	1,445	20,980	0	1,940	2,455
2006	415	1,450	20,165	0	2,085	2,581
2007	**430**	**1,605**	**20,080**	**0**	**2,090**	**2,588**
Honolulu						
2003	230	230	5,035	0	580	701
2004	235	255	4,660	0	525	638
2005	265	275	4,715	0	660	774
2006	250	255	3,980	0	610	707
2007	**250**	**215**	**3,895**	**0**	**570**	**664**
Kauai						
2003	80	65	360	0	170	180
2004	80	90	310	0	225	234
2005	80	110	525	0	195	210
2006	75	205	530	0	215	232
2007	**75**	**90**	**480**	**0**	**200**	**213**
Maui						
2003	160	350	775	0	575	601
2004	180	285	750	0	530	554
2005	185	265	795	0	525	549
2006	190	280	735	0	520	544
2007	**180**	**250**	**595**	**0**	**590**	**610**

[1] Glass or glass substitute structure.

DENDROBIUMS: Value of Sales, State of Hawaii, 1998-2007 [1]



[1] Includes only producers with total sales of $10,000 or more.

DENDROBIUM ORCHIDS: Sales and value, State of Hawaii, 2003-2007 [1]

Year	Individual blossoms		Cut flowers [2]		Potted in bud/bloom		Seedlings [3]		Total value
	Number sold	Value	Number sold	Value	Number sold	Value	Number sold	Value	
	Million blooms	*1,000 dollars*	*1,000 dozens*	*1,000 dollars*	*1,000 pots*	*1,000 dollars*	*1,000 pots*	*1,000 dollars*	
2003	25.7	847	410	3,069	1,040	5,866	56	288	10,070
2004	18.1	580	453	3,194	1,222	6,599	14	80	10,453
2005	17.3	588	391	3,078	1,103	5,879	39	177	9,722
2006	14.9	535	309	2,481	984	5,540	10	60	8,616
2007	**14.8**	**503**	**320**	**2,495**	**917**	**5,062**	**NA**	**254**	**8,314**

NA = Not Available.
[1] Includes only producers with total sales of $10,000 or more.
[2] Prior to 2007, formerly called cut sprays.
[3] Prior to 2007, formerly called community pots. Includes community pots, liners, tissue culture flasks, plugs, etc.

DENDROBIUM ORCHIDS (POTTED IN BUD/BLOOM AND CUT SPRAYS): Number of farms and production area, State of Hawaii, 2003-2007 [1]

Year	Farms		Production area		
	Cut flowers [2]	Potted in bud/bloom	Cut flowers [2]	Potted in bud/bloom	Total
	Number		*1,000 square feet*		
2003	50	69	3,005	2,205	5,210
2004	50	75	3,015	2,225	5,240
2005	48	72	3,315	2,355	5,670
2006	43	73	2,550	2,395	4,945
2007	**37**	**61**	**2,350**	**2,450**	**4,800**

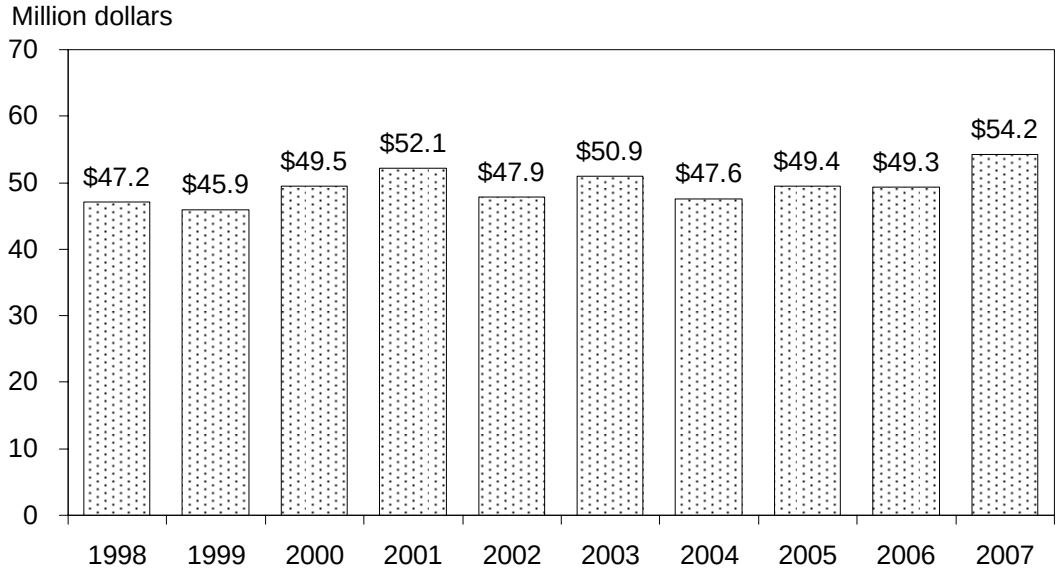
[1] Includes only producers with $10,000 or more in total sales.
[2] Prior to 2007, formerly called cut sprays.

FLORICULTURE AND NURSERY PRODUCTS: Out-of-State sales, State of Hawaii, 2003-2007 [1]

Commodity	2003	2004	2005	2006	2007
			1,000 dollars		
CUT FLOWERS					
Anthuriums	8,500	6,475	6,210	6,935	**6,905**
Birds of Paradise	700	540	530	510	**460**
Ginger, red	645	810	680	620	**475**
Gingers, other	540	670	550	550	**480**
Heliconias	1,200	1,200	1,000	1,100	**1,100**
Proteas	1,800	1,715	2,000	1,900	**2,040**
Mixed assortment of cut flowers	1,730	1,100	1,600	3,020	**3,910**
ORCHIDS					
Cymbidiums, cut	140	135	140	135	**140**
Dendrobiums, cut	3,600	3,900	3,900	3,100	**3,200**
Oncidiinae, cut [2]	610	505	470	580	**505**
Dendrobiums, potted	4,590	4,645	4,335	3,760	**3,100**
Oncidiinae, potted [2]		2,775	2,430	1,250	**2,940**
Phalaenopsis, potted	930	765	530	480	**325**
Other potted orchids	9,730	5,610	7,805	9,285	**7,830**
FOLIAGE					
Foliage, potted	11,000	11,300	13,200	11,600	**14,100**
Ti leaves, cut	840	640	650	700	**620**
Other cut greens	1,600	1,400	1,200	1,400	**1,400**
ALL OTHER FLOWERS AND NURSERY PRODUCTS	2,785	3,400	2,200	2,400	**4,700**
Total	50,940	47,585	49,430	49,325	**54,230**

[1] Based on F.O.B. island value. Includes both wholesale and retail sales. Does not include sales of cut flowers, potted plants, leis, etc., purchased within the State and hand carried out.
[2] Prior to 2007, formerly called Oncidium.

FLORICULTURE & NURSERY PRODUCTS: Out-of-State Sales, State of Hawaii, 1998-2007 [1]



[1] Includes wholesale and retail sales.

2007 FRUIT HIGHLIGHTS

Hawaii fruit growers harvested 67.6 million pounds of fruit, excluding pineapple, for fresh and processed utilization in 2007. This was a 10 percent increase over 2006 when similar commodities are compared. Total value, excluding pineapple, rose 12 percent to $30.6 million, with papaya, tangerine, and the tropical specialty group recording increases in value of sales. Fruit acreage totaled 6,535 acres, 8 percent more than the 2006 total with pineapple excluded. Harvested area was relatively unchanged from the previous year.

- **Banana**
  Banana acreage increased 15 and 18 percent from 2006 with 1,500 total acres and 1,300 harvested acres, respectively. Utilized production was pegged at 25.6 million pounds, 16 percent more than 2006. The lower average prices dropped the total value of sales to $10.5 million, 3 percent lower than the previous year.

- **Guava**
  Total guava production area declined 19 percent to 465 acres in 2007 while area harvested declined 53 percent to 170 acres. Value of sales declined 36 percent to $675,000. Hawaii's guavas, which are primarily for the processed market, recorded a 42 percent lower output due to the closure of a large processor at the end of 2006. The 11 percent increase in price was not enough to offset lower output.

- **Papaya**
  The State's papaya producers devoted 2,065 acres toward papaya production, a decrease of 1 percent from the previous year. Harvested area totaled 1,310 acres, 14 percent less than 2006. Papaya output increased 16 percent to 33.4 million pounds while value of sales increased 19 percent to $13.1 million.

- **Pineapple**
  Still Hawaii's largest fruit commodity, pineapple has been excluded from the 2007 summary to avoid disclosure of individual operations. In late 2006, operations ended prematurely for one major company.

- **Tropical Specialty Fruit**
  Area devoted to tropical specialty fruit totaled 1,470 acres in 2007, 7 percent higher than 2006. Area harvested totaled 970 acres, 20 percent more than the previous year. Hawaii's growers of tropical specialty fruit produced and sold an estimated 2.3 million pounds of fruit in 2007, 59 percent more than 2006. Compared with 2006, higher output was registered for atemoya, longan, lychee, and rambutan. Value of sales was pegged at $4.5 million in 2007, 71 percent higher than 2006.

MARKET SUPPLY: Fresh market fruits, State of Hawaii, 2003-2007 [1] [2]

Commodity		2003	2004	2005	2006	2007	Hawaii market share 2007
		1,000 pounds					Percent
Apples:	Inshipments	13,448	13,392	15,320	15,431	**16,269**	
Avocados:	Inshipments	1,579	1,780	2,130	2,349	**2,332**	
	Hawaii	760	740	800	1,020	**1,160**	**33**
Bananas:	Inshipments	8,297	13,929	13,017	15,408	**16,028**	
	Hawaii	22,500	16,500	20,900	22,000	**25,600**	**61**
Cantaloupe melons:	Inshipments	7,225	6,149	7,658	7,736	**7,410**	
	Hawaii [3]						
Grapefruit:	Inshipments	1,693	1,719	1,488	1,561	**1,600**	
	Hawaii	[3]	[3]	40	50	**30**	**2**
Grapes:	Inshipments	7,580	8,360	9,831	9,506	**9,584**	
Honeydew melons:	Inshipments	2,488	2,773	2,570	3,813	**3,905**	
	Hawaii [3]						
Lemons:	Inshipments	3,841	3,915	4,196	4,154	**4,035**	
	Hawaii	[3]	[3]	54	45	**33**	**1**
Limes:	Inshipments	1,365	1,456	1,678	1,749	**2,139**	
	Hawaii	[3]	[3]	59	121	**69**	**3**
Nectarines:	Inshipments	2,264	2,593	2,260	2,219	**2,379**	
Oranges:	Inshipments	14,069	13,683	15,740	14,824	**10,671**	
	Hawaii [3]						
Papayas:	Inshipments [3]						
	Hawaii [4]	21,965	20,400	18,755	16,740	**18,650**	
Pears:	Inshipments	4,397	5,109	3,971	4,873	**5,018**	
Pineapples:	Hawaii	31,700	30,900	[5]	[5]	**[5]**	
Tangerines:	Inshipments	1,198	902	1,254	1,893	**1,460**	
	Hawaii	[3]	[3]	51	85	**89**	**6**
Watermelons:	Inshipments	2,602	3,165	3,946	5,174	**4,007**	
	Hawaii	11,900	10,100	11,300	10,400	**13,100**	**77**
All other fruits:	Inshipments	14,580	13,148	15,507	16,382	**17,010**	
	Hawaii	7,513	4,697	5,601	7,612	**7,709**	**31**
Unspecified fruits:	Inshipments [6]	5,850	8,362	7,391	9,817	**11,751**	
Total:	Inshipments	92,476	100,435	107,957	116,889	**115,598**	
	Hawaii	96,338	73,337	57,560	58,073	**66,440**	**36**
	All	188,814	173,772	165,517	174,962	**182,038**	

[1] Excludes pineapples, guavas, papayas, and passion fruit used for processing, and quantities shipped out-of-State.
[2] Inshipment data was provided by the Market Analysis and News Branch of the Hawaii Department of Agriculture.
[3] Data not shown separately to avoid disclosure of individual operations but combined and included with "All other fruits".
[4] Fresh intrastate sales only. Excludes mainland and foreign fresh sales.
[5] Data not available.
[6] Fruit data received without commodity names specified.

TROPICAL SPECIALTY FRUITS: Number of farms, acreage, number of trees, production, price, and value, State of Hawaii, 2003-2007 [1]

Crop	Farms [2]	Acreage		Number of trees		Utilized production [3]	Farm price [3 4]	Value of sales
		In crop	Harvested	Total	Bearing			
	Number	*---------- Acres ----------*				*1,000 pounds*	*Dollars per pound*	*1,000 dollars*
Atemoya [5]								
2003								
2004	25	15	10	600	500	5	1.40	7
2005	20	15	5	800	200	17	1.35	23
2006	25	10	5	500	300	13	1.31	17
2007	**25**	**10**	**5**	**500**	**300**	**22**	**1.34**	**29**
Longan								
2003	65	145	75	7,300	3,300	114	3.33	380
2004	65	210	75	8,700	3,500	121	3.41	413
2005	65	185	85	8,700	4,000	141	3.09	436
2006	75	205	115	9,600	5,400	172	3.42	588
2007	**75**	**245**	**160**	**11,400**	**7,500**	**263**	**2.98**	**784**
Lychee								
2003	110	370	80	16,500	3,200	88	2.84	250
2004	125	260	115	11,200	5,500	102	2.42	247
2005	125	310	185	9,900	5,400	117	2.66	311
2006	135	330	185	10,900	5,400	153	2.97	454
2007	**175**	**330**	**190**	**10,900**	**5,500**	**224**	**2.80**	**627**
Mango								
2003	85	260	200	10,700	7,400	481	.86	414
2004	110	270	195	10,200	7,700	391	.92	358
2005	100	300	190	14,000	8,900	531	1.11	589
2006	120	310	210	14,000	9,500	774	1.09	844
2007	**130**	**340**	**260**	**15,400**	**11,800**	**690**	**.97**	**669**
Persimmon [5]								
2003								
2004	20	20	15	1,400	1,100	49	1.57	77
2005	20	25	20	1,400	1,200	51	1.63	83
2006	20	25	25	1,400	1,400	86	1.57	135
2007	**25**	**30**	**25**	**1,700**	**1,400**	**60**	**1.63**	**98**
Rambutan								
2003	60	270	185	12,900	8,500	306	2.73	834
2004	75	285	185	12,500	8,300	278	2.60	723
2005	65	250	175	11,100	7,900	395	2.51	990
2006	70	305	190	13,800	8,400	132	2.82	372
2007	**75**	**330**	**265**	**14,900**	**11,900**	**824**	**2.39**	**1,969**
Starfruit								
2003	50	30	7	2,700	800	24	1.58	38
2004 [6]								
2005 [6]								
2006 [6]								
2007 [6]								

See footnotes at end of table.

Continued

TROPICAL SPECIALTY FRUITS: Number of farms, acreage, number of trees, production, price, and value, State of Hawaii, 2003-2007 [1] -- Continued

Crop	Farms [2]	Acreage		Number of trees		Utilized production [3]	Farm price [3 4]	Value of sales
		In crop	Harvested	Total	Bearing			
	Number	*---------- Acres ----------*				*1,000 pounds*	*Dollars per pound*	*1,000 dollars*
Other								
2003	--	185	53	15,300	4,600	141	--	212
2004	--	160	45	[7]	[7]	95	--	120
2005	--	185	70	[7]	[7]	204	--	298
2006	--	195	80	[7]	[7]	100	--	215
2007	**--**	**185**	**65**	**[7]**	**[7]**	**197**	**--**	**309**
Total								
2003	170	1,260	600	65,400	27,800	1,154	--	2,128
2004	220	1,220	640	[7]	[7]	1,041	--	1,945
2005	265	1,270	730	[7]	[7]	1,456	--	2,730
2006	305	1,380	810	[7]	[7]	1,430	--	2,625
2007	**310**	**1,470**	**970**	**[7]**	**[7]**	**2,280**	**--**	**4,485**

-- = Not applicable. [1] Tropical specialty fruits include: abiu, atemoya, breadfruit, caimito, canistel, cherimoya, durian, jaboticaba, jackfruit, langsat, longan, loquat, lychee, mango, mangosteen, persimmon, poha, rambutan, rollina, sapodilla, soursop, starfruit, white sapote, and other fruits. If not shown separately, then combined and included in "Other" category. [2] A farm may grow more than one type of fruit. Total farms is an unduplicated count; excludes home use. [3] Includes fresh and processed utilization when applicable. [4] Price shown reflects average prices received as sold by farmers (loose, packed, etc.), excluding any value added through processing. [5] Prior to 2004, included with "Other". [6] Data not shown separately to avoid disclosure of individual operations but combined and included with "Other". [7] Beginning 2004, data series discontinued.

PINEAPPLES: Number of farms, acreage, production, disposition, price, and value, State of Hawaii, 2003-2007

Year	Farms [1]	Acreage used for crop	Production (fresh weight)	Disposition		Farm price		Value of production (fresh weight)
				Processed (fresh weight)	Fresh market	Processed [2]	Fresh market [3]	
	Number	*1,000 acres*	*1,000 tons*			*Dollars per ton*		*1,000 dollars*
2003	25	16.0	300	170	130	135	604	101,470
2004	30	13.0	220	116	104	148	634	83,104
2005	30	14.0	212	106	106	148	600	79,288
2006	30	12.6	185	89	96	148	630	73,652
2007	**40**	[4]	[4]	[4]	[4]	[4]	[4]	[4]

[1] Includes large and small pineapple growers statewide.
[2] Estimate to reflect value of fresh fruit delivered processing plant door based on average contract prices of independent growers.
[3] Estimate to reflect value at wholesale establishments for local sales and shipper dock for mainland and foreign sales.
[4] Data not shown separately to avoid disclosure of individual operations.

PINEAPPLES: Fresh market sales, processed value, and total value, State of Hawaii, 2003-2007

Year	Fresh market sales [1]		Processor value of canned fruit and juice production [3]	Total value: Fresh market and processed [4]
	Quantity	Value [2]		
	1,000 tons	*Million dollars*		
2003	130	78.5	64.4	142.9
2004	104	65.9	57.3	123.2
2005	106	63.6	49.8	113.4
2006	96	60.5	[5]	[5]
2007	[6]	[6]	[5]	[5]

[1] Includes "fresh cut".
[2] Prior to 2005, value FAS shipping point for outshipments, delivered wholesalers local sales.
[3] Value of canned fruit and juices and by-product shipped out-of-State and sold within State.
[4] Prior to 2004, source Pineapple Growers Association of Hawaii.
[5] Data not available.
[6] Data not shown separately to avoid disclosure of individual operations.

PINEAPPLES: Outshipments of fresh pineapples, State of Hawaii, 2003-2007

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
	1,000 Pounds												
2003	13,692	13,142	20,374	19,963	21,637	20,434	24,650	22,079	15,024	15,477	22,131	19,712	228,315
2004	14,248	18,579	14,840	11,483	13,574	12,936	20,418	10,917	12,045	17,518	13,616	16,889	177,063
2005 [1]													
2006 [1]													
2007 [1]													

[1] Data not available.
Source of outshipment data: Market Analysis and News Branch of the State Department of Agriculture.

AVOCADOS: Number of farms, acreage, yield, production, price, and value, State of Hawaii, 2003-2007

Year	Farms	Acreage [1]		Yield per acre [2]	Production	Farm price	Value of sales
		In crop	Bearing				
	Number	*Acres*		*1,000 pounds*		*Cents per pound*	*1,000 dollars*
2003	150	390	300	2.5	760	62.0	471
2004	150	380	270	2.7	740	63.0	466
2005	175	390	300	2.7	800	66.0	528
2006	230	380	330	3.1	1,020	68.0	694
2007	**250**	**390**	**350**	**3.3**	**1,160**	**68.0**	**789**

[1] At end of year.
[2] Production divided by bearing acreage.

BANANAS: Number of farms, acreage, yield, production, price, and value, by county, 2003-2007

Year	Farms	Acreage		Yield per acre [2]	Utilized production	Farm price	Value of sales
		In crop [1]	Harvested				
	Number	*Acres*		*1,000 pounds*		*Cents per pound*	*1,000 dollars*
State							
2003	230	1,560	1,350	16.7	22,500	41.0	9,225
2004	210	1,360	1,000	16.5	16,500	49.0	8,085
2005	190	1,145	980	21.3	20,900	43.9	9,175
2006	225	1,300	1,100	20.0	22,000	49.0	10,780
2007	**240**	**1,500**	**1,300**	**19.7**	**25,600**	**41.0**	**10,496**

[1] At end of year.
[2] Utilized production divided by acreage harvested.

PAPAYAS: Number of farms, acreage, yield, utilization, price, and value, by county, 2003-2007

Year	Farms	Acreage [1]		Yield per acre [2]	Utilized production	Utilization		Price per pound			Value of utilized production
		In crop	Harvested			Fresh	Processed	Fresh	Processed [3]	All	
	Number	*------- Acres -------*		*---------- 1,000 pounds ----------*				*---------- Cents ----------*			*1,000 dollars*
State [4]											
2003	163	2,240	1,565	27.2	42,600	40,800	1,800	31.9	3.0	30.7	13,069
2004	207	2,105	[5] 1,265	[5] 28.3	35,800	34,100	1,700	36.1	3.0	34.5	12,361
2005	207	2,395	1,480	22.2	32,900	30,700	2,200	36.4	3.0	34.2	11,241
2006	170	2,095	1,530	18.8	28,700	26,600	2,100	41.3	3.0	38.5	11,049
2007	**178**	**2,065**	**1,310**	**25.5**	**33,400**	**31,200**	**2,200**	**41.7**	**3.8**	**39.2**	**13,094**
County:											
Hawaii											
2003	124	2,000	1,420	26.4	37,535	35,735	[6] 1,800	30.8		29.4	11,045
2004	141	1,910	[5] 1,110	[5] 28.6	31,695	29,995	[6] 1,700	35.2		33.5	10,611
2005	154	2,170	1,315	22.1	29,110	26,910	[6] 2,200	35.1		32.7	9,521
2006	125	1,905	1,395	18.8	26,190	24,090	[6] 2,100	40.0		37.0	9,692
2007	**125**	**1,870**	**1,185**	**25.8**	**30,540**	**28,340**	**[6] 2,200**	**40.6**		**38.0**	**11,592**
Honolulu											
2003	17	120	80	45.0	3,600	3,600	[6]	39.8		39.8	1,433
2004	27	95	90	29.2	2,630	2,630	[6]	44.0		44.0	1,157
2005	30	130	105	21.4	2,250	2,250	[6]	44.2		44.2	995
2006	[7] 45	[7] 190	[7] 135	[7] 18.6	[7] 2,510	[7] 2,510	[6]	[7] 54.1		[7] 54.1	[7] 1,357
2007	**[7] 53**	**[7] 195**	**[7] 125**	**[7] 22.9**	**[7] 2,860**	**[7] 2,860**	**[6]**	**[7] 52.5**		**[7] 52.5**	**[7] 1,502**
Kauai											
2003	15	55	35	18.3	640	640	[6]	[8] 40.3		[8] 40.3	[8] 591
2004	19	40	30	18.0	540	540	[6]	[8] 40.2		[8] 40.2	[8] 593
2005	11	35	25	18.4	460	460	[6]	[8] 47.1		[8] 47.1	[8] 725
2006	[7]	[7]	[7]	[7]	[7]	[7]	[6]	[7]		[7]	[7]
2007	**[7]**	**[7]**	**[7]**	**[7]**	**[7]**	**[7]**	**[6]**	**[7]**		**[7]**	**[7]**
Maui											
2003	7	65	30	27.5	825	825	[6]	[8]		[8]	[8]
2004	20	60	35	26.7	935	935	[6]	[8]		[8]	[8]
2005	12	60	35	30.9	1,080	1,080	[6]	[8]		[8]	[8]
2006	[7]	[7]	[7]	[7]	[7]	[7]	[6]	[7]		[7]	[7]
2007	**[7]**	**[7]**	**[7]**	**[7]**	**[7]**	**[7]**	**[6]**	**[7]**		**[7]**	**[7]**

[1] Average of monthly estimates.
[2] Utilized production divided by acreage harvested.
[3] Data not shown separately to avoid disclosure of individual operations but combined and included in the State total.
[4] Sum of county estimates may not add to State total due to rounding.
[5] Revised.
[6] Maui, Kauai, and Honolulu combined with Hawaii to avoid disclosure of individual operations.
[7] Maui and Kauai combined with Honolulu to avoid disclosure of individual operations.
[8] Maui combined with Kauai to avoid disclosure of individual operations.

PAPAYAS: Acreage, utilization, outshipments, and price, State of Hawaii, 2003-2007

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total or average
Harvested acres [1]													
2003	1,505	1,510	1,515	1,735	1,740	1,575	1,565	1,565	1,565	1,575	1,580	1,350	1,565
2004	1,340	1,345	1,160	1,160	1,160	[2] 1,065	[2] 1,070	[2] 1,385	1,370	1,365	1,360	1,400	[2] 1,265
2005	1,410	1,410	1,435	1,440	1,440	1,580	1,570	1,435	1,445	1,415	1,405	1,780	1,480
2006	1,790	1,795	1,785	1,785	1,760	1,510	1,510	1,330	1,325	1,320	1,315	1,135	1,530
2007	**1,400**	**1,160**	**1,295**	**1,260**	**1,315**	**1,200**	**1,190**	**1,370**	**1,375**	**1,535**	**1,365**	**1,255**	**1,310**
Utilization (fresh and processed) – *1,000 pounds*													
2003	4,040	3,840	4,320	3,575	3,115	3,095	3,640	3,585	3,380	3,590	3,285	3,135	42,600
2004	3,690	2,870	2,930	2,725	2,670	3,135	2,915	2,715	2,845	3,425	2,850	3,030	35,800
2005	2,810	2,645	2,875	2,815	3,000	2,740	2,945	2,540	2,810	2,935	2,135	2,650	32,900
2006	3,145	2,370	2,340	1,880	2,020	2,380	1,905	2,340	2,855	2,390	2,665	2,410	28,700
2007	**2,530**	**2,235**	**2,605**	**2,750**	**2,610**	**2,260**	**2,820**	**3,020**	**2,885**	**3,380**	**3,220**	**3,085**	**33,400**
Total fresh papaya utilization – *1,000 pounds*													
2003	3,935	3,735	4,215	3,485	3,040	3,030	3,425	3,240	3,025	3,450	3,105	3,115	40,800
2004	3,560	2,775	2,815	2,630	2,460	2,920	2,750	2,630	2,725	3,225	2,650	2,960	34,100
2005	2,580	2,425	2,715	2,700	2,740	2,595	2,745	2,360	2,665	2,605	2,020	2,550	30,700
2006	2,920	2,240	2,210	1,725	1,785	2,095	1,705	2,215	2,615	2,185	2,605	2,300	26,600
2007	**2,465**	**2,015**	**2,345**	**2,445**	**2,365**	**2,170**	**2,590**	**2,815**	**2,765**	**3,340**	**3,075**	**2,810**	**31,200**
Intrastate fresh papaya utilization – *1,000 pounds*													
2003	1,765	1,745	1,990	1,965	1,725	1,655	1,915	1,910	1,495	2,040	1,895	1,865	21,965
2004	2,130	1,595	1,710	1,585	1,475	1,725	1,640	1,525	1,570	2,045	1,560	1,840	20,400
2005	1,545	1,510	1,780	1,680	1,525	1,590	1,625	1,455	1,575	1,630	1,295	1,545	18,755
2006	1,730	1,450	1,315	1,065	1,120	1,285	1,050	1,400	1,730	1,375	1,705	1,515	16,740
2007	**1,615**	**1,310**	**1,510**	**1,570**	**1,440**	**1,380**	**1,580**	**1,630**	**1,655**	**1,750**	**1,610**	**1,600**	**18,650**
Outshipments of fresh papaya – *1,000 pounds*													
2003	2,170	1,990	2,225	1,520	1,315	1,375	1,510	1,330	1,530	1,410	1,210	1,250	18,835
2004	1,430	1,180	1,105	1,045	985	1,195	1,110	1,105	1,155	1,180	1,090	1,120	13,700
2005	1,035	915	935	1,020	1,215	1,005	1,120	905	1,090	975	725	1,005	11,945
2006	1,190	790	895	660	665	810	655	815	885	810	900	785	9,860
2007	**850**	**705**	**835**	**875**	**925**	**790**	**1,010**	**1,185**	**1,110**	**1,590**	**1,465**	**1,210**	**12,550**
Farm price for fresh market sales (to all markets) – *cents per pound*													
2003	30.7	32.6	32.8	34.1	33.8	35.0	31.8	30.1	31.1	31.6	29.6	30.8	31.9
2004	31.0	31.2	37.4	40.0	41.0	39.5	37.2	36.6	37.2	35.8	34.3	33.4	36.1
2005	33.0	37.4	40.0	37.6	37.0	37.2	36.2	36.5	34.3	33.2	37.1	36.9	36.4
2006	34.1	36.5	42.1	46.3	51.5	47.1	47.0	48.1	38.6	38.1	38.3	36.4	41.3
2007	**39.8**	**41.9**	**45.0**	**46.1**	**46.6**	**49.4**	**45.8**	**38.1**	**37.1**	**37.8**	**38.3**	**39.7**	**41.7**

[1] Total is average of monthly data.
[2] Revised.

GUAVAS: Number of farms, acreage, farm production, price, and value, by county, 2003-2007

Year	Farm production					
	Farms	Acreage		Utilized production	Farm price [1]	Value of sales
		In crop	Harvested			
	Number	*Acres*		*1,000 pounds*	*Cents per pound*	*1,000 dollars*
State						
2003	75	610	530	6,700	13.8	925
2004	75	610	525	8,100	14.4	1,166
2005	55	665	620	8,100	13.9	1,126
2006	50	575	365	7,400	14.2	1,051
2007	**70**	**465**	**170**	**4,300**	**15.7**	**675**
County:						
Hawaii						
2003	65	160	85	[2]	[2]	[2]
2004	65	160	85	[2]	[2]	[2]
2005	45	215	175	[2]	[2]	[2]
2006	40	125	100	[2]	[2]	[2]
2007	**45**	**155**	**140**	**[2]**	**[2]**	**[2]**
Honolulu/Kauai/Maui [3]						
2003	10	450	445	[2]	[2]	[2]
2004	10	450	440	[2]	[2]	[2]
2005	10	450	445	[2]	[2]	[2]
2006	10	450	265	[2]	[2]	[2]
2007	**25**	**310**	**30**	**[2]**	**[2]**	**[2]**

[1] State average grower price. Equivalent F.O.B. plant, county of production.
[2] Data not shown separately to avoid disclosure of individual operations but combined and included in the State total.
[3] Kauai and Maui combined with Honolulu to avoid disclosure of individual operations.

GUAVAS: Farm production, State of Hawaii, 2003-2007

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total [1]
	1,000 pounds												
2003	240	292	904	508	433	587	639	395	1,041	764	640	257	6,700
2004	211	310	359	398	405	271	477	1,457	1,985	1,111	550	566	8,100
2005	246	233	197	256	371	498	665	756	1,318	1,746	900	912	8,100
2006	202	164	162	188	227	429	625	802	1,272	1,570	934	825	7,400
2007	**[2]**	**[2]**	**[2]**	**[2]**	**[2]**	**[2]**	**[2]**	**[2]**	**[2]**	**[2]**	**[2]**	**[2]**	**4,300**

[1] Sum of monthly estimates may not add to annual total due to rounding.
[2] Data not shown to avoid disclosure of individual operations.

- **Vegetables and Melons**

  Cumulative information for vegetables and melons were modified for the 2007 year, because of confidentiality concerns. Therefore data comparison with data published prior to 2007 are not comparable. Comments and data comparison which follows in this narrative will be only for 22 of Hawaii's selected vegetables and melons. Information for these 22 selected crops are published on the inside pages. Total farm revenues for these 22 selected vegetables and melons in 2007 is estimated at $36.9 million, compared with the $39.4 million during 2006 for the same 22 vegetables and melons. Production totals for these 22 selected vegetables and melons in 2007 is 70.4 million pounds, 1 percent more than the 69.4 million pounds produced in 2006 for the same 22 crops.

  Weather conditions were mixed during 2007. The year began dry, but turned wet in early February. Mostly dry conditions prevailed throughout much of the remainder of the year. Some unstable weather disturbances during the summer brought some moderate rainfall, especially to several leeward locations. The year ended with heavy rains during the second half of December. Cumulative year-to-date rainfall totals for most areas of the State were at below normal levels.

  The top five volume-producing crops during 2007 were unchanged from a year earlier. Three crops recorded an increase in production, while two others showed a decrease. Tomatoes (field and greenhouse) continued as the top producing crop with 14.3 million pounds, 3 percent below 2006.

  Watermelon with 13.1 million pounds registered the largest volume increase with 2.7 million pounds more than in the previous year. Head cabbage and Chinese cabbage production for 2007 increased 3 percent from 2006 to 10.4 million pounds and 6.3 million pounds, respectively. Rounding out the top five crops was sweetpotatoes with 5.3 million pounds, a decrease of 12 percent.

- **Taro**

  Hawaii's taro production for 2007 is estimated at 4.0 million pounds, 11 percent less than during 2006. The average farm price for all taro was 59.0 cents a pound, this was 2.0 cents a pound more than the average price received during 2006. Since the percentage increase in the average price of taro was smaller than the percentage decrease in taro production, the total farm value for taro during 2007 dropped 8 percent from a year earlier to $2.4 million. Kauai county remains the State's largest producer of taro with 2.8 million pounds of taro or 70 percent of the State's total. All of the decrease in the State's taro production came from the island of Kauai.

MARKET SUPPLY: Fresh market vegetables, State of Hawaii, 2003-2007 [1]

Commodity		2003	2004	2005	2006	2007	Hawaii market share 2007
		1,000 pounds					Percent
Beans, snap:	Inshipments	411	531	619	592	**460**	
	Hawaii	1,000	900	700	600	**680**	**60**
Bittermelon:	Inshipments	52	66	149	108	**123**	
	Hawaii	220	250	250	180	**150**	**55**
Broccoli:	Inshipments	5,328	5,478	5,794	5,830	**5,535**	
	Hawaii	750	500	600	330	**390**	**7**
Burdock:	Inshipments	71	82	94	79	**73**	
	Hawaii [2]						
Cabbage, Chinese:	Inshipments	748	1,528	1,027	949	**625**	
	Hawaii	[3] 5,500	[4] 5,300	[4] 5,700	[4] 6,100	**6,300**	**91**
Cabbage, head:	Inshipments	1,925	4,022	3,054	2,930	**2,540**	
	Hawaii	12,600	9,000	9,800	10,100	**10,400**	**80**
Cabbage, mustard:	Inshipments	135	207	237	262	**223**	
	Hawaii	1,300	1,400	1,400	1,400	**1,400**	**86**
Carrots:	Inshipments	11,232	11,400	12,607	12,767	**11,667**	
	Hawaii [2]						
Cauliflower:	Inshipments	1,304	1,340	1,076	1,167	**1,378**	
	Hawaii [2]						
Celery:	Inshipments	4,796	5,065	4,931	5,497	**5,192**	
	Hawaii	1,200	900	830	670	**510**	**9**
Corn, sweet:	Inshipments	1,214	1,390	1,169	712	**806**	
	Hawaii	2,500	1,800	1,700	1,800	**2,400**	**75**
Cucumbers:	Inshipments	440	920	1,543	1,118	**1,795**	
	Hawaii	5,900	5,900	6,000	5,400	**5,000**	**74**
Daikon:	Inshipments	5	3	6	6	**2**	
	Hawaii [3]	1,900	[2]	[2]	[2]		
Dasheen:	Inshipments	1,056	746	659	680	**887**	
	Hawaii [2]						
Eggplant:	Inshipments	468	675	986	821	**970**	
	Hawaii	850	1,050	1,200	1,000	**760**	**44**
Ginger root:	Inshipments	542	591	224	105	**394**	
	Hawaii	6,000	6,000	5,100	4,300	**2,800**	**88**
Lettuce [5]:	Inshipments	9,348	9,116	8,065	8,232	**8,824**	
	Hawaii	1,200	1,300	1,100	1,200	**1,000**	**10**
Lotus root:	Inshipments	57	53	58	70	**51**	
	Hawaii [2]						
Onions, dry:	Inshipments	17,500	17,982	21,210	20,562	**19,595**	
	Hawaii	3,300	1,600	2,300	1,400	**1,400**	**7**

See footnotes at end of table.

Continued

MARKET SUPPLY: Fresh market vegetables, State of Hawaii, 2003-2007 [1] -- Continued

Commodity		2003	2004	2005	2006	2007	Hawaii market share 2007
		1,000 pounds					Percent
Onions, green:	Inshipments	566	896	590	777	**776**	
	Hawaii	1,600	1,600	1,700	1,500	**1,400**	**64**
Parsley, American:	Inshipments	124	167	178	204	**231**	
	Hawaii	310	280	250	250	**140**	**38**
Peas, Chinese:	Inshipments	300	257	260	256	**287**	
	Hawaii [2]						
Peppers, green:	Inshipments	2,254	2,489	2,997	3,402	**4,864**	
	Hawaii	3,300	3,200	3,000	2,800	**1,800**	**27**
Potatoes:	Inshipments [4]	35,394	34,629	39,032	39,191	**24,392**	
	Hawaii [2]						
Pumpkins:	Inshipments	158	833	363	203	**419**	
	Hawaii	850	250	80	290	**470**	**53**
Radish:	Inshipments	10	11	9	5	**9**	
	Hawaii [2]						
Romaine:	Inshipments	8,210	9,336	10,465	10,355	**10,937**	
	Hawaii	1,900	1,500	1,700	1,300	**1,200**	**10**
Squash, Italian:	Inshipments	1,108	1,130	1,259	1,722	**1,845**	
	Hawaii	1,800	1,700	1,500	1,100	**1,200**	**39**
Squash, Oriental:	Inshipments	23	55	139	492	**600**	
	Hawaii	200	650	450	400	**500**	**45**
Sweetpotatoes:	Inshipments	1,365	1,357	1,337	1,530	**1,715**	
	Hawaii	2,100	4,600	6,300	6,000	**5,300**	**76**
Taro:	Inshipments	609	1,002	705	962	**305**	
	Hawaii [3]	200	100	100	100	**100**	**25**
Tomatoes:	Inshipments	1,686	3,538	5,624	4,877	**4,265**	
	Hawaii	17,500	16,800	14,200	14,700	**14,300**	**77**
Watercress:	Inshipments	42	45	41	60	**13**	
	Hawaii	650	850	700	750	**770**	**98**
All other vegetables:	Inshipments	28,581	28,974	30,639	32,624	**33,204** [6]	
	Hawaii	16,990	20,020	18,300	21,100		
Unspecified vegetables:	Inshipments [7]	9,048	12,902	11,540	14,226	**15,648**	
Total:	Inshipments	146,110	158,816	168,686	159,147	**160,650**	
	Hawaii	91,620	87,450	84,960	84,770	**81,430**	**34**
	All	237,730	246,266	253,646	243,917	**242,080**	

[1] Inshipment data was provided by the Market Analysis and News Branch of the Hawaii Department of Agriculture.
[2] Data not shown separately to avoid disclosure of individual operations but combined and included with "All other vegetables".
[3] Fresh market only.
[4] For processing and fresh market.
[5] Processed lettuce, both local production and inshipments, are included in "All other vegetables".
[6] Data not shown separately to avoid disclosure of individual operations but combined and included in the State total.
[7] Vegetable data received without commodity names specified.

SNAP BEANS

SNAP BEANS: Acreage, yield, production, price, and value, by county, 2003-2007

Year	Harvested acres	Yield per acre	Production	Farm price	Value of sales
		1,000 pounds		*Cents per pound*	*1,000 dollars*
State [1]					
2003	200	5.0	1,000	96.0	960
2004	170	5.3	900	114.0	1,026
2005	130	5.4	700	109.0	763
2006	120	5.0	600	105.0	630
2007	**130**	**5.2**	**680**	**102.0**	**694**
County:					
Hawaii/Kauai [2]					
2003	40	3.8	150	94.0	141
2004	30	4.7	140	143.0	200
2005	10	7.0	70	123.5	86
2006	10	7.5	75	127.0	95
2007	**10**	**4.0**	**40**	**152.0**	**61**
Honolulu					
2003	95	3.2	300	108.0	324
2004	95	5.6	530	115.0	610
2005	75	6.1	460	111.0	511
2006	60	5.0	300	116.0	348
2007	**70**	**5.4**	**380**	**122.0**	**464**
Maui					
2003	65	8.5	550	90.0	495
2004	45	5.1	230	94.0	216
2005	45	3.8	170	97.5	166
2006	50	4.5	225	83.0	187
2007	**50**	**5.2**	**260**	**65.0**	**169**

[1] Sum of county estimates may not add to State total due to rounding.
[2] Kauai combined with Hawaii to avoid disclosure of individual operations.

SNAP BEANS: Acreage, production, and price, State of Hawaii, 2003-2007

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total or average
Harvested acres [1]													
2003	19	18	15	16	17	16	15	15	17	15	19	18	200
2004	19	21	14	21	13	11	17	16	11	16	19	11	170
2005	12	7	9	9	11	10	15	11	15	10	12	11	130
2006	16	7	10	10	5	8	13	8	8	10	12	13	120
2007	**14**	**10**	**13**	**13**	**11**	**9**	**9**	**9**	**13**	**9**	**10**	**10**	**130**
Production – *1,000 pounds*													
2003	75	78	72	112	106	75	84	74	79	70	93	82	1,000
2004	68	62	41	80	66	84	117	70	100	63	73	76	900
2005	30	39	57	57	74	67	109	61	85	41	48	32	700
2006	87	58	45	46	16	63	74	50	41	38	45	37	600
2007	**46**	**59**	**50**	**64**	**50**	**69**	**56**	**52**	**75**	**54**	**55**	**50**	**680**
Farm price – *cents per pound*													
2003	98.0	102.1	105.4	101.1	86.4	81.7	91.0	96.7	92.8	91.6	99.8	105.5	96.0
2004	117.2	118.3	117.6	111.6	106.9	92.1	100.1	109.8	134.2	120.5	122.8	123.2	114.0
2005	93.6	135.5	126.3	117.1	116.8	116.4	100.8	107.6	95.4	102.2	98.6	102.4	109.0
2006	124.9	118.0	122.5	123.5	135.7	102.6	104.2	92.3	70.1	75.0	90.7	90.3	105.0
2007	**83.5**	**110.9**	**99.0**	**98.6**	**96.6**	**95.5**	**93.1**	**95.2**	**114.2**	**114.4**	**116.6**	**99.2**	**102.0**

[1] Sum of monthly data exceeds total because harvest period longer than 1 month.

CHINESE CABBAGE: Acreage, yield, production, price, and value, by county, 2003-2007

Year	Harvested acres	Yield per acre	Production	Farm price	Value of sales
		1,000 pounds		*Cents per pound*	*1,000 dollars*
State [1]					
2003	310	21.6	6,700	23.0	1,541
2004	260	20.4	5,300	31.0	1,643
2005	260	21.9	5,700	30.0	1,710
2006	250	24.4	6,100	29.0	1,769
2007	**270**	**23.3**	**6,300**	**30.0**	**1,890**
County:					
Hawaii					
2003	200	24.5	4,900	23.1	1,132
2004	190	23.4	4,450	30.2	1,344
2005	180	24.4	4,400	29.3	1,289
2006	160	26.8	4,280	28.0	1,198
2007	**180**	**25.3**	**4,560**	**30.0**	**1,368**
Honolulu/Kauai/Maui [2]					
2003	110	16.4	1,800	22.7	409
2004	70	12.1	850	35.2	299
2005	80	16.3	1,300	32.4	421
2006	90	20.2	1,820	31.4	571
2007	**90**	**19.3**	**1,740**	**30.0**	**522**

[1] Sum of county estimates may not add to State total due to rounding.
[2] Kauai and Maui combined with Honolulu to avoid disclosure of individual operations.

CHINESE CABBAGE: Acreage, production, and price, State of Hawaii, 2003-2007

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total or average
Harvested acres													
2003	28	33	32	28	26	26	25	22	23	19	20	28	310
2004	18	24	20	25	21	20	19	24	23	23	21	22	260
2005	24	29	27	25	29	16	17	18	20	18	18	19	260
2006	20	24	29	19	17	27	21	18	14	20	21	20	250
2007	**23**	**24**	**26**	**27**	**22**	**25**	**22**	**21**	**20**	**20**	**22**	**18**	**270**
Processing and fresh market:													
Production – *1,000 pounds*													
2003	655	601	596	679	579	568	599	541	481	436	469	496	6,700
2004	440	428	465	432	492	431	481	388	367	496	406	474	5,300
2005	508	585	503	573	593	386	351	386	363	418	482	552	5,700
2006	578	548	558	561	657	575	426	389	413	416	459	520	6,100
2007	**514**	**595**	**658**	**536**	**536**	**600**	**530**	**448**	**458**	**521**	**415**	**489**	**6,300**
Farm price – *cents per pound*													
2003	21.8	19.4	18.5	17.7	19.0	18.5	22.8	27.9	29.6	29.3	28.2	29.6	23.0
2004	31.9	30.7	29.3	30.1	27.3	29.9	27.4	30.4	33.4	34.8	34.1	33.8	31.0
2005	33.4	33.6	33.1	20.8	24.8	26.5	32.9	32.1	33.5	32.4	31.8	29.1	30.0
2006	28.8	27.2	26.4	26.4	25.1	27.6	28.8	31.3	35.8	33.1	33.0	29.6	29.0
2007	**29.5**	**32.8**	**30.1**	**26.1**	**24.5**	**28.3**	**28.9**	**32.9**	**32.4**	**30.4**	**32.3**	**33.6**	**30.0**

HEAD CABBAGE

HEAD CABBAGE: Acreage, yield, production, price, and value, by county, 2003-2007

Year	Harvested acres	Yield per acre	Production	Farm price	Value of sales
		1,000 pounds		*Cents per pound*	*1,000 dollars*
State [1]					
2003	500	25.2	12,600	22.0	2,772
2004	360	25.0	9,000	30.0	2,700
2005	430	22.8	9,800	28.0	2,744
2006	450	22.4	10,100	27.0	2,727
2007	**440**	**23.6**	**10,400**	**29.0**	**3,016**
County:					
Hawaii/Honolulu/Kauai [2]					
2003	335	23.9	8,000	21.6	1,728
2004	185	22.7	4,200	29.1	1,222
2005	230	23.0	5,300	28.5	1,511
2006	310	22.6	7,000	27.4	1,918
2007	**320**	**22.5**	**7,200**	**29.0**	**2,088**
Maui					
2003	165	27.9	4,600	22.7	1,044
2004	175	27.4	4,800	30.8	1,478
2005	200	22.5	4,500	27.4	1,233
2006	140	22.1	3,100	26.1	809
2007	**120**	**26.7**	**3,200**	**29.0**	**928**

[1] Sum of county estimates may not add to State total due to rounding.
[2] Honolulu and Kauai combined with Hawaii to avoid disclosure of individual operations.

HEAD CABBAGE: Acreage, production, and price, State of Hawaii, 2003-2007

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total or average
Harvested acres													
2003	48	46	45	38	46	49	44	38	41	30	39	36	500
2004	22	22	28	36	39	32	26	25	27	26	40	37	360
2005	29	41	43	50	46	29	24	25	27	22	46	48	430
2006	49	45	47	48	39	39	47	18	21	25	30	42	450
2007	**42**	**46**	**42**	**43**	**44**	**42**	**39**	**30**	**21**	**21**	**30**	**40**	**440**
Production – *1,000 pounds*													
2003	1,294	1,320	1,449	1,128	1,120	1,042	1,125	880	853	666	935	788	12,600
2004	595	556	589	970	973	1,008	871	595	591	633	741	878	9,000
2005	656	665	1,076	1,163	1,011	1,072	646	538	481	514	773	1,205	9,800
2006	928	1,000	1,239	1,109	935	912	956	464	451	499	754	853	10,100
2007	**782**	**932**	**1,374**	**985**	**1,037**	**1,079**	**968**	**744**	**468**	**602**	**734**	**695**	**10,400**
Farm price – *cents per pound*													
2003	22.4	20.9	19.7	19.0	18.5	19.3	18.3	20.2	24.7	27.9	28.3	31.8	22.0
2004	38.3	34.4	29.8	27.1	27.3	26.4	25.8	28.7	32.3	34.0	32.2	30.6	30.0
2005	27.6	27.1	26.8	25.9	25.6	26.4	27.0	28.9	29.3	34.2	31.9	29.6	28.0
2006	27.6	23.8	21.9	22.3	25.4	25.4	26.4	32.6	36.6	32.0	33.8	30.2	27.0
2007	**29.7**	**36.2**	**33.8**	**27.1**	**25.3**	**20.5**	**24.0**	**24.0**	**30.4**	**33.9**	**34.8**	**31.5**	**29.0**

CELERY: Acreage, yield, production, price, and value, by county, 2003-2007

Year	Harvested acres	Yield per acre	Production	Farm price	Value of sales
		1,000 pounds		*Cents per pound*	*1,000 dollars*
State [1]					
2003	45	26.7	1,200	32.0	384
2004	30	30.0	900	34.0	306
2005	25	33.2	830	37.0	307
2006	25	26.8	670	37.0	248
2007	**25**	**20.4**	**510**	**44.0**	**224**
County:					
Hawaii					
2003	25	28.0	700	34.8	244
2004	20	30.0	600	36.2	217
2005 [2]					
2006 [2]					
2007 [2]					
Maui					
2003	20	25.0	500	28.0	140
2004	10	30.0	300	29.6	89
2005 [2]					
2006 [2]					
2007 [2]					

[1] Sum of county estimates may not add to State total due to rounding.
[2] Data not shown separately to avoid disclosure of individual operations but combined and included in the State total.

SWEET CORN

SWEET CORN: Acreage, yield, production, price, and value, by county, 2003-2007

Year	Harvested acres	Yield per acre	Production	Farm price	Value of sales
		---------- *1,000 pounds* ----------		*Cents per pound*	*1,000 dollars*
State [1]					
2003	830	3.0	2,500	51.0	1,275
2004	540	3.3	1,800	58.0	1,044
2005	410	4.1	1,700	55.0	935
2006	350	5.1	1,800	66.0	1,188
2007	**450**	**5.3**	**2,400**	**62.0**	**1,488**
County:					
Hawaii/Kauai [2]					
2003	320	3.6	1,150	42.0	483
2004	260	2.6	670	44.5	298
2005 [3]					
2006 [3]					
2007 [3]					
Honolulu/Maui [4]					
2003	510	2.6	1,350	58.7	792
2004	280	4.0	1,130	66.0	746
2005 [3]					
2006 [3]					
2007 [3]					

[1] Sum of county estimates may not add to State total due to rounding.
[2] Kauai combined with Hawaii to avoid disclosure of individual operations.
[3] Data not shown separately to avoid disclosure of individual operations but combined and included in the State total.
[4] Maui combined with Honolulu to avoid disclosure of individual operations.

SWEET CORN: Acreage, production, and price, State of Hawaii, 2003-2007

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total or average
Harvested acres													
2003	56	70	83	77	77	91	81	66	74	56	68	31	830
2004	42	43	52	51	61	45	45	43	37	32	49	40	540
2005	26	18	24	32	30	39	41	48	39	48	38	27	410
2006	17	21	23	20	19	35	26	42	40	29	44	34	350
2007	**24**	**25**	**28**	**35**	**51**	**58**	**28**	**48**	**25**	**37**	**56**	**35**	**450**
Production – *1,000 pounds*													
2003	156	132	170	276	302	227	289	210	183	203	205	147	2,500
2004	110	97	112	155	203	179	161	139	146	120	199	179	1,800
2005	60	63	71	114	137	249	219	241	149	155	122	120	1,700
2006	86	79	61	123	85	189	147	248	215	160	209	198	1,800
2007	**103**	**119**	**197**	**221**	**331**	**287**	**171**	**238**	**116**	**202**	**238**	**177**	**2,400**
Farm price – *cents per pound*													
2003	59.7	48.7	39.2	57.2	41.2	50.7	45.6	49.9	50.8	60.7	59.5	53.2	51.0
2004	48.9	47.4	52.2	53.5	45.5	56.1	56.4	60.6	79.4	69.4	64.7	59.8	58.0
2005	58.1	55.3	54.8	53.3	59.0	54.0	53.2	51.0	57.9	48.3	62.5	61.2	55.0
2006	39.5	60.2	133.6	61.5	63.7	76.8	68.4	73.2	59.2	56.1	55.8	67.5	66.0
2007	**67.8**	**70.7**	**71.9**	**65.0**	**57.3**	**64.7**	**66.3**	**61.6**	**67.9**	**57.7**	**54.5**	**49.6**	**62.0**

CUCUMBERS: Acreage, yield, production, price, and value, by county, 2003-2007

Year	Harvested acres	Yield per acre	Production	Farm price	Value of sales
		1,000 pounds		*Cents per pound*	*1,000 dollars*
State [1]					
2003	410	14.4	5,900	48.0	2,832
2004	400	14.8	5,900	53.0	3,127
2005	440	13.6	6,000	46.0	2,760
2006	330	16.4	5,400	50.0	2,700
2007	**310**	**16.1**	**5,000**	**50.0**	**2,500**
County:					
Hawaii/Kauai [2]					
2003	30	20.0	600	58.7	352
2004	20	17.5	350	56.8	199
2005	15	14.7	220	53.1	117
2006	10	22.0	220	68.7	151
2007	**10**	**14.0**	**140**	**82.5**	**116**
Honolulu					
2003	200	12.3	2,450	52.0	1,274
2004	195	11.5	2,250	55.0	1,238
2005	230	13.0	3,000	45.1	1,353
2006	130	12.2	1,580	49.0	774
2007	**110**	**16.4**	**1,800**	**49.0**	**882**
Maui					
2003	180	15.8	2,850	42.3	1,206
2004	185	17.8	3,300	51.2	1,690
2005	195	14.3	2,780	46.4	1,290
2006	190	18.9	3,600	49.3	1,775
2007	**190**	**16.1**	**3,060**	**49.1**	**1,502**

[1] Sum of county estimates may not add to State total due to rounding.
[2] Kauai combined with Hawaii to avoid disclosure of individual operations.

CUCUMBERS: Acreage, production, and price, State of Hawaii, 2003-2007

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total or average
Harvested acres [1]													
2003	32	32	34	33	36	34	35	36	33	35	36	34	410
2004	34	32	31	31	31	33	32	32	35	35	37	37	400
2005	35	29	36	35	36	35	37	37	52	38	38	34	440
2006	26	25	23	20	25	29	31	25	29	27	25	25	330
2007	**29**	**27**	**23**	**24**	**23**	**26**	**28**	**26**	**27**	**26**	**26**	**25**	**310**
Production – *1,000 pounds*													
2003	406	381	380	414	624	670	656	596	395	483	496	399	5,900
2004	348	291	396	405	538	701	656	659	552	525	407	422	5,900
2005	198	289	376	473	697	657	682	607	562	557	523	379	6,000
2006	385	461	330	377	458	514	553	435	588	468	369	462	5,400
2007	**430**	**345**	**358**	**435**	**431**	**499**	**423**	**436**	**447**	**490**	**384**	**322**	**5,000**
Farm price – *cents per pound*													
2003	49.7	55.7	47.5	49.2	42.7	43.0	43.2	43.6	50.6	51.5	54.6	54.0	48.0
2004	56.3	60.9	64.0	55.7	44.9	44.1	44.4	49.1	54.9	58.2	62.0	58.5	53.0
2005	56.3	65.1	52.7	59.1	41.5	42.0	38.1	39.2	43.0	46.2	45.3	48.8	46.0
2006	50.7	52.0	59.2	59.9	45.2	37.4	42.0	48.6	50.4	50.1	56.8	56.3	50.0
2007	**47.3**	**57.4**	**60.5**	**44.9**	**45.0**	**43.1**	**47.2**	**42.1**	**48.7**	**48.8**	**49.1**	**77.6**	**50.0**

[1] Sum of monthly data exceeds total because harvest period longer than 1 month.

DAIKON: Acreage, yield, production, price, and value, by county, 2003-2007

Year	Harvested acres	Yield per acre	Production	Farm price	Value of sales
		---------- 1,000 pounds ----------		Cents per pound	1,000 dollars
State [1]					
2003	220	10.5	2,300	31.0	713
2004	200	8.5	1,700	32.0	544
2005 [2]					
2006 [2]					
2007 [2]					
County:					
Hawaii					
2003	165	11.5	1,900	30.0	570
2004	170	7.6	1,300	30.0	390
2005 [2]					
2006 [2]					
2007 [2]					
Honolulu/Kauai/Maui [3]					
2003	55	7.3	400	35.8	143
2004	30	13.3	400	38.5	154
2005 [2]					
2006 [2]					
2007 [2]					

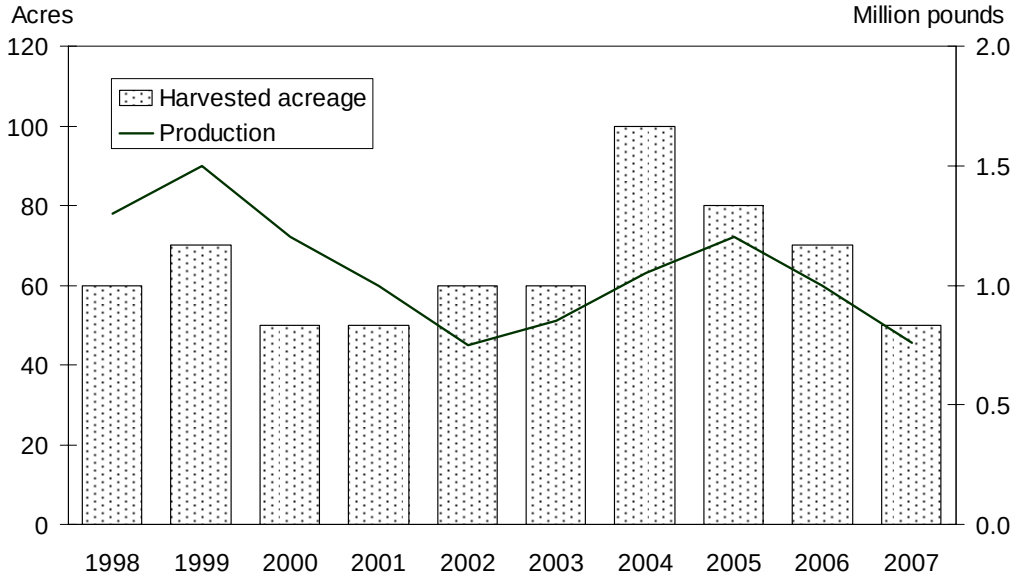
[1] Sum of county estimates may not add to State total due to rounding.
[2] Data not shown to avoid disclosure of individual operations.
[3] Kauai and Maui combined with Honolulu to avoid disclosure of individual operations.

EGGPLANT: Acreage, yield, production, price, and value, by county, 2003-2007

Year	Harvested acres	Yield per acre	Production	Farm price	Value of sales
		---------- *1,000 pounds* ----------		*Cents per pound*	*1,000 dollars*
State [1]					
2003	60	14.2	850	74.0	629
2004	100	10.5	1,050	77.0	809
2005	80	14.6	1,200	81.0	972
2006	70	14.3	1,000	84.0	840
2007	**50**	**15.2**	**760**	**92.0**	**699**
County:					
Hawaii/Kauai/Maui [2]					
2003	20	12.5	250	81.2	203
2004	15	12.7	190	100.0	190
2005	10	17.0	170	74.7	127
2006	10	16.0	160	94.4	151
2007	**10**	**12.0**	**120**	**102.5**	**123**
Honolulu					
2003	40	15.0	600	71.0	426
2004	85	10.1	860	72.0	619
2005	70	14.7	1,030	82.0	845
2006	60	14.0	840	82.0	689
2007	**40**	**16.0**	**640**	**90.0**	**576**

[1] Sum of county estimates may not add to State total due to rounding.
[2] Kauai and Maui combined with Hawaii to avoid disclosure of individual operations.

EGGPLANT: Acreage and Production, State of Hawaii, 1998-2007



LETTUCES (HEAD, SEMI-HEAD): Acreage, yield, production, price, and value, by county, 2003-2007

Year	Harvested acres	Yield per acre	Production	Farm price	Value of sales
		1,000 pounds		*Cents per pound*	*1,000 dollars*
State [1]					
2003	120	10.0	1,200	58.0	696
2004	110	11.8	1,300	61.0	793
2005	110	10.0	1,100	68.0	748
2006	120	10.0	1,200	70.0	840
2007	**100**	**10.0**	**1,000**	**71.0**	**710**
County:					
Hawaii					
2003	70	12.1	850	51.6	439
2004	60	12.7	760	54.0	410
2005	65	10.8	700	60.2	421
2006	60	12.8	770	60.0	462
2007	**45**	**14.0**	**630**	**59.9**	**377**
Honolulu/Kauai/Maui [2]					
2003	50	7.0	350	73.4	257
2004	50	10.8	540	70.9	383
2005	45	8.9	400	81.7	327
2006	60	7.2	430	87.8	378
2007	**55**	**6.7**	**370**	**89.9**	**333**

[1] Sum of county estimates may not add to State total due to rounding.
[2] Kauai and Maui combined with Honolulu to avoid disclosure of individual operations.

LETTUCES (HEAD, SEMI-HEAD): Acreage, production, and price, State of Hawaii, 2003-2007

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total or average
Harvested acres													
2003	10	10	12	11	10	9	10	10	9	9	10	10	120
2004	8	11	7	8	9	9	10	10	9	9	10	10	110
2005	8	9	8	11	10	9	8	8	9	9	9	12	110
2006	9	12	9	11	9	10	9	10	12	12	8	9	120
2007	**8**	**8**	**9**	**9**	**9**	**9**	**9**	**8**	**8**	**8**	**8**	**7**	**100**
Production – *1,000 pounds*													
2003	95	90	110	114	107	97	110	96	98	99	94	90	1,200
2004	73	83	94	93	117	134	129	125	109	131	107	105	1,300
2005	73	74	110	113	103	90	92	83	83	92	98	89	1,100
2006	114	105	87	94	106	119	105	103	106	105	74	82	1,200
2007	**78**	**82**	**99**	**100**	**98**	**96**	**91**	**77**	**68**	**84**	**76**	**51**	**1,000**
Farm price – *cents per pound*													
2003	57.9	58.3	58.7	59.1	55.5	56.3	55.4	57.3	59.2	55.8	57.5	65.3	58.0
2004	60.8	62.1	57.9	59.9	61.1	60.2	59.9	60.8	62.2	61.1	60.9	65.6	61.0
2005	64.0	65.3	68.1	66.8	67.6	66.7	77.2	65.3	66.1	74.1	67.1	66.7	68.0
2006	70.0	72.9	65.7	66.8	66.0	66.7	68.2	69.4	75.2	72.2	74.9	72.9	70.0
2007	**73.4**	**75.2**	**70.8**	**70.8**	**69.3**	**70.9**	**69.2**	**69.3**	**71.4**	**69.9**	**69.9**	**73.7**	**71.0**

DRY ONIONS: Acreage, yield, production, price, and value, by county, 2003-2007

Year	Harvested acres	Yield per acre	Production	Farm price	Value of sales
		1,000 pounds		*Cents per pound*	*1,000 dollars*
State [1]					
2003	330	10.0	3,300	84.0	2,772
2004	180	8.9	1,600	149.0	2,384
2005	220	10.5	2,300	132.0	3,036
2006	140	10.0	1,400	145.0	2,030
2007	**160**	**8.8**	**1,400**	**120.0**	**1,680**
County:					
Hawaii/Honolulu/Kauai [2]					
2003	185	6.4	1,175	58.9	692
2004	55	8.2	450	86.4	389
2005	95	7.9	750	80.9	607
2006	30	4.3	130	86.0	112
2007	**60**	**3.3**	**200**	**78.0**	**156**
Maui					
2003	145	14.7	2,125	97.9	2,080
2004	125	9.2	1,150	173.5	1,995
2005	125	12.4	1,550	156.7	2,429
2006	110	11.5	1,270	151.0	1,918
2007	**100**	**12.0**	**1,200**	**127.0**	**1,524**

[1] Sum of county estimates may not add to State total due to rounding.
[2] Honolulu and Kauai combined with Hawaii to avoid disclosure of individual operations.

DRY ONIONS: Acreage, production, and price, State of Hawaii, 2003-2007

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total or average
Harvested acres													
2003	26	16	62	56	34	35	17	18	12	12	34	8	330
2004	13	11	9	21	14	15	10	15	12	15	26	19	180
2005	22	17	21	24	9	19	22	15	9	31	22	9	220
2006	6	4	11	8	28	23	8	21	8	6	9	8	140
2007	**6**	**7**	**8**	**11**	**30**	**22**	**12**	**7**	**11**	**26**	**12**	**8**	**160**
Production – *1,000 pounds*													
2003	191	121	327	470	381	570	480	173	171	136	200	80	3,300
2004	89	52	52	135	142	134	117	142	167	167	228	175	1,600
2005	51	52	69	404	185	330	352	267	143	235	142	70	2,300
2006	40	61	69	94	213	253	148	240	84	64	75	59	1,400
2007	**78**	**88**	**93**	**148**	**233**	**158**	**178**	**113**	**53**	**113**	**113**	**32**	**1,400**
Farm price – *cents per pound*													
2003	95.0	108.4	100.5	102.7	78.6	56.2	61.0	80.3	95.1	103.7	94.9	129.6	84.0
2004	137.1	152.9	117.9	126.0	183.8	117.5	174.8	161.5	172.9	168.5	128.8	134.3	149.0
2005	164.5	152.0	163.4	139.5	157.5	100.1	106.6	126.4	144.4	132.3	156.6	174.5	132.0
2006	183.1	174.0	175.9	188.9	179.9	146.5	125.9	113.2	105.4	112.9	131.7	135.4	145.0
2007	**140.3**	**154.9**	**156.3**	**149.6**	**118.6**	**107.2**	**96.1**	**89.0**	**84.0**	**93.0**	**128.3**	**174.2**	**120.0**

GREEN ONIONS: Acreage, yield, production, price, and value, by county, 2003-2007

Year	Harvested acres	Yield per acre	Production	Farm price	Value of sales
		---------- *1,000 pounds* ----------		*Cents per pound*	*1,000 dollars*
State [1]					
2003	130	12.3	1,600	90.0	1,440
2004	130	12.3	1,600	97.0	1,552
2005	155	11.0	1,700	99.0	1,683
2006	130	11.5	1,500	100.0	1,500
2007	**135**	**10.4**	**1,400**	**114.0**	**1,596**
County:					
Hawaii/Kauai/Maui [2]					
2003	20	10.0	200	103.8	208
2004	15	13.3	200	104.1	208
2005	15	13.3	200	114.0	228
2006	15	18.0	270	113.8	307
2007	**15**	**13.3**	**200**	**137.8**	**276**
Honolulu					
2003	110	12.7	1,400	88.0	1,232
2004	115	12.2	1,400	96.0	1,344
2005	140	10.7	1,500	97.0	1,455
2006	115	10.7	1,230	97.0	1,193
2007	**120**	**10.0**	**1,200**	**110.0**	**1,320**

[1] Sum of county estimates may not add to State total due to rounding.
[2] Kauai and Maui combined with Hawaii to avoid disclosure of individual operations.

GREEN ONIONS: Acreage, production, and price, State of Hawaii, 2003-2007

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total or average
Harvested acres													
2003	10	11	13	10	11	11	10	11	10	11	11	11	130
2004	11	9	8	10	12	11	11	12	11	10	12	13	130
2005	15	14	13	15	14	14	9	10	11	11	12	17	155
2006	12	10	11	9	9	9	12	12	11	11	11	13	130
2007	**10**	**13**	**12**	**13**	**11**	**11**	**11**	**10**	**11**	**11**	**11**	**11**	**135**
Production – *1,000 pounds*													
2003	133	134	132	138	140	148	136	151	138	122	108	120	1,600
2004	111	95	102	140	147	138	154	156	147	145	130	135	1,600
2005	104	88	131	132	157	145	147	141	148	148	161	198	1,700
2006	123	129	114	58	135	143	125	135	117	128	167	126	1,500
2007	**109**	**136**	**122**	**122**	**124**	**106**	**105**	**117**	**117**	**119**	**124**	**99**	**1,400**
Farm price – *cents per pound*													
2003	87.1	88.7	89.1	90.0	88.6	91.5	88.2	88.5	88.9	85.5	94.5	100.8	90.0
2004	103.8	115.8	115.1	103.3	88.0	86.5	83.4	93.3	89.7	96.2	104.5	99.9	97.0
2005	112.6	127.3	126.3	107.2	100.4	93.6	91.3	87.3	84.6	91.6	91.6	94.9	99.0
2006	98.8	101.4	108.4	132.8	104.9	91.7	92.0	91.0	90.3	92.3	107.2	106.5	100.0
2007	**137.5**	**112.4**	**107.6**	**104.4**	**96.2**	**112.0**	**104.9**	**113.1**	**119.1**	**113.8**	**113.2**	**140.5**	**114.0**

GREEN PEPPERS: Acreage, yield, production, price, and value, State of Hawaii, 2003-2007

Year	Harvested acres	Yield per acre	Production	Farm price	Value of sales
		---------- 1,000 pounds ----------		*Cents per pound*	*1,000 dollars*
2003	220	15.0	3,300	61.0	2,013
2004	240	13.3	3,200	69.0	2,208
2005	230	13.0	3,000	64.0	1,920
2006	260	10.8	2,800	71.0	1,988
2007	**160**	**11.3**	**1,800**	**69.0**	**1,242**

GREEN PEPPERS: Acreage, production, and price, State of Hawaii, 2003-2007

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total or average
Harvested acres [1]													
2003	17	17	18	17	17	18	19	19	20	20	19	19	220
2004	20	19	19	20	20	20	19	20	20	20	22	21	240
2005	22	20	23	23	22	20	23	22	22	21	21	19	230
2006	22	22	25	23	21	21	21	23	23	25	22	22	260
2007	**21**	**21**	**21**	**21**	**22**	**14**	**1**	**2**	**5**	**2**	**11**	**19**	**160**
Production – *1,000 pounds*													
2003	248	267	270	269	279	280	306	278	278	274	270	281	3,300
2004	295	274	221	258	281	280	282	284	279	330	218	198	3,200
2005	218	230	274	314	310	168	240	241	226	236	253	290	3,000
2006	237	270	255	310	225	226	244	203	223	196	182	229	2,800
2007	**200**	**248**	**239**	**252**	**257**	**188**	**5**	**30**	**39**	**15**	**124**	**203**	**1,800**
Farm price – *cents per pound*													
2003	60.9	61.3	63.5	62.9	64.2	61.9	63.8	58.2	55.8	57.2	57.9	64.2	61.0
2004	71.7	76.5	78.1	78.7	71.6	64.2	60.1	57.1	57.2	66.6	74.4	78.8	69.0
2005	58.9	61.3	72.3	61.1	58.9	69.4	68.5	63.3	58.4	62.2	64.6	69.9	64.0
2006	82.3	75.1	76.1	72.3	73.8	68.9	68.3	68.2	65.1	67.1	66.5	64.3	71.0
2007	**67.4**	**78.5**	**74.6**	**62.0**	**63.0**	**60.6**	**73.0**	**80.0**	**80.0**	**80.0**	**60.9**	**76.9**	**69.0**

[1] Sum of monthly data exceeds total because harvest period longer than 1 month.

ROMAINE

ROMAINE: Acreage, yield, production, price, and value, by county, 2003-2007

Year	Harvested acres	Yield per acre	Production	Farm price	Value of sales
		---------- 1,000 pounds ----------		Cents per pound	1,000 dollars
State [1]					
2003	160	11.9	1,900	44.0	836
2004	140	10.7	1,500	50.0	750
2005	140	12.1	1,700	59.0	1,003
2006	110	11.8	1,300	63.0	819
2007	**100**	**12.0**	**1,200**	**67.0**	**804**
County:					
Hawaii/Honolulu [2]					
2003	125	11.6	1,450	45.5	660
2004	110	10.0	1,100	49.6	546
2005	105	10.5	1,100	61.7	679
2006	90	11.4	1,030	63.3	652
2007	**80**	**11.8**	**940**	**69.8**	**656**
Maui					
2003	35	12.9	450	39.0	176
2004	30	13.3	400	51.0	204
2005	35	17.1	600	54.0	324
2006	20	13.5	270	62.0	167
2007	**20**	**13.0**	**260**	**57.0**	**148**

[1] Sum of county estimates may not add to State total due to rounding.
[2] Honolulu combined with Hawaii to avoid disclosure of individual operations.

ROMAINE: Acreage, production, and price, State of Hawaii, 2003-2007

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total or average
Harvested acres													
2003	19	13	14	18	13	11	10	10	9	12	13	18	160
2004	8	18	14	12	10	9	9	12	10	10	12	16	140
2005	12	16	13	15	15	11	10	7	7	8	11	15	140
2006	11	17	12	9	7	8	9	8	9	8	7	5	110
2007	**6**	**8**	**9**	**9**	**9**	**9**	**10**	**7**	**8**	**8**	**9**	**8**	**100**
Production – *1,000 pounds*													
2003	194	148	173	184	205	163	131	127	125	132	164	154	1,900
2004	107	131	107	119	124	136	125	131	123	123	128	146	1,500
2005	143	131	155	175	176	130	134	124	109	130	142	151	1,700
2006	149	144	103	96	123	106	111	113	97	100	84	74	1,300
2007	**83**	**79**	**109**	**105**	**102**	**103**	**115**	**118**	**100**	**107**	**100**	**79**	**1,200**
Farm price – *cents per pound*													
2003	40.4	41.1	39.4	44.9	37.8	49.5	47.3	46.3	45.6	45.2	45.1	49.3	44.0
2004	54.7	54.5	42.2	45.3	52.5	47.6	47.2	46.7	49.1	50.6	51.2	56.8	50.0
2005	47.7	46.3	48.1	57.4	60.7	60.6	62.3	73.5	62.2	62.2	63.4	66.7	59.0
2006	64.2	61.8	63.9	62.2	61.3	61.9	61.8	61.8	66.7	64.2	61.7	66.6	63.0
2007	**101.5**	**67.2**	**73.1**	**65.2**	**57.8**	**61.9**	**61.9**	**61.9**	**70.4**	**62.2**	**64.0**	**63.8**	**67.0**

ITALIAN SQUASH: Acreage, yield, production, price, and value, by county, 2003-2007

Year	Harvested acres	Yield per acre	Production	Farm price	Value of sales
		1,000 pounds		*Cents per pound*	*1,000 dollars*
State [1]					
2003	150	12.0	1,800	52.0	936
2004	230	7.4	1,700	54.0	918
2005	200	7.5	1,500	56.0	840
2006	175	6.3	1,100	64.0	704
2007	**180**	**6.7**	**1,200**	**67.0**	**804**
County:					
Hawaii/Honolulu/Kauai [2]					
2003	65	11.1	720	48.8	351
2004	155	6.1	940	53.2	500
2005	110	7.7	850	56.0	476
2006	110	5.8	635	66.9	425
2007	**110**	**7.1**	**780**	**70.7**	**551**
Maui					
2003	85	12.7	1,080	54.2	585
2004	75	10.1	760	55.0	418
2005	90	7.2	650	56.0	364
2006	65	7.2	465	60.0	279
2007	**70**	**6.0**	**420**	**60.0**	**252**

[1] Sum of county estimates may not add to State total due to rounding.
[2] Honolulu and Kauai combined with Hawaii to avoid disclosure of individual operations.

SWEETPOTATOES: Acreage, yield, production, price, and value, by county, 2003-2007

Year	Harvested acres	Yield per acre	Production	Farm price	Value of sales
		1,000 pounds		*Cents per pound*	*1,000 dollars*
State [1]					
2003	210	10.0	2,100	41.0	861
2004	400	11.5	4,600	47.0	2,162
2005	410	15.4	6,300	61.0	3,843
2006	360	16.7	6,000	74.0	4,440
2007	**350**	**15.1**	**5,300**	**51.0**	**2,703**
County:					
Hawaii/Honolulu/Kauai [2]					
2003	150	9.6	1,440	36.4	524
2004	350	11.4	4,000	45.8	1,832
2005	340	16.8	5,720	60.6	3,466
2006 [3]					
2007 [3]					
Maui					
2003	60	11.0	660	50.9	336
2004	50	12.0	600	55.0	330
2005	70	8.3	580	65.0	377
2006 [3]					
2007 [3]					

[1] Sum of county estimates may not add to State total due to rounding.
[2] Honolulu and Kauai combined with Hawaii to avoid disclosure of individual operations.
[3] Data not shown separately to avoid disclosure of individual operations but combined and included in the State total.

TARO: Number of farms, acreage, marketings, price, and value, by county, 2003-2007

Year	Farms	Acreage in crop [1]			Marketings			Farm price			Value of sales
		Poi taro	Chinese taro	Total	Fresh	Processed	Total	Poi taro	Chinese taro	All	
	Number	*Acres*			*1,000 pounds*			*Cents per pound*			*1,000 dollars*
State											
2003	150	390	30	420	200	4,800	5,000	53.9	56.3	54.0	2,700
2004	130	360	10	370	100	5,100	5,200	54.0	53.8	54.0	2,808
2005	110	350	10	360	100	4,200	4,300	54.0	54.0	54.0	2,322
2006	105	360	20	380	100	4,400	4,500	56.8	65.5	57.0	2,565
2007	**105**	**355**	**25**	**380**	**100**	**3,900**	**4,000**	**59.2**	**50.5**	**59.0**	**2,360**
County:											
Hawaii											
2003	40	55	15	70	130	450	580	59.7	54.9	57.8	335
2004	30	50	10	60	100	400	500	60.0	53.1	57.5	288
2005	30	40	10	50	60	240	300	57.6	50.0	56.1	168
2006	25	55	10	65	70	220	290	61.0	65.5	62.1	180
2007	**25**	**50**	**10**	**60**	**70**	**220**	**290**	**62.0**	**52.4**	**59.7**	**173**
Honolulu/Maui [2]											
2003	40	85	15	100	50	1,050	1,100	54.7	61.6	55.0	605
2004	35	75	*	75	*	800	800	55.1	[3]	55.1	441
2005	30	75	*	75	40	860	900	56.6	60.0	56.8	511
2006	35	80	10	90	30	880	910	62.5	65.5	62.6	570
2007	**35**	**55**	**15**	**70**	**30**	**880**	**910**	**63.4**	**46.0**	**61.9**	**563**
Kauai											
2003	70	250	*	250	20	3,300	3,320	53.0	[3]	53.0	1,760
2004	65	235	*	235	*	3,900	3,900	53.3	[3]	53.3	2,079
2005	50	235	*	235	*	3,100	3,100	53.0	[3]	53.0	1,643
2006	45	225	*	225	*	3,300	3,300	55.0	[3]	55.0	1,815
2007	**45**	**250**	*****	**250**	*****	**2,800**	**2,800**	**58.0**	**[3]**	**58.0**	**1,624**

* = Less than 5 acres or 5,000 pounds.
[1] Survey conducted in November each year. Does not include acreage used primarily for leaf production.
[2] Maui combined with Honolulu to avoid disclosure of individual operations.
[3] Data not shown separately to avoid disclosure of individual operations but combined and included in the State total.

TOMATOES: Acreage, yield, production, price, and value, State of Hawaii, 2003-2007

Year	Harvested acres	Yield per acre	Production	Farm price	Value of sales
		1,000 pounds		*Cents per pound*	*1,000 dollars*
2003	560	31.3	17,500	58.0	10,150
2004	600	28.0	16,800	66.0	11,088
2005	660	21.5	14,200	69.0	9,798
2006	700	21.0	14,700	77.0	11,319
2007	**740**	**19.3**	**14,300**	**69.0**	**9,867**

TOMATOES: Acreage, production, and price, State of Hawaii, 2003-2007

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total or average
Harvested acres [1]													
2003	55	57	59	56	55	54	54	54	52	59	62	62	560
2004	61	59	52	52	52	51	48	47	49	59	58	59	600
2005	46	61	55	55	55	55	53	53	68	66	68	64	660
2006	68	71	70	69	62	57	58	58	58	66	67	66	700
2007	**69**	**71**	**71**	**65**	**60**	**62**	**58**	**58**	**56**	**57**	**57**	**56**	**740**
Production – *1,000 pounds*													
2003	1,407	1,350	1,386	1,468	1,503	1,478	1,564	1,497	1,438	1,517	1,529	1,363	17,500
2004	1,440	1,070	1,441	1,443	1,748	1,324	1,678	1,453	1,323	1,527	1,079	1,274	16,800
2005	785	811	1,144	1,476	1,487	1,081	1,128	1,310	1,343	1,053	1,141	1,441	14,200
2006	1,286	1,181	986	1,158	956	911	1,641	1,444	1,570	1,254	1,316	997	14,700
2007	**967**	**946**	**1,069**	**1,384**	**1,356**	**1,452**	**1,264**	**1,295**	**1,246**	**1,137**	**1,109**	**1,075**	**14,300**
Farm price – *cents per pound*													
2003	65.6	58.9	60.2	54.3	52.7	57.1	57.1	53.6	54.0	60.9	61.2	60.9	58.0
2004	59.3	64.4	72.4	65.6	71.6	61.9	44.1	55.5	60.0	74.8	80.0	89.7	66.0
2005	76.9	71.6	68.6	73.0	64.0	76.2	68.0	66.3	61.9	69.1	65.8	71.3	69.0
2006	77.9	77.1	74.1	74.8	77.6	80.4	62.7	63.3	80.8	98.7	90.6	69.6	77.0
2007	**77.4**	**81.0**	**70.8**	**64.4**	**67.4**	**66.2**	**57.3**	**63.2**	**65.5**	**68.3**	**72.1**	**82.9**	**69.0**

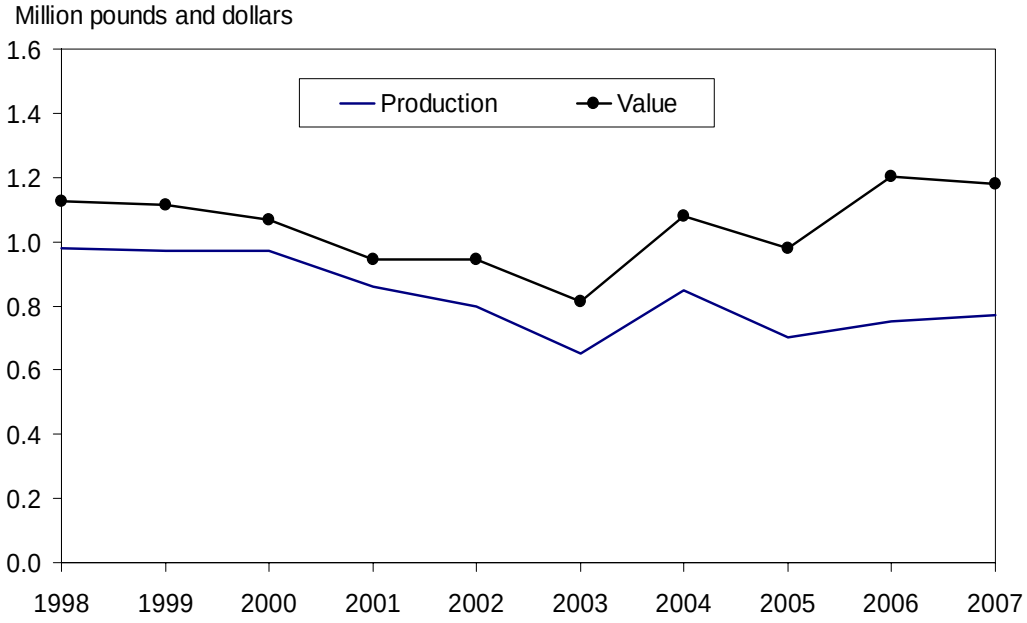
[1] Sum of monthly data exceeds total because harvest period longer than 1 month.

PROCESSED CHINESE CABBAGE AND DAIKON: Quantity processed, price, and value, State of Hawaii, 2003-2007

Year	Chinese cabbage			Daikon		
	Quantity processed	Farm price	Value of sales	Quantity processed	Farm price	Value of sales
	1,000 pounds	*Cents per pound*	*1,000 dollars*	*1,000 pounds*	*Cents per pound*	*1,000 dollars*
2003	1,200	23.0	276	400	31.0	124
2004 [1]						
2005 [1]						
2006 [1]						
2007 [1]						

[1] Beginning 2004, estimates have been discontinued due to insufficient data.

WATERCRESS: Production and Farm Value, State of Hawaii, 1998-2007



WATERCRESS: Acreage, production, price, and value, State of Hawaii, 2003-2007

Year	Acreage in crop	Production	Farm price	Value of sales
	Acres	*1,000 pounds*	*Cents per pound*	*1,000 dollars*
2003	30	650	125.0	812
2004	30	850	127.0	1,080
2005	35	700	140.0	981
2006	35	750	160.0	1,201
2007	**35**	**770**	**153.0**	**1,179**

WATERMELONS

WATERMELONS: Acreage, yield, production, price, and value, by county, 2003-2007

Year	Harvested acres	Yield per acre	Production	Farm price	Value of sales
		---------- 1,000 pounds ----------		Cents per pound	1,000 dollars
State [1]					
2003	450	26.4	11,900	24.0	2,856
2004	510	19.8	10,100	24.0	2,424
2005	450	25.1	11,300	27.0	3,051
2006	590	17.6	10,400	28.0	2,912
2007	**540**	**24.3**	**13,100**	**30.0**	**3,930**
County:					
Hawaii/Kauai/Maui [2]					
2003	40	5.3	210	29.3	62
2004	125	4.8	600	24.0	144
2005 [3]					
2006 [3]					
2007 [3]					
Honolulu					
2003	410	28.5	11,690	23.9	2,794
2004	385	24.7	9,500	24.0	2,280
2005 [3]					
2006 [3]					
2007 [3]					

[1] Sum of county estimates may not add to State total due to rounding.
[2] Kauai and Maui combined with Hawaii to avoid disclosure of individual operations.
[3] Data not shown separately to avoid disclosure of individual operations but combined and included in the State total.

OTHER VEGETABLES: Acreage, yield, production, price, and value, State of Hawaii, 2003-2007

Crop and year	Harvested acres	Yield per acre	Production	Farm price	Value of sales
		---------- *1,000 pounds* ----------		*Cents per pound*	*1,000 dollars*
Bittermelon					
2003	15	14.7	220	70.0	154
2004	20	12.5	250	80.0	200
2005	30	8.3	250	93.0	233
2006	25	7.2	180	80.0	144
2007	**20**	**7.5**	**150**	**82.0**	**123**
Broccoli					
2003	170	4.4	750	60.0	450
2004	125	4.0	500	67.0	335
2005	125	4.8	600	73.0	438
2006	60	5.5	330	84.0	277
2007	**80**	**4.9**	**390**	**93.0**	**363**
Cabbage, mustard					
2003	130	10.0	1,300	52.0	676
2004	155	9.0	1,400	58.0	812
2005	110	12.7	1,400	56.0	784
2006	115	12.2	1,400	58.0	812
2007	**105**	**13.3**	**1,400**	**63.0**	**882**
Pumpkins					
2003	70	12.1	850	48.0	408
2004	40	6.3	250	58.0	145
2005	35	2.3	80	63.0	50
2006	25	11.6	290	60.0	174
2007	**40**	**11.8**	**470**	**52.0**	**244**
Squash, Oriental (Hyotan and Togan)					
2003	10	20.0	200	46.0	92
2004	50	13.0	650	53.0	345
2005	40	11.3	450	55.0	247
2006	40	10.0	400	46.0	184
2007	**40**	**12.5**	**500**	**44.0**	**220**

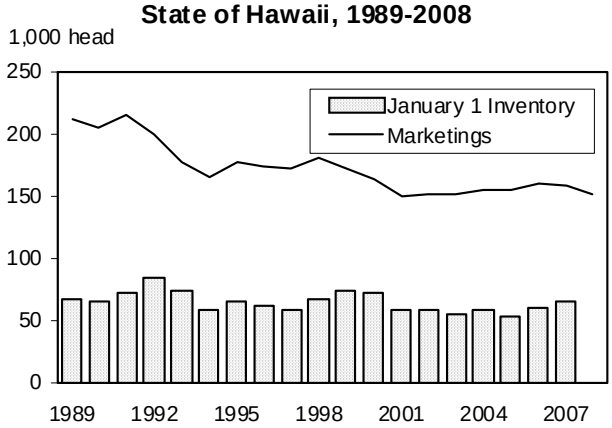
♦ Cattle and calves

State's January 1 inventory down 4 percent

The inventory of cattle and calves on Hawaii ranches totaled 152,000 head on January 1, 2008. This represented a 4 percent decline from 2007 and was the result of reductions on the Big Island and Oahu more than offsetting higher inventories on Kauai and Maui counties.

Hawaii county accounted for 72 percent of the State's total cattle and calves with an inventory of 109,100 head on January 1, 2008. Maui county was a distant second with an inventory of 24,800 head, up 14 percent from 2007. Kauai county also showed an increase in the inventory of cattle and calves at 12,500 head or 4 percent higher than on January 1, 2007. Honolulu county accounted for 4 percent of the State's cattle and calves inventory with 5,600 head.

CATTLE: Inventory and Marketings, State of Hawaii, 1989-2008



Cattle marketings increase

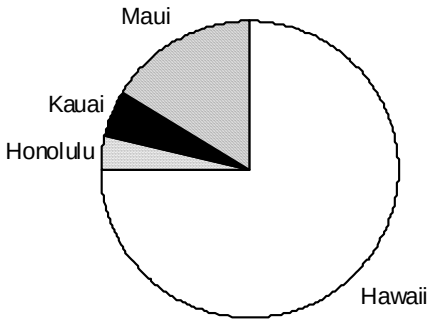
Marketings during 2007 totaled 36.2 million pounds (live weight), up 5 percent from 2006. Sale of calves (animals weighing less than 500 pounds) accounted for 74 percent of total marketings in 2007. The 48,000 calves sold in 2007 represented a 17 percent increase from 2006.

Value of sales down 1 percent

The value of all cattle and calves marketed in 2007 totaled $26.2 million, down 1 percent from 2006. The annual average price received by ranchers for all cattle and calves marketed in 2007 was $72.40 per hundredweight (live weight), down 6 percent from 2006. The decline in price was partially offset by a 5 percent increase in pounds sold at 36.2 million pounds (live weight).

Hawaii county led all counties with 2007 sales of cattle and calves at $19.7 million, down 1 percent from 2006. Ranchers in Maui county were the only ones to post a gain in sales at $4.3 million, up 25 percent from 2006. Kauai at $1.3 million was down 24 percent. Honolulu county experienced the largest decline in the sale of cattle and calves at $942,000 in 2007, down 38 percent.

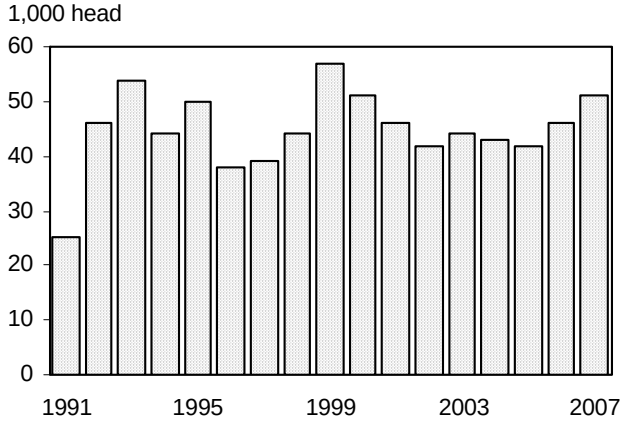
CATTLE AND CALVES: Value of Sales, by County, State of Hawaii, 2007



Exports of cattle and calves top 51,000 head

Hawaii ranchers exported 51,000 head of cattle and calves in 2007, up 11 percent from 2006. Calves (animals weighing less than 500 pounds) accounted for the bulk of the exports at 48,000 head in 2007 compared to 3,000 head of cattle (animals weighing 500 pounds or more) that were exported.

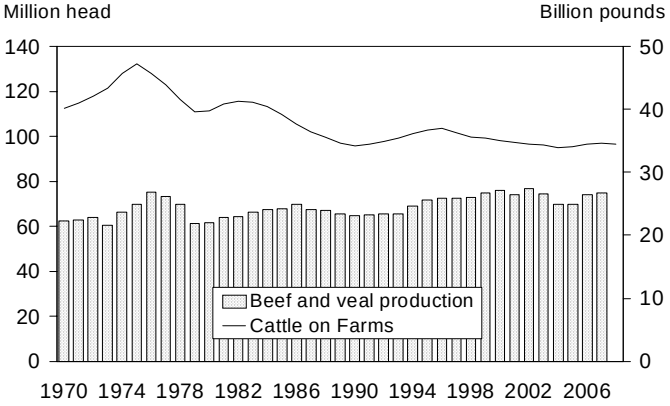
CATTLE AND CALVES: Exports, State of Hawaii, 1991-2007



U.S. cattle inventory down fractionally

All cattle and calves in the United States as of January 1, 2008, totaled 96.7 million head, slightly below the 97.0 million on January 1, 2007. The 2007 U.S. calf crop was estimated at 37.4 million head, down slightly from 2006. Calves born during the first half of the year were estimated at 27.2 million, down 1 percent from 2006.

CATTLE: Beef and Veal Production and Cattle on Farms, United States, 1970-2008



♦ Milk

Dairy closures result in decreases

Hawaii's dairy cows produced 35.5 million pounds of milk in 2007, down 38 percent from 2006. The closure of two large commercial dairies in 2007 was a major factor for the decline in total milk production.

The cow herd declined 33 percent to an annual average of 2,900 head. Cows produced an average of 12,241 pounds of milk in 2007, 8 percent less per cow than in 2006.

In 2007, milk producers received an average return of $28.20 per hundredweight for milk sold, up 8 percent from 2006. Revenues at the farm gate level fell 33 percent to a total of $9.7 million in 2007.

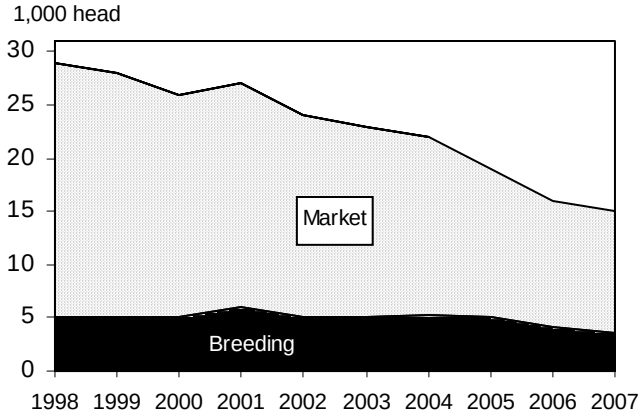
♦ Hogs and Pigs

Statewide December 1 inventory down 6 percent

The inventory of hogs and pigs on Hawaii's farms totaled 15,000 head on December 1, 2007. This represents a 6 percent, or 1,000 head, decline from December 1, 2006.

Most of the State's hogs and pigs are located on Oahu which saw its inventory decrease 4 percent from last year to 9,200 head on December 1, 2007. Maui county had the second most hogs and pigs at 2,700 head, down 23 percent from December 1, 2006. Kauai county was a close third at 2,000 head, unchanged from last year. The Big Island had an inventory of 1,100 hogs and pigs on December 1, 2007, accounting for 7 percent of the State's hogs and pigs.

HOGS AND PIGS: Inventory by Classes, State of Hawaii, 1998-2008



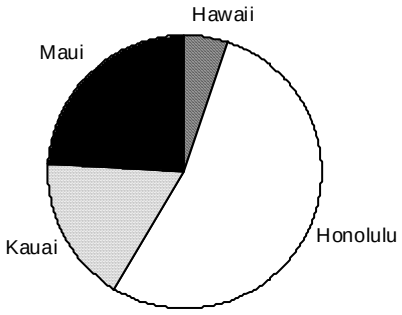
Hog marketings decrease

Hog marketings totaled 3.9 million pounds (live weight) in 2007, down 13 percent from 2006 due to a matching percentage decline in the number of hogs sold. Honolulu county led the State in hog sales with 2.2 million pounds (live weight) in 2007, down 17 percent from 2006.

Value of hog sales drop 11 percent

Total value of hog sales declined 11 percent to $3.7 million in 2007. The average farm price rose to $94.90 per hundredweight (live weight), 2 percent higher than the 2006 average of $92.70.

HOGS: Value of Sales, by County, State of Hawaii, 2007



CATTLE AND CALVES: January 1 inventory by sex classes and weight, by county, 2004-2008

Year	All cattle and calves	All cows and heifers that have calved			Heifers 500 pounds and over				Steers 500 lbs. and over	Bulls 500 lbs. and over	Steers, heifers, and bulls under 500 lbs.
		Total	Beef cows	Milk cows	Total	Beef cow replace-ments	Milk cow replace-ments	Other			
					1,000 head						
State [1]											
2004	156	88	82	6	20	12	2	6	7	5	36
2005	155	87	81.3	5.7	22	15	2	5	7	5	34
2006	161	92	87.4	4.6	22	15	2	5	7	5	35
2007	158	89	85.2	3.8	21	15	1	5	8	5	35
2008	**152**	**85**	**82.7**	**2.3**	**20**	**14**	**1**	**5**	**8**	**5**	**34**
County:											
Hawaii											
2004	115.4	66.4	63.2	3.2	14.8	8.8	1.5	4.5	4.1	3.7	26.4
2005	116.0	64.4	61.4	3.0	16.2	11.7	1.2	3.3	4.5	3.7	27.2
2006	119.3	69.5	67.1	2.4	15.6	11.9	1.1	2.6	3.7	3.9	26.6
2007	117.2	67.6	65.4	2.2	15.5	11.9	.9	2.7	3.9	3.8	26.4
2008	**109.1**	**63.7**	**61.9**	**1.8**	**12.8**	**10.1**	**.5**	**2.2**	**3.6**	**3.2**	**25.8**
Honolulu											
2004	10.6	6.2	3.0	3.2	1.5	.3	.9	.3	.6	.2	2.1
2005	8.0	5.1	2.4	2.7	1.2	.5	.5	.2	.3	.1	1.3
2006	8.2	5.0	2.8	2.2	1.2	.5	.6	.1	.4	.2	1.4
2007	7.1	4.1	2.5	1.6	.9	.5	.3	.1	.3	.1	1.7
2008	**5.6**	**2.7**	**2.3**	**.4**	**1.0**	**.8**	**0**	**.2**	**.5**	**.1**	**1.3**
Kauai											
2004	11.6	5.4	5.4	*	2.0	1.2	0	.8	1.1	.4	2.7
2005	12.0	6.3	6.3	*	1.9	1.1	0	.8	1.2	.4	2.2
2006	11.9	6.0	6.0	*	1.7	.9	0	.8	1.1	.3	2.8
2007	12.0	5.8	5.8	*	1.7	.9	0	.8	1.0	.4	3.1
2008	**12.5**	**5.9**	**5.9**	*****	**2.2**	**1.4**	**0**	**.8**	**1.0**	**.4**	**3.0**
Maui											
2004	18.4	10.6	10.6	*	2.0	1.3	0	.7	.8	.6	4.4
2005	19.0	11.2	11.2	*	2.5	1.5	0	1.0	1.2	.6	3.5
2006	21.6	11.5	11.5	*	3.3	2.1	0	1.2	2.0	.6	4.2
2007	21.7	11.5	11.5	*	2.9	1.9	0	1.0	2.6	.8	3.9
2008	**24.8**	**12.7**	**12.6**	**.1**	**3.9**	**2.0**	**0**	**1.9**	**2.9**	**1.0**	**4.3**

* = Less than 50.
[1] Sum of county estimates may not add to State total due to rounding.

CATTLE AND CALVES: Number of operations, number and pounds sold, price, and value, by county, 2003-2007

Year	Operations	Number sold [1] [2]	Pounds sold (live weight) [3]	Farm price (live weight) [4]	Value of sales [2]
	Number	*1,000 head*	*1,000 pounds*	*Dollars per hundredweight*	*1,000 dollars*
State					
2003	750	55	29,570	58.10	17,192
2004	800	58	34,750	64.80	22,534
2005	800	54	29,930	75.30	22,548
2006	800	61	34,510	76.70	26,452
2007	**1,100**	**65**	**36,160**	**72.40**	**26,196**
County:					
Hawaii					
2003	440	45.7	23,167	59.60	13,811
2004	470	44.3	25,213	66.90	16,873
2005	470	41.1	21,018	79.90	16,790
2006	470	46.4	24,911	79.50	19,809
2007	**730**	**50.7**	**25,893**	**76.00**	**19,676**
Honolulu					
2003	50	.5	519	39.10	203
2004	50	1.7	1,166	58.40	681
2005	50	3.0	2,277	60.70	1,382
2006	50	3.1	2,360	64.20	1,515
2007	**60**	**2.5**	**1,270**	**74.20**	**942**
Kauai					
2003	120	2.3	1,818	50.20	912
2004	120	4.8	3,260	60.30	1,965
2005	120	3.8	2,785	60.60	1,689
2006	120	3.9	2,683	64.30	1,725
2007	**130**	**3.1**	**1,954**	**67.50**	**1,318**
Maui					
2003	140	6.5	4,066	55.70	2,266
2004	160	7.2	5,111	59.00	3,015
2005	160	6.1	3,850	69.80	2,686
2006	160	7.6	4,556	74.70	3,403
2007	**180**	**8.7**	**7,043**	**60.50**	**4,260**

[1] Includes custom slaughter for home use on farms where produced and out-of-State sales of cattle and calves, but excludes inter-farm sales.
[2] Sum of county estimates may not add to State total due to rounding.
[3] Excludes custom slaughter for use on farms where produced.
[4] Prices are equivalent delivered slaughterhouse for sales on county of production and delivered shipper's dock for interisland and out-of-State sales.

CATTLE: Number sold, pounds, price, and value, State of Hawaii, 2003-2007

Year	Number sold [1]	Pounds sold (live weight) [2]	Farm price (live weight)	Value of sales
	1,000 head	*1,000 pounds*	*Dollars per hundredweight*	*1,000 dollars*
2003	14	12,350	41.60	5,138
2004	24	20,470	47.30	9,682
2005	15	13,160	49.00	6,448
2006	20	17,290	52.40	9,060
2007	**17**	**15,520**	**49.10**	**7,620**

[1] Includes custom slaughter for home use on farms where produced and out-of-State sales of cattle, but excludes inter-farm sales.
[2] Excludes custom slaughter for use on farms where produced.

CALVES: Number sold, pounds, price, and value, State of Hawaii, 2003-2007

Year	Number sold [1]	Pounds sold (live weight) [2]	Farm price (live weight)	Value of sales
	1,000 head	*1,000 pounds*	*Dollars per hundredweight*	*1,000 dollars*
2003	41	17,220	70.00	12,054
2004	34	14,280	90.00	12,852
2005	39	16,770	96.00	16,099
2006	41	17,220	101.00	17,392
2007	**48**	**20,640**	**90.00**	**18,576**

[1] Includes custom slaughter for home use on farms where produced and out-of-State sales of calves, but excludes inter-farm sales.
[2] Excludes custom slaughter for use on farms where produced.

CATTLE AND CALVES: Inventory and disposition, State of Hawaii, 2003-2007

Year	Inventory beginning January 1	Calf crop	Inshipments	Marketings	Farm slaughter	Deaths	Inventory January 1 following year
				1,000 head			
2003	151	66	*	55	1	5	156
2004	156	63	*	58	1	5	155
2005	155	66	*	54	1	5	161
2006	161	65	*	61	1	6	158
2007	**158**	**65**	*****	**65**	**1**	**5**	**152**

* = Less than 500.

CATTLE AND CALVES: Exports by weight and sex, State of Hawaii, 2003-2007

Year	Total	By weight category		By sex class		
		Cattle [1]	Calves [2]	Steers	Heifers	Others
			1,000 head			
2003	44	3	41	25	19	NA
2004	43	9	34	26	17	NA
2005	42	3	39	22	18	2
2006	46	5	41	27	17	2
2007	**51**	**3**	**48**	**26**	**23**	**2**

NA = Not available.
[1] 500 pounds or more.
[2] 499 pounds or less.

CATTLE: Commercial slaughter and farm price, State of Hawaii, 2003-2007 [1]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total or average
Number of head [2] – *1,000 head*													
2003	.8	.9	.8	1.0	.9	.9	1.1	.9	.9	.9	.8	.7	10.8
2004	.9	.8	.9	.8	.9	.8	1.0	1.1	.9	.9	.9	.8	10.5
2005	.7	.7	.8	.9	.8	.8	.7	.8	.7	.7	.8	.9	9.2
2006	.8	.8	1.0	.8	1.0	.9	.9	1.0	.9	.9	.7	.8	10.5
2007	**.9**	**.8**	**.9**	**.9**	**1.0**	**.9**	**.9**	**1.1**	**.9**	**1.0**	**.9**	**.8**	**11.1**
Pounds slaughtered, dressed weight [2 3] – *1,000 pounds*													
2003	484	530	485	551	525	488	626	545	525	516	461	441	6,176
2004	570	456	551	472	511	461	599	625	501	502	482	446	6,176
2005	397	385	469	512	453	497	437	504	430	444	456	483	5,466
2006	447	446	567	455	556	525	539	610	535	520	438	450	6,088
2007	**533**	**476**	**540**	**508**	**582**	**557**	**516**	**610**	**536**	**585**	**495**	**452**	**6,390**
Average farm price, dressed weight – *cents per pound*													
2003	68.0	66.0	68.0	65.0	69.0	70.5	70.5	69.5	69.5	72.0	73.0	77.5	70.0
2004	71.0	74.0	74.5	72.5	72.0	79.0	72.0	71.0	76.0	76.5	75.0	80.0	74.0
2005	81.5	79.5	77.5	77.0	80.5	83.5	82.5	80.5	82.0	82.0	84.0	79.5	80.5
2006	77.0	82.5	80.5	80.0	81.0	79.5	78.0	80.5	79.5	79.0	82.5	81.5	80.0
2007	**85.0**	**81.0**	**80.0**	**83.5**	**80.0**	**82.0**	**83.5**	**83.0**	**82.5**	**84.5**	**85.0**	**83.5**	**83.0**

[1] Includes custom slaughter for home use.
[2] Sum of monthly estimates may not add to annual total due to rounding.
[3] To convert dressed weight to live weight, divide dressed weight by 0.549 or multiply by a factor of 1.8215.

CATTLE: Local marketings and farm price, State of Hawaii, 1995-2007 [1]

Year	Steers and heifers			Cows		
	Marketings (dressed weight)	Average price		Marketings (dressed weight)	Average price	
		Live weight [2]	Dressed weight		Live weight [2]	Dressed weight
	1,000 pounds	*---------- Cents per pound ----------*		*1,000 pounds*	*---------- Cents per pound ----------*	
1995	2,596	49.2	89.5	4,529	29.8	54.5
1996	3,777	47.3	86.0	5,486	27.5	50.0
1997	3,762	47.1	86.0	5,029	28.8	52.5
1998	4,337	45.6	83.0	6,282	27.2	49.5
1999	2,980	44.8	81.5	4,620	27.6	50.0
2000	5,308	44.3	80.5	4,501	27.4	50.0
2001	2,692	50.9	92.5	3,060	28.7	52.5
2002	5,040	47.8	87.0	2,877	29.0	53.0
2003	3,067	50.1	91.5	1,891	27.6	50.5
2004	6,023	52.4	95.5	1,652	27.7	50.5
2005	4,505	55.2	100.5	1,086	27.8	50.5
2006	5,553	60.3	110.0	1,741	29.2	53.0
2007	**5,321**	**56.6**	**103.0**	**1,654**	**29.2**	**53.2**

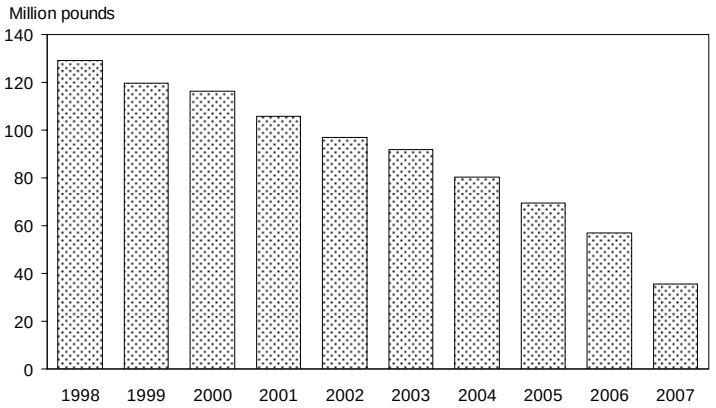
[1] Excludes out-of-State shipments.
[2] Live weight average price is derived by dividing the unrounded average dressed weight price by 1.8215 or multiplying by 0.549.

MILK: Number of operations, number of milk cows, production, sales, price, and value, by county, 2003-2007

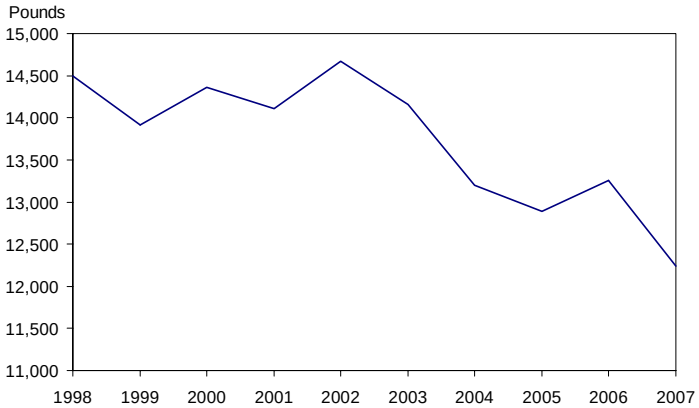
Year	Operations with milk cows [1]	Licensed dairy herds [2]	Annual average milk cows	Milk per cow	Production [3]	Sold [3]	Average price [4]	Value of sales
	Number			Pounds	Million pounds		Dollars per hundredweight	1,000 dollars
State								
2003	30	10	6,500	14,154	92.0	90.5	23.70	21,449
2004	30	10	6,100	13,197	80.5	78.5	25.70	20,175
2005	30	5	5,400	12,889	69.6	68.1	27.00	18,387
2006	30	5	4,300	13,256	57.0	55.8	26.00	14,508
2007	**15**	**5**	**2,900**	**12,241**	**35.5**	**34.3**	**28.20**	**9,673**
County:								
Hawaii/Kauai/Maui [5]								
2003	24	5	3,200	11,000	35.2	33.9	23.40	7,947
2004	24	5	[6]	[6]	[6]	[6]	[6]	[6]
2005	24	2	[6]	[6]	[6]	[6]	[6]	[6]
2006	24	2	[6]	[6]	[6]	[6]	[6]	[6]
2007	**12**	**2**	**[6]**	**[6]**	**[6]**	**[6]**	**[6]**	**[6]**
Honolulu								
2003	6	5	3,300	17,212	56.8	56.6	23.90	13,502
2004	6	5	[6]	[6]	[6]	[6]	[6]	[6]
2005	6	3	[6]	[6]	[6]	[6]	[6]	[6]
2006	6	3	[6]	[6]	[6]	[6]	[6]	[6]
2007	**3**	**3**	**[6]**	**[6]**	**[6]**	**[6]**	**[6]**	**[6]**

[1] An operation is any place having one or more head of milk cows, excluding cows used to nurse calves, on hand at any time during the year. Includes commercially licensed dairy herds.
[2] Average number of dairy farms licensed to sell milk. Rounded to the nearest five at the State level.
[3] Difference between "Production" and "Sold" is milk used on farms for human consumption, fed to calves or other uses.
[4] Rounded to the nearest dime.
[5] Kauai and Maui combined with Hawaii to avoid disclosure of individual operations.
[6] Data not shown separately to avoid disclosure of individual operations but combined and included in the State total.

MILK: Annual milk production, State of Hawaii, 1998-2007



MILK: Annual milk per cow, State of Hawaii, 1998-2007



MILK: Number of cows, milk production, price, and milkfat, State of Hawaii, 2003-2007

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total or average
Average number of milk cows on hand during month – *1,000 head*													
2003	6.6	6.6	6.5	6.4	6.5	6.3	6.4	6.5	6.6	6.6	6.6	6.5	6.5
2004	6.5	6.5	6.4	6.4	6.2	6.1	6.0	5.9	6.0	5.8	5.7	5.8	6.1
2005	5.8	5.7	5.6	5.5	5.4	5.2	5.3	5.4	5.3	5.2	5.1	5.0	5.4
2006	4.6	4.4	4.4	4.5	4.3	4.3	4.3	4.2	4.2	4.1	3.9	3.8	4.3
2007	**3.8**	**3.7**	**3.3**	**3.2**	**3.2**	**2.7**	**2.7**	**2.6**	**2.6**	**2.5**	**2.3**	**2.3**	**2.9**
Average monthly production per all cows in herd – *pounds*													
2003	1,225	1,150	1,275	1,265	1,275	1,255	1,250	1,170	1,060	1,060	1,015	1,140	14,154
2004	1,125	1,060	1,205	1,125	1,210	1,230	1,165	1,085	935	985	1,020	1,015	13,197
2005	1,000	980	1,125	1,125	1,205	1,210	1,150	1,095	1,020	1,020	980	1,040	12,889
2006	1,150	1,090	1,180	1,065	1,185	1,140	1,165	1,145	1,050	1,025	1,025	1,185	13,256
2007	**1,180**	**1,000**	**1,200**	**1,110**	**1,020**	**1,080**	**1,000**	**970**	**860**	**920**	**840**	**840**	**12,241**
Milk production – *million pounds*													
2003	8.1	7.6	8.3	8.1	8.3	7.9	8.0	7.6	7.0	7.0	6.7	7.4	92.0
2004	7.3	6.9	7.7	7.2	7.5	7.5	7.0	6.4	5.6	5.7	5.8	5.9	80.5
2005	5.8	5.6	6.3	6.2	6.5	6.3	6.1	5.9	5.4	5.3	5.0	5.2	69.6
2006	5.3	4.8	5.2	4.8	5.1	4.9	5.0	4.8	4.4	4.2	4.0	4.5	57.0
2007	**4.4**	**3.8**	**3.9**	**3.6**	**3.3**	**2.8**	**2.7**	**2.5**	**2.2**	**2.2**	**2.1**	**2.0**	**35.5**
Average price for milk sold to plants – *dollars per hundredweight*													
2003	23.40	23.00	22.90	22.60	22.80	22.70	22.90	24.40	25.30	25.30	25.20	24.70	23.70
2004	24.10	23.90	24.20	25.40	28.00	29.40	27.00	25.10	25.00	25.20	25.10	25.30	25.70
2005	28.60	26.90	27.20	27.00	27.40	26.40	26.40	26.90	26.80	26.70	26.80	26.80	27.00
2006	26.80	26.20	25.50	25.10	24.90	24.80	24.90	26.40	26.70	26.90	27.00	26.90	26.00
2007	**26.80**	**26.90**	**27.00**	**27.10**	**27.40**	**27.70**	**29.90**	**29.90**	**30.00**	**29.80**	**30.00**	**30.00**	**28.20**
Average milkfat for milk sold to plants – *percent*													
2003	3.47	3.51	3.44	3.41	3.41	3.42	3.47	3.48	3.53	3.59	3.61	3.62	3.49
2004	3.61	3.52	3.53	3.50	3.44	3.43	3.45	3.46	3.56	3.62	3.62	3.58	3.52
2005	3.57	3.47	3.43	3.45	3.40	3.39	3.25	3.33	3.42	3.37	3.36	3.40	3.40
2006	3.37	3.38	3.39	3.41	3.36	3.30	3.37	3.33	3.37	3.38	3.34	3.37	3.36
2007	**3.35**	**3.43**	**3.40**	**3.33**	**3.33**	**3.37**	**3.41**	**3.48**	**3.45**	**3.47**	**3.48**	**3.46**	**3.40**

HOGS AND PIGS: December 1 inventory by classes and weight, State of Hawaii, 2003-2007

Year	All hogs and pigs	Breeding	Market				
			Total	Under 60lbs.	60-119 lbs.	120-179 lbs.	180 lbs. and over
				1,000 head			
2003	23	5	18	8	5	3	2
2004	22	5.2	16.8	7.6	4.4	3.2	1.6
2005	19	5.0	14.0	6.0	3.9	2.4	1.7
2006	16	4.1	11.9	5.5	3.0	2.0	1.4
2007	**15**	**3.6**	**11.4**	**5.8**	**2.7**	**1.8**	**1.1**

HOGS AND PIGS: December 1 inventory by class, by county, 2003-2007

Year	All hogs and pigs	Breeding	Total market	Year	All hogs and pigs	Breeding	Total market
	1,000 head				*1,000 head*		
County:							
Hawaii				**Kauai**			
2003	2.2	.4	1.8	2003	2.0	.3	1.7
2004	1.4	.3	1.1	2004	2.2	.5	1.7
2005	1.1	.3	.8	2005	2.0	.4	1.6
2006	.9	.3	.6	2006	2.0	.3	1.7
2007	**1.1**	**.4**	**.7**	**2007**	**2.0**	**.3**	**1.7**
Honolulu				**Maui**			
2003	13.5	2.7	10.8	2003	5.3	1.3	4.0
2004	13.0	2.5	10.5	2004	5.4	1.9	3.5
2005	11.4	2.8	8.6	2005	4.5	1.5	3.0
2006	9.6	2.5	7.1	2006	3.5	1.0	2.5
2007	**9.2**	**2.4**	**6.8**	**2007**	**2.7**	**.5**	**2.2**

HOGS: Number of operations, number and pounds sold, price, and value, by county, 2003-2007

Year	Operations	Number sold [1]	Pounds sold (live weight) [2]	Farm price (live weight)	Value of sales
	Number	*1,000 head*	*1,000 pounds*	*Dollars per hundredweight*	*1,000 dollars*
State [3]					
2003	210	27	5,130	84.70	4,345
2004	250	27	5,130	87.00	4,463
2005	230	26	5,070	89.80	4,553
2006	230	23	4,485	92.70	4,158
2007	**230**	**20**	**3,880**	**94.90**	**3,682**
County:					
Hawaii					
2003	60	2.8	530	83.00	440
2004	70	2.6	484	84.00	407
2005	70	1.8	369	86.50	319
2006	70	1.5	303	84.50	256
2007	**70**	**1.1**	**216**	**85.50**	**185**
Honolulu					
2003	70	15.5	3,016	86.00	2,594
2004	80	15.7	3,085	88.00	2,715
2005	70	15.6	3,069	90.00	2,762
2006	70	12.9	2,591	91.50	2,371
2007	**70**	**11.1**	**2,157**	**91.50**	**1,974**
Kauai					
2003	30	3.3	490	84.50	414
2004	40	3.6	545	88.50	482
2005	30	3.7	643	92.00	592
2006	30	3.7	596	102.50	611
2007	**30**	**3.4**	**575**	**111.00**	**638**
Maui					
2003	50	5.4	1,094	82.00	897
2004	60	5.1	1,016	84.50	859
2005	60	4.9	989	89.00	880
2006	60	4.9	995	92.50	920
2007	**60**	**4.4**	**932**	**95.00**	**885**

[1] Excludes interfarm sales; includes custom slaughter for home use; includes direct sales on farms to consumers. Excludes live hogs brought in for immediate slaughter.

[2] Excludes custom slaughter for use on farms where produced and interfarm sales.

[3] Sum of county estimates may not add to State total due to rounding. Sales and value data are for the 12-month period, December of the previous year through November of the following year.

HOGS: Commercial slaughter and farm price, State of Hawaii, 2003-2007

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total or average
Number of head [1] [2] – *1,000 head*													
2003	2.6	2.2	2.3	2.3	2.5	2.5	2.6	2.4	2.2	2.4	2.2	2.9	29.3
2004	2.4	2.0	2.3	2.3	2.3	2.4	2.5	2.5	2.2	2.2	2.3	3.0	28.3
2005	2.0	1.9	2.0	1.9	2.0	1.9	1.9	1.8	1.9	1.7	2.0	2.4	23.5
2006	1.8	1.7	1.8	1.7	2.0	2.2	1.9	2.0	1.8	1.8	1.8	2.2	22.5
2007	**1.7**	**1.5**	**1.7**	**1.7**	**1.8**	**1.9**	**1.8**	**1.9**	**1.5**	**1.6**	**1.7**	**2.0**	**21.0**
Pounds slaughtered, dressed weight [1] [2] [3] – *1,000 pounds*													
2003	398	347	384	369	395	396	418	377	347	372	343	440	4,583
2004	353	311	338	344	356	359	373	386	331	347	354	447	4,297
2005	302	287	312	299	328	311	318	306	310	285	338	387	3,784
2006	304	276	301	294	333	368	322	336	319	322	301	360	3,836
2007	**281**	**254**	**283**	**263**	**296**	**296**	**291**	**298**	**253**	**269**	**301**	**332**	**3,416**
All hogs, average farm price, dressed weight [4] – *cents per pound*													
2003	112.5	113.0	113.0	111.0	112.0	112.0	111.0	111.0	115.0	114.0	114.0	117.0	113.0
2004	115.0	116.5	115.5	114.5	114.5	116.0	116.0	116.5	116.5	117.0	116.5	118.5	116.0
2005	119.5	120.5	120.0	121.0	118.0	119.5	121.5	120.5	118.5	121.0	119.5	122.5	119.5
2006	123.0	125.5	122.5	122.5	124.0	126.5	123.5	122.0	124.5	124.0	127.0	124.5	123.5
2007	**126.0**	**127.5**	**127.5**	**125.5**	**125.5**	**125.5**	**130.0**	**129.0**	**127.5**	**129.5**	**124.0**		**126.5**
Market hogs, average farm price, dressed weight [4] – *cents per pound*													
2003	116.0	117.0	117.5	117.0	116.5	116.0	117.0	117.0	118.0	118.0	117.5	119.0	117.0
2004	119.0	119.5	119.5	118.5	119.5	119.5	120.0	120.0	121.0	120.5	120.5	123.0	119.5
2005	123.0	124.0	124.0	124.0	124.0	125.5	125.0	125.5	124.5	125.0	124.0	127.5	124.0
2006	127.0	128.5	127.5	126.0	127.0	131.5	130.0	129.5	129.0	128.5	131.5	129.5	128.5
2007	**129.0**	**130.5**	**131.0**	**130.5**	**132.5**	**130.0**	**133.0**	**132.0**	**132.5**	**134.0**	**130.5**		**131.0**

[1] Excludes non-inspected farm slaughter; includes custom slaughter and live hog inshipments from the mainland for slaughter.
[2] Sum of monthly estimates may not add to annual total due to rounding.
[3] To convert dressed weight to live weight, divide dressed weight by 0.75 or multiply by a factor of 1.3333.
[4] Annual average price is for the 12-month period, December of the previous year through November of the following year.

HOGS AND PIGS: Inventory and disposition, State of Hawaii, 2003-2007

Year	Inventory December 1 previous year	Pig crop	Inshipments [1]	Marketings [1]	Farm slaughter	Deaths	Inventory December 1
			1,000 head				
2003	24	31	*	27	1	4	23
2004	23	31	*	27	1	4	22
2005	22	28	*	26	1	4	19
2006	19	25	*	23	1	4	16
2007	**16**	**24**	*****	**20**	**1**	**4**	**15**

* = Less than 500 head.
[1] Excludes live hogs brought in for immediate slaughter.

State's December 1 inventory decreases 15 percent

Hawaii farmers had 398,000 egg-type chickens on hand on December 1, 2007, down 72,000 birds or 15 percent from 2006. The reduction in birds came about as some large egg operations reduced their inventory due to higher input costs. Also in 2007, the last commercial egg producer on the island of Maui closed. Of the total inventory, 355,000 birds or 89 percent were layers and 43,000 were non-laying pullets.

Egg production drops 17 percent

Egg production for 2007 totaled 81.8 million, down 17 percent from the 2006 total of 98.3 million eggs. The average number of layers on hand during 2007 was 378,000 birds, a decrease of 16 percent compared to 2006. Production per layer also declined to an average of 216 eggs in 2007, down 1 percent from the 2006 rate of 219 eggs per layer.

Average farm price increases, but total value of sales fall

The farm price for a dozen eggs averaged a record high $1.09 in 2007, up 9 cents a dozen from 2006 and a penny higher than the previous record high of $1.08 per dozen in 2004.

Total cash receipts from the sale of eggs, however, decreased 9 percent to $7.4 million in 2007. The decline in cash receipts occurred because the increase in farm price was not enough to offset the 17 percent drop in egg production.

CHICKENS: December 1 inventory by class, by county, 2003-2007

Year	All chickens (excluding broilers)	Number of layers			Non-laying pullets		Other chickens (excluding broilers)
		Hens 1 year +	Pullets under 1 year	Total	Over 3 months	Under 3 months	
		Thousands					
State							
2003	600	357	129	486	67	47	*
2004	598	349	158	507	44	47	*
2005	547	369	117	486	25	36	*
2006	470	293	122	415	20	35	*
2007	**398**	**265**	**90**	**355**	**20**	**23**	*****
County:							
Hawaii/Kauai/Maui [1]							
2003	118	100	11	111	5	2	*
2004	131	78	48	126	5	0	*
2005	104	67	30	97	3	4	*
2006 [2]							
2007 [2]							
Honolulu							
2003	482	257	118	375	62	45	*
2004	467	271	110	381	39	47	*
2005	443	302	87	389	22	32	*
2006 [2]							
2007 [2]							

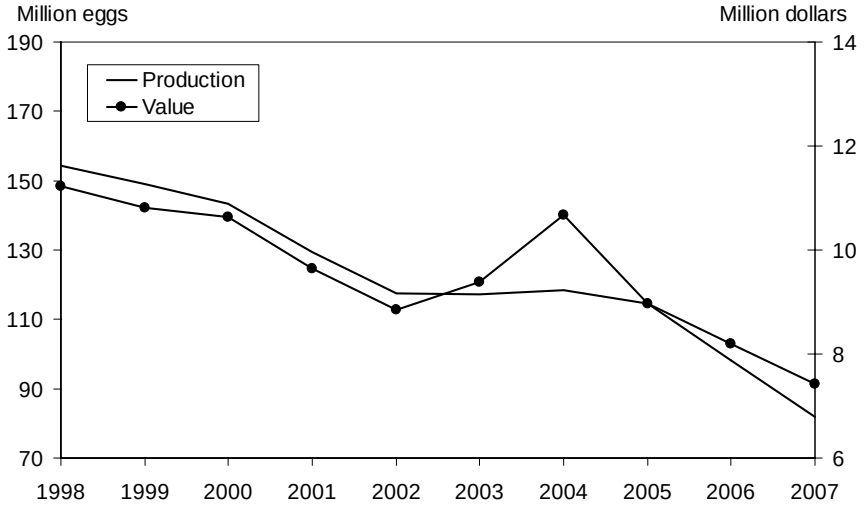
* = Less than 500.
[1] Kauai and Maui combined with Hawaii to avoid disclosure of individual operations.
[2] Data not shown separately to avoid disclosure of individual operations but combined and included in the State total.

EGGS: December 1 number of operations, number of layers, production, price, and value, by county, 2003-2007 [1]

Year	Operations		Average number of layers	Average production per layer	Production [2]	Average price [3]	Value of sales
	All	3,000 layers Or more					
	Number		1,000 birds	Eggs	Million eggs	Cents per dozen	1,000 dollars
State [4]							
2003	80	9	507	231	117.2	96.2	9,396
2004	80	8	500	237	118.5	108.0	10,670
2005	80	8	498	230	114.5	94.1	8,979
2006	80	6	448	219	98.3	100.0	8,192
2007	**80**	**5**	**378**	**216**	**81.8**	**109.0**	**7,428**
County:							
Hawaii/Kauai/Maui [5]							
2003	65	4	116	251	29.1	107.5	2,607
2004	65	4	122	227	27.7	110.0	2,539
2005	65	4	112	220	24.8	110.0	2,274
2006	65	2	[6]	[6]	[6]	[6]	[6]
2007	**65**	**1**	**[6]**	**[6]**	**[6]**	**[6]**	**[6]**
Honolulu							
2003	15	5	391	225	88.1	92.5	6,789
2004	15	4	378	240	90.8	107.5	8,131
2005	15	4	386	232	89.7	89.5	6,705
2006	15	4	[6]	[6]	[6]	[6]	[6]
2007	**15**	**4**	**[6]**	**[6]**	**[6]**	**[6]**	**[6]**

[1] Annual number of layers, egg production, sales, price, and value are for the 12-month period, December of the previous year through November of the following year. [2] Home consumption less than 0.5 million eggs included. [3] Equivalent delivered processing plant. [4] Sum of county estimates may not add to State total due to rounding. [5] Kauai and Maui combined with Hawaii to avoid disclosure of individual operations. [6] Data not shown separately to avoid disclosure of individual operations but combined and included in the State total.

EGGS: Production and Value of Sales, State of Hawaii, 1998-2007

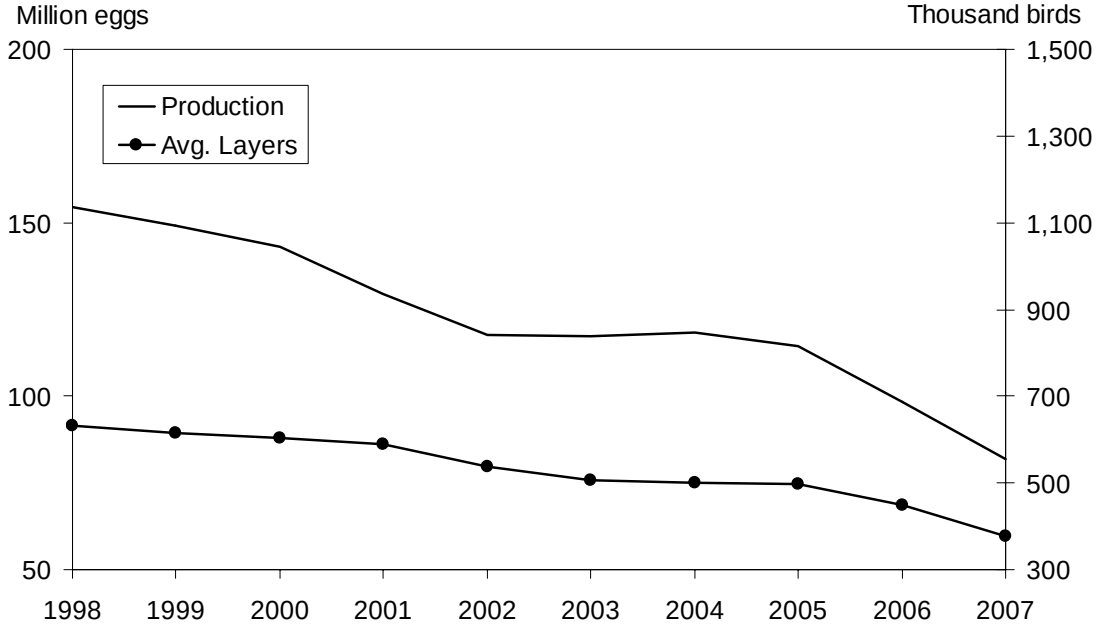


EGGS: Number of layers, production, and price, State of Hawaii, 2003-2007

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total or average [1]
Average number of layers on hand during month – *1,000 layers*													
2003	526	509	519	514	487	494	504	505	499	500	499	482	507
2004	492	501	504	505	502	504	495	497	501	505	512	512	500
2005	511	500	506	504	486	488	487	491	496	496	495	479	498
2006	478	475	467	461	446	445	438	429	427	419	417	409	448
2007	**403**	**395**	**388**	**380**	**367**	**368**	**369**	**368**	**366**	**365**	**362**		**378**
Egg production [2] – *million eggs*													
2003	10.2	9.0	10.0	10.0	9.8	9.3	9.7	10.0	9.7	9.9	9.6	9.7	117.2
2004	9.7	9.3	10.5	10.3	10.2	9.7	10.0	10.0	9.5	9.9	9.7	10.1	118.5
2005	10.4	9.4	10.1	9.4	9.4	9.3	9.9	9.5	8.8	9.2	9.0	8.8	114.5
2006	8.8	7.9	8.7	8.3	8.3	8.2	8.6	8.2	7.6	7.6	7.3	7.4	98.3
2007	**7.3**	**6.4**	**6.9**	**6.7**	**6.9**	**6.9**	**7.0**	**6.8**	**6.4**	**6.7**	**6.4**		**81.8**
Average farm price [3] – *cents per dozen*													
2003	94.0	94.5	95.5	97.5	98.5	97.5	97.0	97.5	94.5	96.0	99.5	101.5	96.2
2004	106.5	110.0	113.5	115.0	114.0	110.0	109.0	107.5	105.5	103.0	100.0	97.0	108.0
2005	99.5	98.0	94.0	94.0	88.5	88.5	91.5	89.5	87.0	102.5	98.5	106.0	94.1
2006	108.0	105.0	96.0	100.0	98.0	97.0	97.0	93.5	98.5	100.5	100.0	110.0	100.0
2007	**106.0**	**113.0**	**110.0**	**108.0**	**109.0**	**104.0**	**104.0**	**100.0**	**108.0**	**116.0**	**121.0**		**109.0**

[1] Annual data are for the 12-month period, December of the previous year through November of the following year.
[2] Sum of monthly estimates may not add to annual total due to rounding.
[3] Equivalent delivered processing plant.

CHICKENS: Production and Average Number of Layers, State of Hawaii, 1998-2007



EQUINE: January 1 inventory and number sold, State of Hawaii, 1992-2007

Year	Inventory	Number sold
	1,000 head	
1992	4.0	.2
1997	5.1	.2
2002	4.6	.3
2007	**6.5**	**.4**

Source: Census of Agriculture. Data just for on-farm equine, excludes non-farm equine.

GOATS: January 1 inventory and number sold, State of Hawaii, 1992-2007

Year	Inventory	Number sold
	1,000 head	
1992	5.0	3.0
1997	3.3	3.6
2002	5.4	4.2
2007	**9.2**	**2.8**

Source: Census of Agriculture.

HONEY AND BEESWAX: Number of operations, colonies, yield, production, price, and value, State of Hawaii, 2003-2007

Year	Opera-tions	Number of colonies	Yield per colony (honey)	Production		Average price [1]		Value of production	
				Honey (extracted)	Beeswax	Honey (extracted)	Beeswax	Honey (extracted)	Beeswax
	Number	*Thousands*	*Pounds*	*----- 1,000 pounds -----*		*----- Cents per pound -----*		*----- 1,000 dollars -----*	
2003	29	7	114	798	11	145	182	1,157	20
2004	31	8	96	768	11	159	182	1,221	20
2005	34	9	131	1,179	10	143	182	1,686	18
2006	35	10	93	930	29	121	205	1,125	59
2007	**40**	**10**	**92**	**920**	**6**	**158**	**294**	**1,454**	**18**

[1] Average of unprocessed bulk and processed packaged honey sold at wholesale and processed packaged honey sold at retail by farmers.

SHEEP AND LAMBS: January 1 inventory by class, State of Hawaii, 2003-2007

Year	All sheep and lambs	Breeding				Market			Lamb crop
		Total	Ewes 1 year +	Rams 1 year +	Replacement lambs	Total	Lambs	Sheep	
					1,000 head				
2003	20	13	6	3	4	7	4	3	5
2004	20	13	6	3	4	7	5	2	5
2005 [1]									
2006 [1]									
2007 [1]									

[1] Data not shown to avoid disclosure of individual operations.

AQUACULTURE: Number of operations, production, and value, by county, 2003-2007

Year	Operations	Production		Value					
		Shellfish	Finfish	Shellfish	Finfish	Algae	Ornamental	Other [1]	Total
	Number	*------ 1,000 pounds ------*		*---------- 1,000 dollars ----------*					
State									
2003	85	1,312	397	9,719	1,740	11,848	752	3,591	27,650
2004	100	956	484	8,326	1,975	12,602	520	4,677	28,100
2005	70	[2]	[2]	[2]	[2]	14,637	[2]	[2]	28,398
2006	80	180	426	2,351	2,388	11,914	345	4,259	21,257
2007	**70**	**65**	**523**	**520**	**4,536**	**10,941**	**2,424**	**6,829**	**25,250**
County:									
Hawaii									
2003	31	572	[3]	5,508	[3]	10,923	[3]	[3]	19,639
2004	39	450	[3]	5,593	[3]	11,702	[3]	[3]	21,211
2005	25	[2]	[2]	[2]	[2]	[3]	[2]	[2]	20,179
2006	25	103	[3]	1,834	[3]	[3]	[3]	[3]	17,470
2007	**25**	**[3]**	**[3]**	**[3]**	**[3]**	**[3]**	**[3]**	**[3]**	**20,155**
Honolulu/Kauai/Maui									
2003	54	740	[3]	4,211	[3]	925	[3]	[3]	8,011
2004	61	506	[3]	2,733	[3]	900	[3]	[3]	6,889
2005	45	[2]	[2]	[2]	[2]	[3]	[2]	[2]	8,219
2006	55	77	[3]	517	[3]	[3]	[3]	[3]	3,787
2007	**45**	**[3]**	**[3]**	**[3]**	**[3]**	**[3]**	**[3]**	**[3]**	**5,095**

[1] Includes seed stock, brood stock, and items not sold by weight.
[2] 2005 Census of Aquaculture breakout of categories was not available to avoid disclosure of individual operations with other states.
[3] Data not shown separately to avoid disclosure of individual operations but combined and included in the State total.

AGRICULTURAL LABOR: Hired workers on farms, annual and quarterly averages, State of Hawaii, 2003-2007 [1]

Year	Hired workers by type of farm			Total farm employment hired workers [2]
	Sugarcane	Pineapple	Other	
2003	700	1,200	5,300	7,300
2004	700	1,200	5,400	7,300
2005	700	1,100	5,200	7,000
2006	600	1,000	5,400	7,000
2007	**NA**	**NA**	**NA**	**6,500**
January [3]				
April	[4] 1,200	[4]	5,400	6,600
July	[4] 1,200	[4]	5,100	6,300
October	[4] 1,150	[4]	5,250	6,400

NA = Not available.
[1] Averages are based on data collected from the January, April, July and October surveys.
[2] Sum of hired workers by type of farm may not add to total hired workers due to rounding.
[3] The January 2007 Farm Labor survey was not conducted.
[4] Beginning April 2007, pineapple combined with sugarcane to avoid disclosure of individual operations.

AGRICULTURAL LABOR: Annual average number of hired workers on farms, by county, 2003-2007 [1]

Year	County				Total [2]
	Hawaii	Honolulu	Kauai	Maui	
2003	2,750	2,150	750	1,650	7,300
2004	2,700	2,200	650	1,800	7,300
2005	2,500	2,050	700	1,700	7,000
2006	2,650	1,950	700	1,750	7,000
2007 [3]	**2,500**	**1,650**	**650**	**1,700**	**6,500**

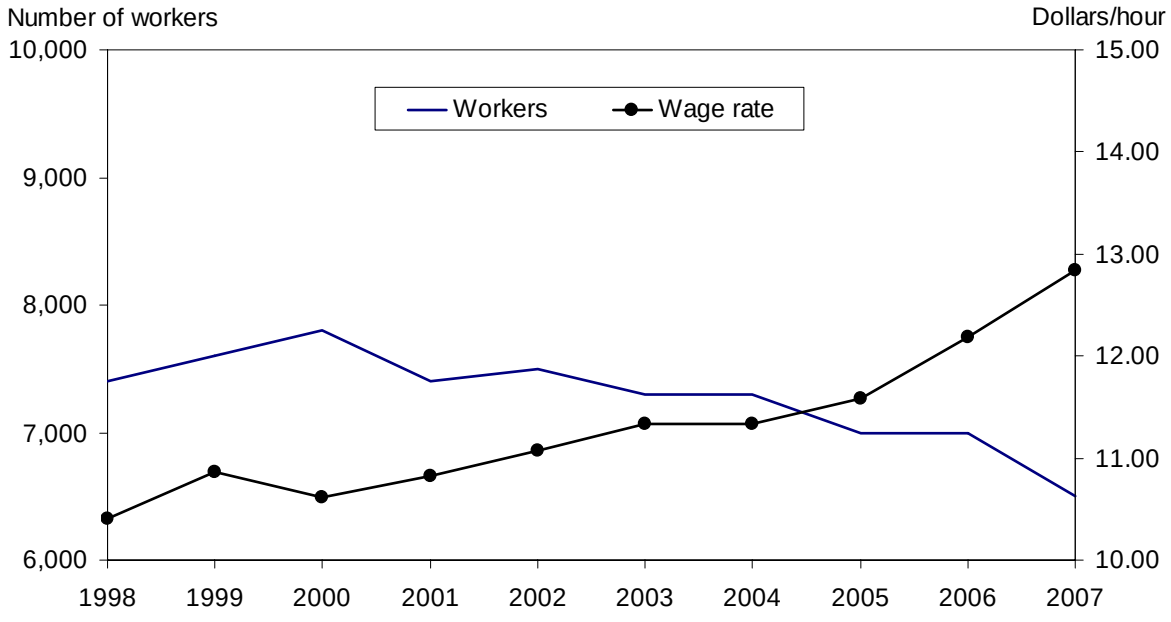
[1] Annual averages are based on data collected from the January, April, July, and October surveys.
[2] Sum of county estimates may not add to total due to rounding.
[3] The 2007 annual average number of hired workers by county is based on modeled data for January and survey data for April, July, and October.

HIRED AGRICULTURAL LABOR: Wage rates for type of worker and all hired workers, annual and quarterly averages, State of Hawaii, 2003-2007 [1]

Year	All farms		Farms with 1-9 workers	
	Field/livestock	All hired workers	Field/livestock	All hired workers
	Dollars per hour			
2003	9.60	11.33	8.52	9.62
2004	9.75	11.34	8.99	10.29
2005	10.00	11.59	9.19	10.25
2006	10.32	12.18	9.46	10.78
2007 [2]	**10.86**	**12.84**	**10.18**	**11.17**
January [3]				
April	10.77	12.85	9.92	11.24
July	10.89	12.87	10.28	10.90
October	11.13	13.19	10.49	11.39

[1] Annual wage rates are averages of the published wage rates for each survey week weighted by the number of hours worked during the week.
[2] The 2007 annual average wage rate for All Farms is based on modeled data for January and survey data for April, July, and October. The 2007 annual average wage rate for Farms With 1-9 Workers is based on survey data for April, July, and October.
[3] The January 2007 Farm Labor survey was not conducted.

Hired Workforce and Average Wage Rate, State of Hawaii, 1998-2007



Number of workers is average of January, April, July, and October surveys.

HAWAII AG-TOURISM

The value of Hawaii's ag-tourism related activities is pegged at $38.8 million for 2006, up 14 percent from the $33.9 million generated in 2003. There were 112 farms statewide that had ag-tourism related income during 2006, a 40 percent decrease from 2003 as fewer agricultural producers in Hawaii have opened up their operations to visitors to the farm experience through ag-tourism activities. Interest in ag-tourism continues to be strong as 84 farms either are involved in ag-tourism activities in 2006 or planned to be in the future.

The distribution of ag-tourism throughout Hawaii has become more concentrated during the past three years as Hawaii county now accounts for half of the farms with ag-tourism and 34 percent of the total value. Honolulu county had 12 percent of the farms and 37 percent of the total value. Kauai county accounted for 13 percent of the farms and the value was 16 percent of the total. Maui county accounted for 25 percent of the farms and was the only county showing a decline from 2003 with 13 percent of the total value.

AG-TOURISM: Number of farms, value, and future intentions by country, State of Hawaii, 2000, 2003, and 2006

County	Total farms			Farms with ag-tourism activity			Value of ag-tourism			Farms intending to conduct ag-tourism activities in the future		
	2000	2003	2006	2000	2003	2006	2000	2003	2006	2000	2003	2006
							---------- *$1,000* ----------					
Hawaii	3,300	3,300	3,300	60	89	56	8,875	12,562	13,206	47	65	50
Honolulu	900	900	900	19	31	13	7,777	8,586	14,201	15	23	10
Kauai	500	500	500	16	24	15	2,103	5,949	6,365	6	20	10
Maui	800	800	800	31	43	28	7,288	6,772	4,994	16	37	14
State	**5,500**	**5,500**	**5,500**	**126**	**187**	**112**	**26,043**	**33,869**	**38,766**	**84**	**145**	**84**

Revenues from ag-tourism, which includes many various activities, was broken down into several categories. On-farm sales direct to farm visitors was the leading category, with $12.1 million, followed by retail sales (products from other farms or souvenir items), outdoor recreation, educational, and others.

AG-TOURISM: Number of farms and value, by type of activity, State of Hawaii, 2000, 2003, and 2006

Item	Type of ag-tourism activity							Totals [3]
	Outdoor recreation	Educational tourism	On-farm sales	Retail sales [1]	Accommo-dations [2]	Entertain-ment	Other	
Farms								
2000	28	30	83	29	27	8	8	126
2003	34	30	103	38	33	8	6	187
2006	**26**	**25**	**69**	**30**	**24**	**7**	**4**	**112**
Value ($1,000)								
2000	5,875	353	8,444	6,700	2,252	775	1,644	26,043
2003	5,019	1,177	13,479	9,083	2,490	1,061	1,560	33,869
2006	**9,305**	**2,255**	**12,054**	**11,963**	[4]	[4]	**3,189**	**38,766**

[1] Includes products from other farms or souvenir items.
[2] Includes bed and breakfast, meeting rooms, etc.
[3] Unduplicated total number of farms.
[4] For 2006, Accommodations and Entertainment were combined with "Other" to avoid disclosure of individual operations.

Eight-one percent of all ag-tourism operations in 2006 were planning to maintain or expand their operations in the future. Only 4 percent, or 5 farms, of the total indicated that they will discontinue or reduce their ag-tourism activities in the future. The 2006 Ag-tourism survey also showed that flower and/or nursery operations remained the most popular type of ag-tourism operation. Livestock and fruit farms were tied for second.

AG-TOURISM: Distribution of farms by future intentions, State of Hawaii, 2000, 2003, and 2006

Year	Future ag-tourism plans				Total
	Expand ag-tourism activities	Remain at current level	Discontinue or reduce ag-tourism activities	Uncertain	
	Number of ag-tourism farms				
2000	60	41	7	18	126
2003	61	86	8	32	187
2006	**48**	**43**	**5**	**16**	**112**

AG-TOURISM: Distribution of farms by type of farm, State of Hawaii, 2000, 2003, and 2006

Year	Type of farm [1]							Total
	Fruit	Vegetable	Coffee	Macadamia nut	Flower/ nursery	Livestock	Other	
	Number of ag-tourism farms							
2000	12	8	25	5	35	30	11	126
2003	30	18	30	14	38	26	31	187
2006	**21**	**8**	**20**	**8**	**25**	**21**	**9**	**112**

[1] A predominate commodity was designated for farms reporting more than one commodity.

HAWAII AGRICULTURAL THEFT AND/OR VANDALISM

The Hawaii Field Office of the USDA's National Agricultural Statistics Service conducted a special survey of Hawaii's farmers on their exposure to agricultural theft and/or vandalism. The total value of theft and/or vandalism losses, as well as security costs, from Hawaii farms is estimated at $11.4 million or 8 percent of the 2004 Hawaii net farm income of $135 million estimated by USDA, Economic Research Service. Total theft of farm commodities, materials, equipment, and other property is pegged at $1.9 million. Statewide vandalism cost to farms in Hawaii totaled $2.0 million. Total security costs to prevent theft and/or vandalism totaled $7.4 million. A special note of acknowledgment goes to the Hawaii Farm Bureau Federation (HFBF). This survey was conducted with funds from the State of Hawaii, Department of Agriculture and co-sponsored by the HFBF.

Theft and/or vandalism losses and security measure costs, by county, 2004

County	Losses		Security measure costs	Total
	Theft	Vandalism [1]		
	1,000 dollars			
Hawaii	634	192	3,119	3,945
Honolulu	798	568	2,553	3,919
Kauai	185	99	893	1,177
Maui	329	1,160	835	2,324
Total	**1,946**	**2,019**	**7,400**	**11,365**

[1] A large vandalism event occurred during 2004 and was reported by one of our respondents. We consider this event a statistical aberration. We have omitted this event and summarized the remaining data to acquire what we consider a truer picture of agricultural vandalism for the State of Hawaii.

Theft by category, State of Hawaii, 2004

Type of theft	Number of incidents	Amount of loss
		1,000 dollars
Crop	2,900	562
Livestock	284	262
Chemical/Fertilizer	127	55
Machinery/Equipment	608	839
Other Property	820	228
Total	**4,739**	**1,946**

Vandalism by category, State of Hawaii, 2004

Type of vandalism	Number of incidents	Amount of loss
		1,000 dollars
Crop	263	1,026
Livestock	61	299
Chemical/Fertilizer	23	4
Machinery/Equipment	169	465
Other Property	637	225
Total	**1,153**	**2,019**

The Hawaii Field Office of USDA's National Agricultural Statistics Service estimates the value of agricultural commodities at the point in time when exported to the continental United States at $416.5 million during the 2007 calendar year which is down 2 percent from the revised 2006 estimated value. Some commodities were modified from its original condition to create an added value product.

Hawaii Agricultural Exports to the Mainland United States: Estimated value, by commodity group, 2003-2007

Commodity group	2003	2004	2005	2006	2007
			Thousand dollars		
Cattle [1]	13,064	15,650	17,058	19,117	**19,510**
Ornamentals [2]	49,867	46,477	48,487	47,912	**53,284**
Molasses [3]	3,100	2,400	4,600	4,900	**5,400**
Raw sugar [4]	95,900	91,700	87,900	74,800	**70,900**
Other [5]	262,116	254,648	279,095	278,444	**267,390**
Total Mainland U.S.	424,047	410,875	437,140	425,173	**416,484**

[1] Value is based on live weight price multiplied by average live weight and multiplied by the total number of cattle and calves exported.
[2] Includes floriculture and nursery products.
[3] Commercial value of factory-produced molasses on a common basis calibrated empirical formula issued by the United States Department of Agriculture. Molasses is a by-product of processing sugarcane or refined raw cane sugar.
[4] Commercial value for factory-produced sugar on a common basis calibrated empirical formula issued by the United States Department of Agriculture. Commercial sugar is sugar from high-grade massecuite (a mixture of crystals and mother liquor, crystallization having occurred in the mixture) which enters into commerce.
[5] Commodities not published separately to avoid disclosing administratively confidential information.

The United States Department of Agriculture's Economic Research Service estimates the value of Hawaii agricultural exports to foreign countries at $87.6 million during the 2007 federal fiscal year (October 1, 2006 to September 30, 2007), down 6 percent from the revised previous year. Foreign agricultural exports from Hawaii for the 2006 year were revised from $96.0 million to $93.2 million.

Hawaii Agricultural Exports outside the United States: Estimated value, by commodity group, 2003-2007 [1]

Commodity group	2003	2004	2005	2006	2007
			Thousand dollars		
Fruits and preps [2]	35,600	46,400	54,200	49,800	**38,400**
Livestock [3]	2,800	2,200	2,200	2,400	**2,700**
Tree nuts	15,100	10,900	7,600	7,600	**7,900**
Other [4]	26,400	29,100	31,100	33,400	**38,600**
Total Foreign Countries	79,900	88,600	95,100	93,200	**87,600**

[1] Source: USDA-Economic Research Service (ERS). Federal fiscal year begins October 1 of the previous year. Totals may not add due to rounding.
[2] Includes fruit, juice, and fruit products.
[3] Includes live animals and animal products.
[4] Includes sugar and tropical products, minor oilseeds, essential oils, beverages other than juice, nursery and greenhouse, seeds, feeds & fodder, wine, and misc. vegetable products.

DEFINITION OF TERMS

- **Agriculture** entails all operations performed on a "farm" in connection with planting, growing, and harvesting of crops; raising and feeding of livestock and poultry, and management. All operations in connection with preparation of farm products for market where the preparation does not alter the form of the product and transportation to the first delivery point. In Hawaii, the first delivery point is defined as the processing plant or packinghouse door or other receivers' establishment for marketings on the island of production. For off-island marketings, the first delivery point is generally the shipper's warehouse.

- **Ag-tourism** is a commercial enterprise on a working farm conducted for the enjoyment, education, and/or active involvement of the visitor, generating supplemental income for the farm. Activities such as producing and selling products directly from the farm, operating a bed and breakfast, conducting educational farm tours, offering horseback riding, festivals, concerts, and many other on-farm activities qualify as ag-tourism.

- **Farm** is a place with estimated (or expected) annual sales of agricultural products of at least $1,000.

- **Crop Production** is the estimated amount of crop harvested and transferred at the first delivery point. Production estimates of vegetables and fruits include the quantity for fresh market and processing use.

- **Acreage In Crop** is the total acreage standing in a specific crop regardless of age or condition unless it has been declared abandoned by the operator.

- **Acreage Harvested** is the total area harvested or partially harvested during the reporting period. A permanent or semi-permanent planting that was harvested for only a portion of the year is counted in its entirety. Acreage lost before maturity due to natural or economic factors is not included. Acreage harvested and planted repeatedly during the year is counted each time.

- **Yield** is the average production per acre of merchantable quality harvested and sold or utilized. This is derived by dividing total production by harvested acres.

- **Livestock Operation** is defined as a place that has one or more head of the species on hand at any time during the year. It does not have to meet the definition of a farm.

- **Livestock Production** is the estimated amount of livestock and livestock products sold. This includes allowance for amounts used on farms where produced.

- **Farm Price** is a computed price to value agricultural production which may or may not reflect the average price at which actual transfer of ownership took place but which is comparable with the definition of "agriculture". See "agriculture" for the definition of pricing point.

- **Market Supply** includes pounds of product sold in Hawaii to both Armed Forces and civilians (outshipments excluded). Direct inshipments to the Armed Forces are excluded.

The Hawaii Field Office of USDA, National Agricultural Statistics Service, uses a variety of sampling techniques to produce current agricultural statistics about crops, livestock, prices, farm labor, and other information relating to the agricultural economy.

Data is collected and summarized; estimates are prepared. These estimates then pass through the Agricultural Statistics Board of the U.S. Department of Agriculture where, for major items, Hawaii estimates become part of National totals and enter the official data base for agriculture. National and State estimates are published according to a schedule set one year in advance.

The Hawaii Field Office conducts many of its surveys by virtually complete **ENUMERATION** of certain parts of the population. This is unusual compared to procedures in other states but is feasible in Hawaii due to the relatively small size of certain categories of the farm universe or the extreme concentration of ownership.

- **List Sampling** is a common means of data collection. Lists of farm operators are well suited for the low cost collection of information by mail. Supplementary information is included within the frame that allows the use of efficient stratified sample designs. A major disadvantage of this method is the constant change in the list frame which can never be perfect. In Hawaii, cattle, hog, macadamia nut, and coffee surveys are examples of stratified list sample designs.

- **Area Frame Sampling** can be used alone or in conjunction with the list frame. The frame consists of an aggregation of identifiable units of land or segments which may be sampled. The frame is complete and does not suffer the type of deterioration over time as does a list frame.

- **Multiple-Frame Sampling** is the use of two frames. It takes advantage of the best attributes of the area frame and the list frame, produces unbiased estimates, and allows measurement of the sampling error.

- **Objective Yield Surveys** provide information from direct counts, measurements and weights of the crop made from small plots in a probability selection of sample fields.

- **Administrative Data** is used in addition to producer surveys to establish final production and marketings. These include processor receipts, slaughter, vacuum cooler volume, and inspections. Unloads at Honolulu and wholesale prices, as reported by the Market Analysis and News Branch, are an important check data source.

Where can I get more statistics or economic analysis?

National Agricultural Statistics Service (NASS) publications include weekly, monthly, quarterly, and annual estimates of production, stocks, inventories, dispositions, utilization, and process of agricultural commodities and other items. The Census of Agriculture is published every five years covering all commodities by state, county, and zip code. Other census reports include the Agricultural Atlas, Agricultural Economics & Land Ownership, Aquaculture, Census History, Congressional Tabulations, Farm & Ranch Irrigation, Horticulture Specialties, and Outlying Areas.

Economic Research Service (ERS) Situation and Outlook Reports and periodicals analyze the current situation and forecast market conditions. ERS monographs offer economic analysis in the area of trade, production, rural development, farm inputs, and other topics.

The World Agricultural Outlook Board (WAOB) issues regular forecasts of U.S. and world supply and demand prospects for major agricultural commodities.

How can I get national publications from NASS & ERS?

→ For free e-mail subscriptions, visit usda.mannlib.cornell.edu/MannUsda/register.do
or visit www.nass.usda.gov/Publications/index.asp. The NASS and ERS catalogs list all products and services available from each agency. The NASS catalog includes a calendar of publication dates for agricultural statistics reports throughout the year.

How can I get state publications from NASS field offices?

→ For free e-mail subscriptions, visit www.nass.usda.gov/Publications/index.asp or view them online at www.nass.usda.gov/Statistics_by_State/index.asp
→ For paper subscriptions, contact us at (808) 973-9588. For other states, call 1-800-727-9540.

Sources of Agricultural Information in USDA

USDA – NASS Room 5030 South Building 1400 Independence Ave., SW Washington, D.C. 20250-2000	1-800-727-9540 FAX: 202-690-2090	Washington, D.C. E-mail: nass@nass.usda.gov Hawaii E-mail: nass-hi@nass.usda.gov Other Field Offices E-mail: nass-xx@nass.usda.gov (xx is the state abbreviation) Internet: www.nass.usda.gov	
USDA – ERS 1800 M Street, NW Washington, D.C. 20036-5831		202-694-5050 FAX: 202-694-5638	E-mail: InfoCenter@ers.usda.gov Internet: www.ers.usda.gov
USDA – WAOB Room 4426 South Building 1400 Independence Ave., SW, Stop 3812 Washington, D.C. 20250-3812		202-720-5447 FAX: 202-690-3160	E-mail: bchapin@oce.usda.gov Internet: www.usda.gov/oce/commodity
Small Farm Program: USDA – CSREES 1400 Independence Ave., SW, Stop 2201 Washington, D.C. 20250-2201		202-720-4423 FAX: 202-690-0289	Internet: www.csrees.usda.gov/smallfarms
Farmer Direct Marketing Initiative: USDA – AMS – Transportation & Marketing Marketing Services Branch Room 2646 South Building 1400 Independence Ave., SW, Stop 0269 Washington, D.C. 20250-0269		202-720-8317 FAX: 202-690-0031	E-mail: Errol.Bragg@usda.gov Internet: www.ams.usda.gov/farmersmarkets

National Specialists are available to answer your questions by phone or E-mail. See these internet sites for telephone numbers and E-mail addresses:

Statistics from USDA, NASS	Internet: www.nass.usda.gov/ComSpec
Economists in USDA, ERS	Internet: www.ers.usda.gov

Title and Description	Release Date
CROPS	
AVOCADOS: Annual summary of acreage, yield, production, farm price, and value	June
BANANAS: Annual summary of acreage, yield, production, farm price, and value	May
COFFEE:	
- Preliminary season estimates of acreage, yield, production, farm price, and value	December
- Final season estimates of acreage, yield, production, farm price, and value	August
FRUITS:	
- Annual summary of fresh and processed fruit acreage, production, farm price, and value	September
- Annual summary of tropical specialty fruits acreage, production, and value	August
GINGER ROOT: Annual summary of acreage, yield, production, farm price, and value. Planting intentions for next season	August
GUAVAS: Annual summary of acreage, production, farm price, and value	June
HERBS: Annual summary of fresh production, farm price, and value	August
MACADAMIA NUTS:	
- Preliminary season estimates of acreage, yield, production, farm price, and value	January
- Final season estimates of acreage, yield, production, farm price, and value	July
PAPAYAS: Monthly report of acreage, utilization, and farm price	Mid-month
SEED CROP: Annual summary of acreage, outshipments of seed, and value	October
SUGARCANE: Estimates of acreage and production for all major U.S. producing areas	August-November
TARO:	
- Quarterly report of taro milled for poi	Jan., Apr., Jul., Oct.
- Annual summary of acreage, production, and farm prices for Chinese and wetland taro varieties	April
VEGETABLES:	
- Monthly report of acreage, sales, and farm price for selected major vegetables. Includes forecast of harvested acreage	Second week of month
- Annual summary of acreage, production, and value for all vegetables and melons	July
FLORICULTURE AND NURSERY PRODUCTS	
FLORICULTURE AND NURSERY PRODUCTS: Annual summary of acreage, production, and value	June
POINSETTIAS: Fall report of plant inventory and past year sales	October
LIVESTOCK	
LIVESTOCK REVIEW: Monthly hog and cattle slaughter, cattle outshipment, pasture conditions, number of milk cows and milk production, number of layers and egg production, and farm prices	First full week of month
AQUACULTURE: Annual summary of operations, production, and value	September
CATTLE: Annual summary of inventory and calf crop as of January 1	February
HOGS: Annual summary of inventory and pig crop as of December 1	January
HONEY: Annual summary of colonies, production, yield, farm price, and value	February
OTHER PUBLICATIONS	
CROP WEATHER: Weekly comments on weather and crop conditions. Rainfall data for selected stations	First working day of week
FARM LABOR: Quarterly report on number of workers by type and average wage rates	Feb., May, Aug., Nov.
STATISTICS OF HAWAII AGRICULTURE: Annual summary of the State's agricultural sector	October

To order: Any of the above reports may be obtained by contacting the USDA, NASS, Hawaii Field Office, 1428 South King Street, Honolulu, HI 96814-2512, (808) 973-9588.

Most of our publications are available on the internet at: www.nass.usda.gov/hi/
Now you can receive our latest publications by e-mail. Subscribe free over the internet at: www.nass.usda.gov/sub-form.htm

STATE FIELD OFFICES

TO REQUEST DATA FROM THE OTHER STATISTICAL OFFICES, WRITE: (STATE) FIELD OFFICE

ALABAMA
P.O. Box 240578
Montgomery 36124
(334) 279-3555

ALASKA
P.O. Box 799
Palmer 99645
(907) 745-4272

ARIZONA
230 N First Ave.
Suite 303
Phoenix 85003
(602) 280-8850

ARKANSAS
10800 Financial Centre
Pkwy. Suite 110
Little Rock 72211
(501) 228-9926

CALIFORNIA
P.O. Box 1258
Sacramento 95812
(916) 498-5161

COLORADO
P.O. Box 150969
Lakewood 80215
(303) 236-2300

DELAWARE
2320 S. Dupont Hwy.
Dover 19901
(302) 698-4537

FLORIDA
P.O. Box 530105
Orlando 32853
(407) 648-6013

GEORGIA
355 East Hancock Ave.
Suite 320
Athens 30601
(706) 546-2236

IDAHO
P.O. Box 1699
Boise 83701
(208) 334-1507

ILLINOIS
P.O. Box 19283
Springfield 62794
(217) 492-4295

INDIANA
1435 Win Hentschel
Blvd. Suite 110
West Lafayette 47906
(765) 494-8371

IOWA
833 Federal Bldg.
210 Walnut St.
Des Moines 50309
(515) 284-4340

KANSAS
P.O. Box 3534
Topeka 66601
(785) 233-2230

KENTUCKY
P.O. Box 1120
Louisville 40201
(502) 582-5293

LOUISIANA
P.O. Box 65038
Baton Rouge 70896
(225) 922-1362

MARYLAND
50 Harry S. Truman
Pkwy. Suite 202
Annapolis 21401
(410) 841-5740

MICHIGAN
P.O. Box 26248
East Lansing 48909
(517) 324-5300

MINNESOTA
P.O. Box 7068
St. Paul 55107
(651) 296-2230

MISSISSIPPI
P.O. Box 980
Jackson 39205
(601) 965-4575

MISSOURI
P.O. Box L
Columbia 65205
(573) 876-0950

MONTANA
10 West 15th Suite 3100
Helena 59626
(406) 441-1240

NEBRASKA
P.O. Box 81069
Lincoln 68501
(402) 437-5541

NEVADA
P.O. Box 8880
Reno 89507
(775) 972-6001

NEW HAMPSHIRE
53 Pleasant St. Rm 2100
Concord 03301
(603) 224-9639

NEW JERSEY
P.O. Box 330
Trenton 08625
(609) 292-6385

NEW MEXICO
P.O. Box 1809
Las Cruces 88004
(575) 522-6023

NEW YORK
10B Airline Drive
Albany 12235
(518) 457-5570

NORTH CAROLINA
P.O. Box 27767
Raleigh 27611
(919) 856-4394

NORTH DAKOTA
P.O. Box 3166
Fargo 58108
(701) 239-5306

OHIO
P.O. Box 686
Reynoldsburg 43068
(614) 728-2100

OKLAHOMA
P.O. Box 528804
Oklahoma City 73152
(405) 522-6190

OREGON
1735 Federal Bldg.
1220 S. W. Third Ave.
Portland 97204
(503) 326-2131

PENNSYLVANIA
2301 N. Cameron St.
Rm G-19
Harrisburg 17110
(717) 787-3904

PUERTO RICO
P.O. Box 10163
San Juan 00908
(787) 723-3773

SOUTH CAROLINA
1835 Assembly St.
Suit 1008
Columbia 29201
(803) 765-5333

SOUTH DAKOTA
P.O. Box 5068
Sioux Falls 57117
(605) 323-6500

TENNESSEE
P.O. Box 41505
Nashville 37204
(615) 781-5300

TEXAS
P.O. Box 70
Austin 78767
(512) 916-5581

UTAH
P.O. Box 25007
Salt Lake City 84125
(801) 524-5003

VIRGINIA
P.O. Box 1659
Richmond 23218
(804) 771-2493

WASHINGTON
P.O. Box 609
Olympia 98507
(360) 902-1940

WEST VIRGINIA [1]
1900 Kanawha Blvd. E
Charleston 25305
(304) 345-5958

WISCONSIN
P.O. Box 8934
Madison 53708
(608) 224-4848

WYOMING
P.O. Box 1148
Cheyenne 82003
(307) 432-5600

[1] Send UPS/Fed Ex (BULK/FREIGHT) mail to: 4720 Brenda Lane, Building 2, Room 203, Charleston 25312. First class mail only will be delivered at the above address.

Cooperative Extension Service
Hawaii County Office
875 Komohana St.
Hilo, HI 96720
(808) 981-5199

Cooperative Extension Service
Kamuela Office
67-5189 Kamamalu Rd.
Kamuela, HI 96743
(808) 887-6183

Cooperative Extension Service
Kona Office
79-7381 Mamalahoa Hwy.
Kealakekua, HI 96750-7911
(808) 322-4892

Cooperative Extension Service
Maui Office
310 Kaahumanu Ave. Bldg. 214
Kahului, HI 96732
(808) 244-3242

Cooperative Extension Service
Molokai Office
P.O. Box 394
Hoolehua, HI 96729
(808) 567-6929

Cooperative Extension Service
Kauai County Office
3060 Eiwa St. Rm 210
Lihue, HI 96766
(808) 274-3471

Cooperative Extension Service
Wahiawa Office
910 California Ave. Rm 108
Wahiawa, HI 96786
(808) 622-4185

Cooperative Extension Service
Kaneohe Office
45-260 Waikalua Rd. Rm 101
Kaneohe, HI 96744
(808) 247-0421

Cooperative Extension Service
Pearl City Office
955 Kamehameha Hwy.
Pearl City, HI 96782
(808) 453-6050

Cooperative Extension Service
Oahu County Office
1955 E West Rd. Ag Science Bldg. 217
Honolulu, HI 96822
(808) 956-7138

USDA Hawaii County FSA Office
Room 219 Federal Bldg.
154 Waianuenue Ave.
Hilo, HI 96720
(808) 933-8381

USDA Maui County FSA Office
77 Hookele St. Suite 201
Kahului, HI 96732
(808) 871-5500
Toll Free 1 (866) 465-0519

USDA Kauai County FSA Office
Watumull Bldg.
4334 Rice St. Rm 103
Lihue, HI 96766
(808) 245-9014

USDA Honolulu County FSA Office
99-193 Aiea Heights Drive Suite 114
Aiea, HI 96701
(808) 483-8600

INDUSTRY ASSOCIATIONS

ANTHURIUM

Hawaiian Anthurium Industry Association
P.O. Box 4755
Hilo, HI 96720
(808) 966-7427

AQUACULTURE

Hawaii Aquaculture Association
Aquaculture Development Program
1177 Alakea St. Rm 400
Honolulu, HI 96813
(808) 587-0030

AVOCADO

Hawaii Avocado Association
P.O. Box 925
Kealakekua, HI 96750
(808) 329-9729

AWA (KAVA)

Association for Hawaiian Awa
P.O. Box 636
Pepeekeo, HI 96783
(808) 965-8394

Awa Development Council
P.O. Box 26344
Honolulu, HI 96825
(808) 256-5605

BANANA

Hawaii Banana Industry Association
162 Maka Hinu St.
Hilo, HI 96720
(808) 936-6617

BEEKEEPERS

Big Island Beekeepers Association
HC 2 Box 9563
Keaau, HI 96749
(808) 966-4074

Hawaii Beekeepers' Association
3081G Paty Drive
Honolulu, HI 96822
(808) 988-7203

CATTLE

Hawaii Beef Industry & Cattlemen's Council
64-957 Mamalahoa Hwy.
Kamuela, HI 96743
(808) 885-5599

COFFEE

Hawaii Coffee Association
75-5629 Kuakini Hwy. Suite R#648
Kailua-Kona, HI 96740
(808) 847-3600

Ka`u Coffee Growers Cooperative
P.O. Box 28
Pahala, HI 96781

Kona Coffee Council
P.O. Box 2077
Kealakekua, HI 96750
(808) 322-6575

Kona Coffee Farmers Association
P.O. Box 5436
Kailua-Kona, HI 96745
(808) 322-1740

Kona Pacific Farmers Cooperative
P.O. Box 309
Captain Cook, HI 96704
(808) 328-2411

CROP IMPROVEMENT

Hawaii Crop Improvement Association
91-1012 Kahiuka St.
Ewa Beach, HI 96706
(808) 224-3648

EGG

Hawaii Egg Producers Association
841 Bishop St.
Honolulu, HI 96813
(808) 841-2384

FARM (General)

Hawaii Farm Bureau Federation
2343 Rose St.
Honolulu, HI 96819
(808) 848-2074

FLOWERS & NURSERY

Big Island Association of Nurserymen (BIAN)
P.O. Box 4365
Hilo, HI 96720
(808) 966-7169

Dendrobium Orchid Growers Association of Hawaii (DOGAH)
P.O. Box 1324
Wahiawa, HI 96786
(808) 668-1348

Hawaii Association of Nurserymen
1860 Ala Moana Blvd. Suite 420
Honolulu, HI 96815
(808) 951-0055

Hawaii Export Nursery Association (HENA)
P.O. Box 11120
Hilo, HI 96721
(808) 969-2088

Hawaii Florists and Shippers Association (HFSA)
P.O. Box 5640
Hilo, HI 96720
(808) 959-3535

Hawaii Island Landscape Association (HILA)
P.O. Box 1594
Kailua Kona, HI 96745
(808) 323-9848

Hawaii Landscape & Irrigation Contractors Association (HLICA)
1860 Ala Moana Blvd. Suite 420
Honolulu, HI 96815
(808) 951-0055

Hawaii State Protea Growers Corporation
P.O. Box 7180
Ocean View, HI 96737
(808) 939-9477

Hawaii Tropical Flower Council
P.O. Box 4306
Hilo, HI 96720
(808) 961-5555

Hawaii Tropical Flowers & Foliage Association-Kauai Chapter
P.O. Box 2015
Kapaa, HI 96746
(808) 332-7984

FLOWERS & NURSERY - Continued

Hawaii Turfgrass Association
1860 Ala Moana Blvd. Suite 420
Honolulu, HI 96815
(808) 951-0055

Landscape Industry Council of Hawaii (LICH)
P.O. Box 22938
Honolulu, HI 96823
(808) 951-0055

Maui Flower Growers Association
176 Mehani Circle
Kihei, HI 96753
(808) 248-8297

Orchid Growers of Hawaii (OGOH)
P.O. Box 4153
Hilo, HI 96720
(808) 965-9570

FOOD

Hawaii Food Manufacturers Association (HFMA)
P.O. Box 30812
Honolulu, HI 96820
(808) 456-5929

Hawaii Food Industry Association (HFIA)
820 Mililani St. Suite 810
Honolulu, HI 96813
(808) 533-1292

FOREST

Hawaii Forest Industry Association
P.O. Box 5594
Kailua Kona, HI 96745
(808) 933-9411

GUAVA

Hawaii Guava Growers Cooperative
P.O. Box 4833
Hilo, HI 96720
(808) 217-7210

MACADAMIA NUT

Hawaii Macadamia Nut Association
P.O. Box 541
Papaikou, HI 96781
(808) 969-8052

MILK

Fresh Milk Industry of Hawaii
P.O. Box 190
Hawi, HI 96719
(808) 889-5838

ONION

Maui Onion Growers Association (MOGA)
755 Naele Rd.
Kula, HI 96790
(808) 281-4596

ORGANIC

Hawaii Cooperative of Organic Farmers (HICOF)
P.O. Box 728
Waialua, HI 96791
(808) 637-4555

Hawaii Organic Farmers Association (HOFA)
P.O. Box 6863
Hilo, HI 96720
(808) 969-7789
Toll Free (877) 674-4753

PAPAYA

Hawaii Papaya Industry Association (HPIA)
P.O. Box 6959
Hilo, HI 96720
(808) 969-1160

PINEAPPLE

Pineapple Growers Association of Hawaii (PGAH)
1116 Whitmore Ave.
Wahiawa, HI 96786
(808) 621-1221

PORK

Hawaii Pork Industry Association (HPIA)
C/o Hawaii Food Products
87-1550 Kanahale Rd.
Waianae, HI 96792
(808) 676-9100

SHEEP

Sheep Producer's Association of Hawaii
P.O. Box 523
Honokaa, HI 96727
(808) 775-0401

TARO

Kauai Taro Growers Association
P.O. Box 427
Hanalei, HI 96714
(808) 826-6202

TEA

Hawaii Tea Society
P.O. Box 10644
Hilo, HI 96721

TROPICAL FRUITS

Hawaii Tropical Fruit Growers Association
P.O. Box 1162
Captain Cook, HI 96704
(808) 969-7926

Hawaii Tropical Fruit Cooperative
P.O. Box 388
Kurtistown, HI 96760
(808) 966-6633

VEGETABLE

Kamuela Vacuum Cooling Cooperative, LTD
P.O. Box 514
Kamuela, HI 96743
(808) 885-4271

Maui Farmer's Cooperative Exchange
970 B Lower Main St.
Wailuku, HI 96793
(808) 242-9767

PHOTOGRAPHY ACKNOWLEDGEMENTS

Aquaculture: Hawaii Aquaculture Association President, Ron Weidenbach holding one of his farm raised tilapia, courtesy of Aquaculture Development, Hawaii Department of Agriculture, page 155.

Floriculture: Dendrobium orchid, courtesy of Dr. Teresita D. Amore, Assistant Researcher at University of Hawaii at Manoa, CTAHR, Department of Tropical Plant and Soil Sciences, page 106.

Fruits: Lychee, courtesy of Love Family Farms, Ken Love, page 108.

Atemoya, jackfruit, mango, abiu, and starfruit, courtesy of Love Family Farms, Ken Love, page 111.

Vegetables: Chinese Cabbage (Won Bok), courtesy of the Market Development Branch, Hawaii Department of Agriculture, page 117.

Daikon, courtesy of the Market Development Branch, Hawaii Department of Agriculture, page 126.

Italian squash, courtesy of the Market Development Branch, Hawaii Department of Agriculture, page 133.

Watermelons, courtesy of Aloun Farm, page 138