2017 UTAH AGRICULTURE STATISTICS AND UTAH DEPARTMENT OF AGRICULTURE AND FOOD ANNUAL REPORT

STATE OF UTAH

GARY R. HERBERT
GOVERNOR

OFFICE OF THE GOVERNOR
SALT LAKE CITY, UTAH
84114-2220

SPENCER J. COX
LIEUTENANT GOVERNOR

Dear Reader,

It is my pleasure to present the 2017 report on the status of agriculture in Utah. On behalf of Utah's residents, I extend appreciation to all of the team members at Utah's Department of Agriculture and Food for their hard work in promoting the healthy growth of agriculture, conserving and enhancing our lands, and protecting our food supply.

This year we emphasize the great strides our Agriculture and Food Commissioner, LuAnn Adams, is making in connecting Utahns with local food producers through the Utah's Own program. Our supply of locally-grown foods is not the only benefit of our agriculture and food industries, however. Jobs, economic opportunities, and tax revenue are also enhanced by local food sales. Utah State University reports that the production and processing segments of the agriculture industry employ more than 79,000 people, and contribute more than 15 percent of Utah's gross state output. A recent study showed that if Utahns spent just 10 percent more on local businesses, we could keep up to $1.3 billion in our state's economy every year. Supporting our local food producers creates more jobs, provides extra tax revenues for local governments and provides consumers with better tasting food.

I believe the best is yet to come for our state and the thousands of family run farms in Utah. After traveling through the state and meeting hundreds of farmers and ranchers throughout the years, I wholeheartedly believe our success is intrinsically tied to our hardest working people. Dedication to land and community is what makes Utah agriculture a strong and noble industry. Thank you for your interest in agriculture.

Sincerely,

Gary R. Herbert

Gary R. Herbert
Governor

Introduction

The Utah Field Office of the Mountain Region of USDA's National Agricultural Statistics Service (NASS) and the Utah Department of Agriculture and Food (UDAF) are proud to present the 45th edition of this publication. This year there will be no printed copies of the publication. Instead, the publication is available on both organizations' Internet sites. This publication is provided to help inform farmers, ranchers, and the public about activities within UDAF and provide a detailed look at Utah's agricultural production. Also included are budgets for helping farmers and ranchers evaluate the potential profitability of various agricultural commodities.

Cooperation from farmers, ranchers, and agribusinesses responding to various survey questionnaires is essential for quality estimates; their cooperation make this publication possible. We thank them for their help and willingness to provide the data needed to produce these statistics.

This report would not be possible without the dedicated effort of our field and telephone enumerators who collect this data. We thank them for their diligence and professionalism.

Estimates presented are current for 2016 production and January 1, 2017 inventories. Data users that need 2017 production information, or additional historic data, should contact the Utah Field Office at 801-524-5003 or toll free at 1-800-747-8522.

State and U.S. statistics are available on the NASS Web page at http://www.nass.usda.gov/. Use the "Quick Stats" utility to search for current or historic data by clicking the Data and Statistics tab.

Prior year estimates are subject to revision and may have been revised in this publication. Data users should use this publication for previous years' data and not go back to earlier publications for those data.

The following agricultural Web pages may interest you.

Organization	Web Page Address
U. S. Department of Agriculture (Includes links to all USDA Agencies)	http://www.usda.gov/
USDA – NASS	http://www.nass.usda.gov/
USDA - NASS Census of Agriculture	http://www.agcensus.usda.gov/
USDA - Utah Agricultural Statistics	http://www.nass.usda.gov/ut/
Utah Department of Agriculture and Food	http://ag.utah.gov/
National Association of State Departments of Agriculture (NASDA)	http://www.nasda.org/
Food and Agricultural Policy Research Institute	http://www.fapri.missouri.edu/
CME Group	http://www.cmegroup.com/
Salt Lake City National Weather Service	http://www.weather.gov/slc/
Western Regional Climate Center	http://www.wrcc.dri.edu/
Utah Climate Center	http://climate.usurf.usu.edu/
USU Extension Service	http://extension.usu.edu/
Utah Agriculture in the Classroom	http://utah.agclassroom.org/
Utah Farmers Union	http://www.utahfarmersunion.com/
Utah Farm Bureau	http://www.utahfarmbureau.org/
Utah Cattlemen's Association	http://www.utahcattlemen.org/
Utah Wool Growers Association	http://www.utahwoolgrowers.com/
Utah Dairy Council	http://www.utahdairycouncil.com/
Utah Pork Producers Association	http://utahporkproducers.org/

Sincerely,

John Hilton, State Statistician
Mountain Region, Utah Agricultural Statistics

UTAH AGRICULTURAL STATISTICS

AND
UTAH DEPARTMENT OF AGRICULTURE AND FOOD
2017 ANNUAL REPORT

Compiled by the

United States Department of Agriculture
National Agricultural Statistics Service
Mountain Region, Utah Field Office

John Hilton, State Statistician
Joel Gentillon, Survey Coordinator

350 S Main St, Suite 100
Salt Lake City, Utah 84101

801-524-5003
http://www.nass.usda.gov/Statistics_by_State/Utah/
E-mail: nass-ut@nass.usda.gov

Issued cooperatively with the

Utah Department of Agriculture and Food

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William Meyer, Regional Director, Mountain Region

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Scott Ericson	Deputy Commissioner
Larry Lewis	Public Information Officer
Kathleen Mathews	Executive Assistant
Melissa Ure	Policy Analyst

Division Directors

Debbie Lyberger, Financial Manager	Administrative Services
Cody James, Director and Brands Bureau Chief	Animal Industry
Dr. Barry Pittman	State Veterinarian
Dr. Weston Judd, Director and State Chemist	Laboratory Services
Wayne Bradshaw, Director	Marketing & Econ. Development
Robert Hougaard, Director	Plant Industry & Conservation
Travis Waller, Director	Regulatory Services
Chad Heuser, Director	Wildlife Services

Agricultural Advisory Board

Chairman	Kent Bushman, Utah Farmers Union
Vice Chairman	Ron Gibson, Utah Farm Bureau
Ron Stratford	Utah Dairymens Association
Matt Mickel	Utah Wool Growers Association
Joe Fuhriman	Utah Cattlemens Association
Jared Gaetz	Food Processing Industry
Rusty Bastian	Food Supplement Manufacturers
Matt Bartlett	Utah Horse Industry
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Scott Robins	Livestock Auction Marketing Association
Marilyn Albertson	Consumer Affairs Representative
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Cliff Lillywhite	Egg & Poultry Producers
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Robert McMullen	Utah Fruit and Vegetable Association
Luke Petersen	Urban and Small Farms
Randy Marriott	Utah Elk Breeders Association
Jerry Stoddard	Utah Beekeepers Association
Chris Falco	Utah Fur Breeders Association
Ken White	Utah State University College of Agriculture

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Deputy Commissioner	538-7102
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Policy Analyst	538-7190
Administrative Services	
Director	538-7110
Budget and Accounting	538-7032
GIS	538-9904
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Commissioner's Message

Commissioner of Agriculture and Food
LuAnn Adams

Greetings.

I want to take the opportunity to say how proud I am to be writing to you about Utah agriculture. In my travels around the state I continually meet some of the hardest working and innovative business people in the state. Our farmers and ranchers run operations that are big and small and contribute jobs and healthy economies to both rural and urban Utah.

Our Utah Legislature acknowledged the economic potential of local agriculture and created the Local Food Advisory Council this year. The Council is designed to build a local food economy, create jobs, foster the viability of family-owned farms and preserve open space. The Council met late this year, and I plan to report on its progress in the months to come.

Another positive step I've seen this year appears to be the move by the Trump Administration to reduce federal overreach in agriculture with regards to the Waters of the United States (WOTUS). I was able to spend time with EPA Administrator Scott Pruitt in Park City, and he gave me great hope for the future. I would like to see each state develop their own water plan by working with EPA to develop water quality standards and work with the regional offices to mitigate any conflicts between states. This is already happening in our Colorado River Salinity Program.

This summer I was elected President of WASDA (Western Agriculture States Department of Agriculture), an association of my counterparts in the 13 western states plus two territories. Utah will host the group's annual meeting next summer where we will showcase Utah Agriculture's innovation and collaboration. Utah is a leader in High Tech Agriculture as we see robotic dairies, a large greenhouse tomato operation, aquaponics, and many other high tech products that are developed in Utah.

Thank you for your interest in Utah agriculture, and I invite you to review our annual report to read more about our agency and our agriculture industry.

Sincerely,

LuAnn Adams
Utah Commissioner of Agriculture and Food

Mission Statement

The mission of the Utah Department of Agriculture and Food is to "Promote the healthy growth of Utah agriculture, conserve our natural resources and protect our food supply."
It is also believed that a safe food supply is the basis for health and prosperity. The Department's **Vision Statement** is: To be the recognized guardian of Utah's food supply and sustainable agriculture.

The Department values:

- Integrity and respect
- Service and hard work
- Stewardship and accountability
- Growth and achievement
- People and partnerships
- Heritage and culture

Food safety, public health and consumer protection is a critical and essential function of state government. In order to accomplish this mission, with increased population and industry growth, we are identifying ways and means to fund the regulatory functions of the Department. In addition, we continue to educate the public about the importance of agriculture and the value of maintaining a viable agriculture industry.

We will promote the responsible stewardship of our state's land, water and other resources through the best management practices available. We will promote the economic well-being of Utah and her rural citizens by adding value to our agricultural products. We also aggressively seek new markets for our products, and we will inform the citizens and officials of our state of our work and progress.

Kole, Kassidy and Ryan Westwood or Westwood Angus Ranch in Antimony are part of the next generation of agriculture. Our food supply depends on today's farm kids becoming tomorrow's farmers and ranchers.

In carrying out that mission, Department personnel will take specific steps in various areas of the state's agricultural industry, such as the following:

Regulation

Department operations help protect public health and safety as well as agricultural markets by assuring consumers of clean, safe, wholesome, and properly labeled and measured or weighed products. This includes products inspected by UDAF's animal industry, plant industry, weights and measures, food and dairy inspectors, compliance officers and field representatives. It involves chemical analysis by the state laboratory, which is part of the Department. It also includes other consumer products such as bedding, quilted clothing and upholstered furniture.

This inspection also protects legitimate producers and processors by keeping their markets safe from poor products and careless processing.

Conservation

Through its variety of programs in this area, the Department will work to protect, conserve and enhance Utah's agricultural and natural resources, including water and land, and to administer two low-interest revolving loan funds aimed at developing resources and financing new enterprises.

Marketing and Development

UDAF's marketing section strengthens Utah's agriculture and allied industries financially by expanding present markets and developing new ones for Utah's agricultural products, locally, in the United States, and overseas as well. It also helps develop new products and production methods and promotes instate processing

This annual report is available on the Internet at:
www.ag.utah.gov
Visit our website on your mobile device by scanning this Quick Response code.
Also visit: facebook.com/utahagriculture/
twitter.com/utagandfood/

Commissioner's Office

The Department continues to adjust and respond to the changing needs of a diverse agriculture industry in Utah.

Commissioner Adams was elected President of WASDA (Western Association of State Departments of Agriculture) and will host the association's annual meeting in August of 2018 in Salt Lake City. Through its programs at the national and regional levels, WASDA works to ensure food safety, combat the spread of disease, foster economic vitality of rural communities, and protect the environment. Commissioner Adams plans to show off the state's agriculture industry which is known for its innovation, collaboration and sustainability. See a video at: https://www.youtube.com/watch?v=gVCyxUJBcyk

A department-funded study by Utah State University's Economics Department was released in January showing continued growth in the agriculture economy. The production and processing sectors generate more than $21 billion in total economic output in Utah after adjusting for the multiplier effect. Based on 2014 state output, agriculture accounts for 15.1% of total state economy and generates 79,573 jobs with compensation of $3.5 billion.

In June, the Department's Laboratory Services Division completed its move to the Utah Unified Laboratory Building in Taylorsville, Utah. The move completes efforts to expand and improve the lab's ability to perform food safety and agriculture product testing. The lab serves as a resource for UDAF divisions that collect and test raw and processed foods as well as confirm truth-in-labeling claims. The new building houses the UDAF's four laboratories; the Dairy Testing Lab where products from dairies and dairy plants are tested before they are sold in grocery stores; the Feed and Fertilizer Lab tests animal feed and fertilizer products to confirm content; the Meat Lab tests consumer grade meat for water and fat content and samples from meat plants are tested for the presence of pathogens; and the Pesticide Lab tests for pesticide residue in soils, foods, and other products.

Governor Gary Herbert toured the new State Laboratory building in early 2017. Chemistry Division Director Weston Judd showed the governor around the UDAF portion of the facility.

The Division of Plant Industry and Conservation received the Governor's Award for Excellence in April of 2017. The Division's Invasive Insects and Apiary Program was recognized for its dedication and consistent environmental stewardship that benefits Utah's consumer and commercial interests. The program was the first to organize consumer and industry-lead conferences designed to protect and increase our bee population. The team works to assure that the state's multi-million dollar fruit, vegetable and nursery industries are insect-free and permitted to export products around the country and the world.

Pictured left to right: Robert Hougaard, Stephen Stanko, Utah Governor Gary Herbert, Kristopher Watson, Joey Caputo, Commissioner Luann Adams.

The UDAF was honored when the National Conference on Weights and Measures (NCWM) sent Weights and Measures Program Manager Brett Gurney to the Marianas Islands to help their regional commerce department standardize their package inspection process. Brett trained 25 inspectors from seven island jurisdictions on the critical steps involved in building and maintaining a science-based inspection system that protects both retailer and consumer interests. The invitation underlined the program's level of excellence and its standing as a national leader in consumer protection.

Deputy Commissioner

Scott Ericson
Deputy Commissioner

Scott Ericson is responsible for and coordinates all of the day to day Department activities and works with each division on their program budgets and goals. Scott oversees and coordinates the Department's SUCCESS Program that focuses on measurable results that drive operations and the budgeting process. He also oversees the Utah Horse Racing Commission. Commission sanctioned tracks and races are important in establishing recognized times for Utah quarter horses and contributes to the market value of horses. Scott also promulgates Department administrative rules. He coordinates the collection of predator assessment head tax. The tax is derived from individual producers, livestock associations, and counties who make voluntary contributions to the program to pay for services to protect livestock from depredating animals. He is also the Treasurer for the Agriculture in the Classroom Program, He is the Department's representative on the state Farmland Evaluation Advisory Committee (Greenbelt). The Greenbelt law assesses and taxes qualified agricultural property on its agriculture production value instead of its commercial market value.

Communications Office

The Communications office is an important link between the public, industry, employees, and other state agencies. The office publishes videos, brochures, articles, newsletters, web pages, as well as creates displays and computer presentations. The office also writes news releases and responds to news media enquires about agriculture and the UDAF. In addition to the printed medium, the office uses video-tape to produce video news releases and video clips that can be viewed at Youtube.com/utahagriculture/ The Department is also active in social media, using Facebook and Twitter. (Facebook.com/utahagriculture and Twitter.com/utagandfood).

The Department launched a redesigned Internet website in 2013. The website is organized to better serve the needs of the thousands of visitors who use the Internet to do business with the State, or simply learn how the historic agency is serving their needs. The website features easy-to-access online services, the latest livestock auction or commodity trading news, pesticide applicator training information, and dozens of other services.

The Communications Office also interacts with local schools, offering students lessons on the connection between the farm and our food. A complete list of UDAF news releases is available at: www.ag.utah.gov/news.html

www.facebook.com/utahagriculture
www/twitter.com/utagandfood
The Department's Facebook and Twitter pages are good sources for the latest videos and articles about Utah agriculture.

Agriculture Mediation

The Department continues to provide services to the agriculture community through its USDA Certified Mediation Program. (ag.utah.gov/markets-finance/utah-agriculture-mediation-program.html) Melissa Ure, the Department's certified mediator, assists farmers and ranchers who face adverse actions in connection with USDA programs. Utah is one of 34 certified programs in the country.

Utah farmers and ranchers rely on the Certified State Agriculture Mediation Program to help them through difficult economic times. This valuable service was extended after the passage of the Agriculture Mediation Bill. The program helps farmers and ranchers seek confidential advice and counsel to address loan problems and disputes before they grow too large for the producer to handle. The legislation will continue to authorize funding of the Certified State Agriculture Mediation Program for five years. Mediation provides a neutral, confidential forum to discuss complex issues and build strong working relationships with producers, lenders and government agencies.

Agriculture in the Classroom

The mission of AITC is to increase agricultural literacy in Utah by developing a program that improves student awareness about agriculture and instills in students an appreciation for our food and fiber system. This program is necessary because agriculture affects our quality of life and our environment.

The AITC Program receives funds from private donors, state funding sources, and grants. These funds are leveraged to meet the program's mission through teacher training and classroom materials that effectively and efficiently meet the need to increase agricultural literacy.

Administrative Services Division

The Division of Administrative Services provides support to all divisions within the department to insure state policies and procedures are implemented to meet audits conducted throughout the year by state finance and the state auditor's office. We have added new federal grants each year, and to date we are tracking more than 30 federal grants. We are responsible for processing more than 450 state grants and contracts annually. Purchasing cards are being used by the majority of the field staff, and few requests for petty cash reimbursements are being requested by employees

Animal and Wildlife Damage Prevention

Chad Heuser
Federal Program Director

The Utah Wildlife Services (WS) program is a cooperative effort between the Utah Department of Agriculture and Food and the U.S. Department of Agriculture. Protecting Utah's agriculture includes protecting livestock, with the majority of the program's effort directed at protecting adult sheep, lambs, and calves from predation.

Funding for the program comes from a number of sources, including State General Fund and Federal appropriations. Livestock producers also contribute through a livestock assessment nicknamed the "head tax" because it is assessed per livestock head. Individual producers, livestock associations, and counties also make voluntary contributions to the program to pay for contract and agency helicopter flying.

Coyotes remain the most problematic predator species in Utah, both in terms of population size and in the amount of livestock they kill. From fiscal year (FY)12 through FY16, WS-Utah documented that coyotes were responsible for 60% hoofed livestock losses, mostly sheep and lambs. Calves are vulnerable to coyote predation for a short period just after birth, and the majority of the calf protection is concentrated in the early spring calving season. In the absence of predator management, calf losses would be expected to exceed 5%; however, with predation management in place, losses are kept to well below 1%.

Sheep and lambs remain vulnerable to predation throughout the year, and the WS Program works with sheep producers to provide protection on spring lambing range, summer mountain range, and on winter range in the desert. In the absence of protective efforts, it is estimated that lamb losses could be as high as 30%, but the WS program in Utah keeps predation losses to less than 5% on a statewide basis.

Cougars and bears are also a significant predator of sheep and cattle, especially in the summer when sheep and cattle are grazed in the mountains. Of the predation on lambs reported to WS from FY 12 through FY 16, about 39% are by these two predators. Predation management for cougar and bear is implemented on a corrective basis and does not begin until kills are discovered and confirmed by WS. In order to limit losses caused by cougars or bears, the WS program must be prepared to respond quickly when killing occurs.

A significant amount of predation management is necessary to improve wildlife populations, and the WS program works with the Utah Division of Wildlife Resources (UDWR) and the U.S. Fish and Wildlife Services (USFWS) to provide protection from predators where wildlife populations are below objective. To accomplish this, the program utilizes a combination of 41 full-time and seasonal staff, four agency fixed-wing aircraft, two agency helicopters, and nine helicopter contractors. In 2016-17 the program worked in 19 deer units and subunits, 11 sage grouse management areas, six bighorn sheep units, three pronghorn areas, and five waterfowl nesting areas, specifically for the protection of native wildlife resources. WS also provided protection for endangered black-footed ferrets and Utah prairie dogs in transplant areas, and conducted feral swine monitoring and removal in specific locations within Utah.

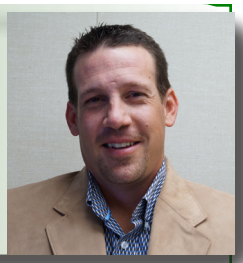
To assure that the WS program has no negative environmental consequences, Federal Environmental Assessments (EA's) have been completed to assess the impacts of the combined State and Federal program. While the program is very successful at protecting livestock and selected wildlife resources, there are no adverse impacts to predator populations, wetlands and watersheds, or other parts of the environment. Annual monitoring of our program impacts is conducted to assure that the analyses in the EA's are still complete and remain valid. WS predator EA has been rewritten and is in the final stages of completion.

The WS program plays a critical role in the early detection and management of wildlife-borne diseases. WS is conducting surveillance for early detection and response to highly pathogenic Avian Influenza. The WS program has assisted the UDWR in the removal and testing of mule deer where the potential transmission of Chronic Wasting Disease is a concern. WS collects samples for plague, tularemia, avian influenza, West Nile virus, raccoon roundworm, and other zoonotic disease monitoring around the State, and responds to mortality events in wild birds to assist in detection of diseases. WS has a full-time wildlife disease biologist position to coordinate rapid response and sampling efforts within WS and other agencies. Because our personnel are located throughout the State and they are experts in back-country work from horseback, our help is often solicited in recovery of disease samples and even in human search and rescue missions.

The WS program also deals with other wildlife related damage throughout the State, such as wildlife hazards to commercial aviation. In 2014 WS received the National Migratory Bird Stewardship Award from the U.S. Fish and Wildlife Service primarily for our role in protecting raptors at airports. In 2016, WS staff trapped, banded, and relocated 137 raptors (birds such as hawks, falcons, and owls) from Utah airports to prevent them from being struck by aircraft and threatening human safety. WS also provides technical assistance and training to the public on problems related to urban wildlife involving skunks, raccoons, birds, and other animals.

The public, including farmers and ranchers, place a high intrinsic value on wildlife. In order to maintain healthy populations of wildlife and concurrently sustain productive agriculture, a professional wildlife damage management program is needed. In Utah the cooperative Wildlife Services program fills that need.

Animal Industry



Cody James
Director

Major accomplishments in these areas during the past year are as follows:

Animal Health

During the past year, disease free status was maintained for the following diseases:

- Brucellosis
- Tuberculosis
- Pseudorabies
- Salmonella pullorum
- Mycoplasma gallisepticum

Disease monitoring for heartworm, equine encephalitis (Eastern, Western, and West Nile), Equine infectious anemia (EIA), rabies, brucellosis, tuberculosis, pseudorabies, Salmonella sp., Mycoplasma species, Bovine Spongiform Encephalopathy (BSE), Chronic Wasting Disease (CWD), trichomoniasis, avian influenza, etc. has continued during the past year.

Although several horses were sampled and submitted for a foreign animal disease (FAD) investigation (vesicles) this past year, all were negative for a FAD and no cases of vesicular stomatitis were reported during FY July 2016 to June 2017. The division continues to remain vigilante as this disease is cyclic in nature and can return at any time.

Animal Health veterinarians conduct thousands of inspections yearly to protect both the agriculture industry and human health. This year 18,385 bulls were tested for trichomoniasis with only two positive cases detected. Above: Assistant State Veterinarian, Chelsea Crawford, inspects a calf at the Utah State Fair.

This year 18,385 bulls were tested during the trichomoniasis testing program year from October 1, 2016 to May 15, 2017. Testing identified two infected bulls, a 0.01% detection rate. This is an improvement from five bulls detected the previous year. The division conducted seven Trichomoniasis Certification Training meetings for veterinarians in different locations throughout the state. These were well attended by 76 veterinarians. These meetings were held in Salt Lake, Utah, Box Elder, Grand, Uintah, Sevier, and Iron counties. This training is required every five years for veterinarians to remain certified to collect samples for Trichomoniasis testing.

Avian influenza continues to be a major concern for the poultry industry in our state and the United States. It is a disease of increasing worldwide importance with growing implications as certain strains may be a human disease threat. The division conducted training with staff from the University of Minnesota and Utah poultry producers in permitting the movement of eggs and birds during an outbreak of Highly Pathogenic Avian Influenza (HPAI). Minnesota experienced this first hand with the most recent HPAI outbreak in turkeys. Representatives from the commercial egg producers, commercial turkey producers, Division of Wildlife Resources, Federal Drug Administration, USDA APHIS, Utah State Laboratory Directors, state extension veterinarian and veterinarians from the UDAF were present for the exercise.

Monitoring for avian influenza continues in Utah. Serological samples for avian influenza are taken quarterly and tested from each egg laying flock of chicken in the state. A minimum of 60 serological samples are taken at the Moroni turkey processing plant each month and tested for avian influenza. The results of these tests are reported to the state veterinarian. All testing has been negative for avian influenza.

The division continues to administer the National Poultry Improvement Program (NPIP). This is a voluntary testing program wherein a flock may be certified disease free in several important disease categories. Participants in the program enjoy significant benefits when shipping birds, eggs, and products in commerce. It also insures the disease free birds, eggs, and poultry products are entering the state. The division conducted the annual Egg Quality Assurance training meeting last fall. Representatives of all the large commercial egg producers in the state were present. A division veterinarian also attended the official state agent training of the NPIP.

The division has repaired a foam making machine to be used for euthanasia in the event of an avian influenza outbreak. Veterinarians from the division received two training exercises on the proper use and storage of this piece of equipment. It is now stored in a state storage facility and annual exercises in its proper use and storage are planned so that is can be used effectively in the face of an outbreak.

The division sponsored a One-Health symposium with animal and human health professionals in attendance. Zoonotic diseases, environmental stewardship, mosquito abatement, zika virus, and rabies were among issues discussed. This annual symposium is of great benefit as animal and human health officials look for

common concerns in promoting good health in animal and human populations.

Division staff and veterinarians monitor livestock imports into the state. This is done by reviewing incoming Certificates of Veterinary Inspection (CVI) and issuing livestock entry permits to animals that meet Utah entry requirements. Violations of Utah import regulations were investigated and citations issued. CVI's from Utah were monitored, filed and forwarded to our animal health counterparts in the states of destination. During the FY 2016-2017, 168,358 animals have received permits to enter Utah. This does not include poultry which usually accounts for over four million more animals. This number excludes common pets (dogs and cats, etc.) which do not normally require a permit to enter the state, but do require a CVI and current rabies vaccination.

The Animal Health Program has the responsibility of providing veterinary supervision and service to the livestock auction markets in Utah with the continued oversight of the Division's disease control and monitoring plans. Private veterinarians are used on contract with the State of Utah for this monitoring. Relief for these doctors is provided as needed by veterinarians from the Division of Animal Industry. Animal Health veterinarians conduct quarterly Livestock Market Reviews at each of the livestock auctions. Division veterinarians serve at several junior livestock shows to verify the health of the livestock prior to being admitted to the show. This involves predominately lambs, sheep, hogs, goats, and steers.

Animal disease traceability efforts continued throughout the year. This is in accordance with the USDA-APHIS Animal Disease Traceability Rule. This rule requires individual official identification of most livestock species that move across state lines. The division's software program, USAHERDS, is proving to be of great worth in these disease monitoring and traceability efforts. Division staff performs approximately 18 detailed animal traces of animal ID for USDA-APHIS each quarter. This is in compliance with our co-operative agreement with USDA-APHIS. These efforts also involve tracking the number of interstate CVI's (both incoming and outgoing) and the number of animals on those CVI's. Also reported are the number of official ID's issued by the Division each quarter.

809,412

NUMBER OF ANIMALS INSPECTED

28,493

INSPECTION CERTIFICATES ISSUED

LIVESTOCK INSPECTION 2016

Livestock Inspection Bureau

The Livestock (Brand) Inspection Bureau is designed to deny a market to potential thieves and determine the true owners of livestock. The bureau consists of 16 full-time employees, which include 12 special function officers and two law enforcement officers, and 40 half-time or part-time inspectors. The inspectors verify proper ownership of livestock before they are sold, shipped out of state, or sent to slaughter. The Bureau also has a strong presence at each of the five weekly auctions inspecting all cattle and horses.

During FY 2017, a total of 809,412 individual cattle, horses, elk and sheep were inspected. This represents approximately 28,493 inspection certificates issued. The entire team of livestock inspectors helped return 856 animals to their rightful owners. In today's economy the number of animals returned amounts to over $876,086 dollars.

There are a total of 14,718 brands and earmarks registered to date in the State of Utah. These brands and earmarks will expire 12-31-2020. Each brand owner receives a plastic wallet sized "proof of ownership" card. The ownership card is intended for use during travel and when selling animals at auctions. A new brand book and CD is available for purchase. Registered brands can also be found on the Department web site.

Along with writing paper livestock inspections, a majority of our full time inspectors use electronic brands in the Fast Brands Country system. This gives inspectors: An ability to stay in constant communication with office information; quick trace back and ability for other brand inspectors to research past inspections; newly registered and transferred brands to be updated and ability to be seen in field. The system allows for automatic fill-in of owner and buyer information and fee charges that are more accurate. Reports will automatically tally. With the quickness and accuracy of the system, along with the ease of sharing information, Utah's brand inspectors have a more efficient way of performing their tasks.

In FY 2017 Livestock Inspectors performed 7,712 electronic inspections for a total of 182,889 animals. These numbers are included in the totals above.

What comes with an increase of inspections is an increase in the number of hours inspectors are working. In FY 2015 all inspectors worked 35,825.25 hours, FY 2016 36,723.75 hours were worked, and in FY 2017 40,698.75 were worked.

During the year brand inspectors collected $815,412 in Beef Promotion money which is sent to the National Beef check off and Utah Beef Council programs.. Beef Promotion money helps with advancing the image and desirability of beef and beef products with the express intent of improving the competitive position and stimulating sales of beef and beef products in the marketplace. The program offers paid consumer advertising, retail and food service marketing, food-media communications, veal marketing, new-product development, beef recipe development, and other culinary initiatives. Brand inspectors distribute letters and beef promotion pamphlets to producers.

The brand department started collecting the cattlemen's part of

predator control money in 1996. During 2017, livestock inspectors continued to collect predator control money. This money is used for the protection of the state's livestock producers. The money is forwarded to the Wildlife Services Program to safeguard sheep, lambs, and calves from predation. Sheep-men continue to have their allotment collected by the wool houses and forwarded to the department.

Continuing the effort to assist and give training to the state's port of entry personnel, a livestock inspector is assigned to work monthly in each port of entry. These inspectors are authorized and equipped to chase down those livestock transporters who ignore the signs requiring all livestock hauling vehicles to stop. This is an effort to help prevent diseased animals from entering the state and stolen animals from leaving the state.

The Livestock Inspection Bureau continued an education and enforcement action push. The education sessions have been and will continue to be held on a request basis and conducted by the local livestock inspector. It is up to the association or group to request the session and set up the meeting. Inspectors have also used education opportunities during local rodeos, horse shows, and sales; where the livestock inspectors have attended without any enforcement action to be taken. Inspectors should have brochures and contact information with them and are open to answering any questions participants might have.

In August of 2016 we addressed a growing problem. Horses were being brought to the auctions with little or no proof of ownership. With long lines of vehicles waiting to unload cattle, and holding up business at auctions with the tedious job of clearing up ownership on these horses, we saw the need for a change. In order to thoroughly do our job of detecting true ownership on these horses, and the fact that some of these cases can take up to two weeks to get the true owner, a policy has been made that requires an inspection be done consigning the horse to the auction from the area it was from. Local inspectors are generally familiar with who and what animals are in their areas so it made sense to conduct the inspections there. The Livestock Brand Board passed this policy and we began educating the public about brand inspections being required for all horses going to auction. In January 2017 the requirement went into place. Auctions are running smoother with no hold up on horses, and we are confident we have done our job of proving ownership.

Inspectors have also used education opportunities during local rodeos, horse shows, and sales, where the livestock inspectors have attended without any enforcement action to be taken. Inspectors should have brochures and contact information with them and are open to answering any questions participants might have.

We continue with our surveillance efforts by making our vehicles more recognizable with decals identifying them as Livestock Inspection and UDAF. We also have livestock surveillance signs that we hang in livestock prominent areas with Brand Inspector names and phone numbers for that area. The feedback from the producers has been very positive. They recognize us immediately because the decals readily identify us. They also like the signs posted around their livestock. Our high visibility is also noticed by hikers, campers, or potential livestock thieves.

Another tool to raise awareness is a vehicle observation form. When out doing surveillance our inspectors fill it out and leave a copy on the vehicle. This informs the vehicle owner that their vehicle was observed in the area. There is a reminder to leave gates as they are found, not to litter, be careful with fire, and to watch for livestock when hunting or driving. There is a place at the bottom for phone numbers of our inspectors, the Sheriff's Office, and Utah Fish & Game so they have the resources available to call and report an incident as it happens.

Domestic Elk Program

In 1997, the Utah State Legislature authorized a domesticated elk program in the state of Utah and granted management authority of the program to the Utah Department of Agriculture and Food (UDAF). The commercial uses of domesticated elk vary but animals are primarily used to provide high-fence hunting opportunities, increase genetic diversity for breeding programs, meat source for restaurants, source of velvet in nutritional supplements, or shed antlers for trade or sale.

The domesticated elk program has six primary functions: 1) license domesticated elk farms and hunting parks; 2) inspect facilities to ensure compliance with rules and regulations; 3) maintain inventory of animals on facilities; 4) maintain records for Chronic Wasting Disease surveillance and herd certification; 5) issue brand inspections and hunting permits for import and removal of animals from facilities; 6) serve on the Elk Advisory Council.

Each domesticated elk facility must submit a renewal application prior to April 30 signifying their intent to continue participation in the domesticated elk program. In 2016 there were 36 domesticated elk facilities that submitted renewal applications. Of these applications 12 were licensed as elk hunting parks, the other 24 facilities were licensed as farms.

All 36 facilities were visited prior to renewal and a physical and visual inspection of all exterior fences, handling facilities, and all animals on the facility was completed in May and June. The program also coordinated with the Utah Division of Wildlife Resources (UDWR) and invited employees from the agency to assist in ensuring that all domesticated elk facilities maintain and are in compliance with Utah rules and code prior to re-licensing. During the inspection if issues were detected with regard to fences or holding facilities not meeting regulation standards, or discrepancies with animal inventories were found. Each facility was given an opportunity to correct issues. At the time of inspection there were 3,473 animals on domesticated elk facilities in Utah. All facilities were found to be compliant or came within compliance within the required time period and all were re-licensed for the upcoming year.

Prior to importation of domestic elk in Utah, whether they are live animals, gametes, eggs, sperm, or other genetic material the

party importing must contact UDAF for an entry permit. The imported material or animals are only allowed to go to a facility licensed in the domesticated elk program. They must be inspected prior to import and must be accompanied by a valid Certificate of Veterinary Inspection and a health certificate certifying disease free status.

Specific disease testing results or health statements are required, including a negative tuberculosis test within 60 days prior to entry, and two brucellosis tests that are both negative. Additionally, animals must originate from a source herd that participates in the CWD Herd Certification Program or an equivalent program if originating from a source outside the United States. Further, all domesticated elk imported into the state are required to provide proof of genetic purity to prevent introduction of red deer genetics into domesticated herds or wildlife should an animal escape and not be recaptured. Entry permits are then issued to those facilities that receive health approval and are shipping domesticated elk to facilities that have been issued a valid license as an elk farm or hunting park. A total of 25 entry permits were issued for 350 domesticated elk imported from Canada or Colorado to Utah facilities in 2016.

The Division distributed Avian flu prevention brochures through displays at farm stores and directly to consumers statewide to help backyard bird owners recognize AI symptoms in their flocks. Access the tips at: http://bit.ly/2ecxYy4

In 2016, a total of 982 specimens were submitted from 463 animals; of these, 926 were negative and 56 were unsuitable for testing. The unsuitable specimens were either the wrong tissue or were too decayed making testing impossible. A total of 366 domesticated elk were harvested by hunters on domesticated elk hunting parks. A total of 345 of these were tested for CWD. All domesticated elk presented for slaughter at the slaughter facility were tested. The lowest percentage of samples collected came from animals that died of unknown causes on domestic elk facilities with only 89% of the 59 animals that died being submitted. No reportable diseases, including brucellosis, CWD or tuberculosis were detected on domesticated elk facilities during this period.

Meat and Poultry Inspection Program

The Meat and Poultry Inspection program is considered "equal to" the Federal Meat Inspection program. We currently have two State harvesting plants, eight State harvesting and processing plants, six State processing only plants, with one Talmadge Aiken (T/A) harvesting plant, five T/A harvesting and processing plants and nine T/A processing only plants which that gives us a total of 30 official plants. We also have 45 custom exempt plants and 30 Farm Custom Slaughter permittee's (Tri-Pod mobile Harvesting rigs) for an overall total of 105 establishments throughout Utah.

Once a year between October 1 through September 31, UDAF/MPIP submit to the Federal State audit branch a comprehensive State assessment that covers nine components in which we need to comply. Component 1: Statutory Authority, Component 2: Inspection, Component 3: Product Sampling, Component 4: Staffing and Training, Component 5: Humane Handing, Component 6: Non-Food Safety Consumer Protection, Component 7: Compliance, Component 8: Civil Rights, and Component 9: Financial Accountability.

We currently test for four (4) major pathogens: Salmonella, E coli 0157: H7, Non 0157:H7 STEC, and Listeria Monocytogens. We also test for biological residue in cattle. Each establishment that harvests and/or handles beef carcasses are required to have a written plan on how they would handle Specified Risk Materials (SRM) from these carcasses. This is just one of many federal rules and regulation that the small and very small establishment owner must comply with to remain in business. The Utah Meat and Poultry Inspection program personnel have assisted these small and very small business owners as much as possible to make sure they understand what is required to remain in compliance.

We presently have 23 dedicated meat inspection staff members, which includes: Program Manager, Assistant Program Manager, one Enforcement Investigation Analysis Officers (EIAO) that performs Food Safety assessments in all State inspected facilities, two custom exempt specialists that perform sanitation inspections in all the custom plants throughout the State of Utah, three frontline supervisors, and two public health veterinarians, who perform sanitation and humane handling reviews in all of our harvesting establishments along with performing dispositions on all suspect animals, and 13 field inspectors who verifiy that the establishments food safety system's work has the intent.

Fish Health program

The aquaculture/aquatic animal health program has four primaryThe aquaculture/aquatic animal health program has four primary functions: 1) license private aquaculture and fee fishing facilities; 2) grant health approval to in-state private aquaculture facilities and all out-of-state aquaculture facilities; 3) issue entry permits for aquatic animals entering the state; and 4) serve on the Fish Health Policy Board and Utah Water Quality and Health Advisory Panel.

The aquaculture program reviewed annual reports and renewed Certificates of Registration (COR) for 15 aquaculture facilities, 82 fee fishing facilities, and four fish processing plants. The program also coordinated with the Division of Wildlife Resources (DWR) to assess the addition of new species to several facilities and site suitability of new facilities.

The aquaculture program enforces requirements governing health approval of aquatic animals and their sources. The program is based on conducting health and aquatic invasive species inspections for in-state facilities and evaluating annual testing data from out-of-state facilities. In order to be granted health approval, aquaculture facilities must demonstrate that aquatic animals are free from the following prohibited pathogens: Infectious hematopoietic necrosis virus, Infectious pancreatic necrosis virus, Viral hemorrhagic septicemia virus, Oncorhynchus masou virus, Spring viremia of carp virus, Epizootic hematopoietic necrosis virus, White spot syndrome virus, Yellow head virus, Taura syndrome virus, Infectious hypodermal and hematopoietic necrosis virus, Myxobolus cerebralis (whirling disease), Renibacterium salmoninarum (bacterial kidney disease) and Bothriocephalus (Asian tapeworm).

Only facilities that meet testing standards are granted health approval and are allowed to move (stock) aquatic animals into private pond, fee fishing facilities, etc. The program also samples fish for sterility and certifies that private hatcheries meet sterility standards set by the Division of Wildlife Resources. In 2016, the aquaculture program inspected five private aquaculture facilities for prohibited pathogens, aquatic invasive species, and sterility of trout. Health and sterility testing involved lethally sampling over 1,700 fish. No prohibited pathogens were detected during health inspections of in-state aquaculture facilities. Health approval was also granted to four in-state mosquito abatement districts, and the following out-of-state aquaculture facilities: five federal hatcheries, eleven private aquaculture facilities, and ten State hatcheries.

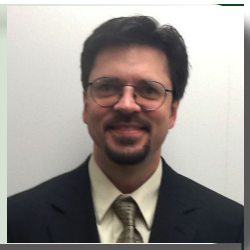
Entry permits are issued to out-of-state facilities that have health approval and are shipping aquatic animals to facilities that have a COR for the aquatic animal or are otherwise legally able to receive the animals by rule. A total of 313 entry permits were issued for 1,780,590 fish eggs, and 2,007,869 fish that entered the state of Utah in 2016. Imported species included: black crappie, bluegill, brook trout, channel catfish, cutthroat trout, fathead minnow, hybrid striped bass, kokanee salmon, lake trout, largemouth bass, rainbow trout, tiger muskie, triploid grass carp, woundfin minnow, and ornamental species for display aquariums.

The Fish Health Policy Board (FHPB) met three times in 2016. Agenda items included: applications for variances to Aquaculture and Aquatic Animal Health Rule (R58-17), emerging pathogens; reports from the Division of Wildlife Resources on prohibited pathogens (whirling disease) in wild fish populations; and the emergency transfer of wild fish due to hardship conditions.

Since the FHPB contains representatives from UDAF, the Division of Wildlife Resources, private aquaculture and sportsman's groups, discussions of issues that are not governed by the FHPB are common. Issues discussed included: aquatic invasive species, CORs; and the Division's disease testing and stocking policies.

The fish in the photo above are in a tank in the lobby of the UDAF building in Salt Lake City. they are part of our aquaponics garden. Because they are not used for commercial purposes, their tank is considered a private pond and we obtain our COR from the Division of Wildlife Resources. UDAF issues COR's for and inspects commercial aquaculture facilites.

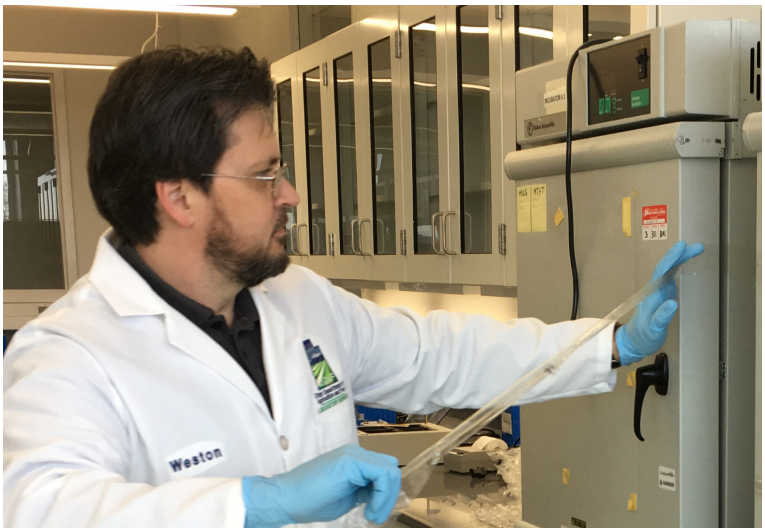
Chemistry Laboratory



Dr. Weston Judd
Director

The Laboratory Services Division operates as a service for various divisions within the UDAF. The division's laboratories provide chemical, physical, and microbiological analyses of dairy, meat, and other agricultural and food products. All samples analyzed in the laboratories are collected and forwarded by various field inspection personnel from the Divisions of Plant Industry and Conservation, Regulatory Services, and Animal Industry. Most of these samples are tested for specific ingredients as stated by the associated label guarantee. Some products are also examined for the presence of undesirable materials and contaminants, such as bacterial pathogens, filth, insects, rodent contamination, adulterants, inferior products, and pesticide residues.

The Dairy Testing Laboratory is responsible for testing Grade-A milk and dairy products, including pre-pasteurized milk (raw for pasteurization) as well as finished dairy products. The lab also administers an industry laboratory certification program. Our laboratory is certified by the FDA to perform the following tests: standard plate and coliform counts; microscopic and electronic somatic cell determinations; detection of antibiotic residues; and ensuring proper pasteurization. Laboratory analysis is also performed on finished products for label compliance (protein, %SNF, water, and fat). Raw milk intended for retail sale is tested for coliform, bacteria, and somatic cell counts; testing for pathogens is also done when requested. The laboratory works closely with the Division of Regulatory Services inspectors to ensure safe and wholesome dairy products. The UDAF Dairy Testing Laboratory is also certified as the FDA Central Milk Laboratory for the State of Utah. Our microbiologists serve as State Milk Laboratory Evaluation Officers (LEOs) who have jurisdiction over certified milk labs within the state. The LEO is responsible for on-site evaluation and training of all certified analysts throughout the state. The laboratory personnel also administer a yearly proficiency testing program for all industry analysts.



Dr. Weston Judd, director of Laboratory Services, checks a new installed piece of equipment in the new laboratory building.

The Meat Laboratory analyzes meat and meat product samples obtained during inspections of plant and processing facilities in Utah; samples collected from grocery retail stores are also analyzed. Tests are performed to measure fat, moisture, protein, sulfites, and added non-meat products to ensure label compliance of these products. Antibiotic residues and cross-contamination from other species are also monitored. Samples (meat, carcass, and surface swabs) from processing facilities are tested for the presence of Salmonella, E. coli 0157:H7, non-O157:H7 STEC, and Listeria on a regular basis. The lab also tests meat and meat product samples from the Montana Department of Agriculture.

The Pesticide Residue Laboratory tests for the presence and subsequent levels of herbicide, insecticide, rodenticide, and fungicide residues in plants, fruits, vegetables, soil, water, and milk products. These samples are submitted when inspectors suspect there may be a misuse of the application of the pesticide. Milk samples from Utah dairies are tested yearly for pesticide contamination in accordance with FDA regulations.

Commercial Feed (agricultural and pet) samples are tested for moisture, protein, fat, fiber, minerals, toxins, antibiotics, and vitamins in the Feed Laboratory. Seed moisture determinations are also performed for the State Seed Laboratory. The Fertilizer Laboratory tests solid and liquid fertilizer samples for nitrogen, phosphorus, potassium, trace element content, and heavy metals. All feed and fertilizer results are compared to label guarantees to ensure compliance with state labeling laws.

Special Consumer Complaint samples are examined for the presence of undesirable materials such as filth, insects, rodent contamination, and adulterations. The samples are checked to verify validity of complaint, and if found positive, the matter is turned over to departmental compliance officers for follow-up action.

Significant Events:

Construction of the new Unified State Lab building in Taylorsville was completed in January this year, and was occupied in early February. The UDAF Division of Laboratory Services is now located on the 3rd floor of the new Unified State Lab building in Taylorsville; the new facility also houses the Office of the Medical Examiner and the Department of Public Safety Crime Lab. The move to the new building required the lab to halt operations for a period of time to allow for relocation and setup in the new building.

Funding associated with the new lab facility enabled the lab to acquire several new laboratory instruments to upgrade aging equipment and to expand laboratory testing capabili-

ties. The new equipment will be utilized in microbial and chemical analysis in all the lab's testing programs.

Two of the laboratory's Dairy Lab microbiologists retired this year. The retirements necessitated the certification of a new Laboratory Evaluation Officer and the certification of two new Dairy Lab microbiologists who were hired earlier this year.

This summer (effectively in FY2018), the laboratory started conducting testing on environmental water samples, including those collected from Utah Lake, for the detection and quantitation of cyanotoxins associated with harmful algal blooms caused by blue green algae (cyanobacteria). The lab and other divisions in the Department are conducting surveillance and testing of water sources used for agricultural purposes (e.g., irrigation and livestock water) to monitor for the presence of harmful algal blooms and associated toxins in response to the issues that occurred last year. The lab also has been testing water samples collected by other agencies, including the Division of Water Quality.

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The following is a breakdown of the number of samples and analyses performed in the various programs by the Laboratory Services Division for fiscal years 2015, 2016, and 2017.

FY	2015	2015	2016	2016	2017	2017
	Number of samples	Number of tests	Number of samples	Number of tests	Number of samples	Number of tests
Retail Meat	448	1,266	229	530	164	422
Grade A Dairy Products	2,776	7,970	2,966	7,890	2,464	6,001
Raw Milk (Pathogens)	45	75	16	26	54	104
Fertilizer	234	738	212	705	218	546
Feed	328	1,209	385	1,265	297	841
Pesticide Formulation & Residue	16	29	12	23	6	6
Special Samples	19	76	29	40	8	18
Ground Water	0	0	24	32	8	11
Milk Pesticide Residue ‡	90	1,140	160	2,040	0	0
Federal Meat/Pathogens	219	219	171	171	201	207
Miscellaneous Samples*					41	117
TOTAL	4,175	12,722	4,182	12,660	3,461	8,293

The ground water testing program was discontinued several years ago; egg plant water is included in this category for FY 2016 and 2017. Routine sampling and testing of raw milk was discontinued in 2013; testing is now conducted when needed.

†The lower sample and test numbers for FY 2017 are mainly due to a halt in laboratory testing that occurred during the move to the new laboratory building in Taylorsville.

‡Milk pesticide residue analysis was not conducted in FY 2017 because of the laboratory's move to the new facility in Taylorsville. This testing is planned to be completed by the end of the 2017 calendar year.

*Miscellaneous Samples include samples of various types that were tested for purposes other than purely regulatory in nature.

Marketing & Economic Development

Wayne Bradshaw
Director

The Marketing and Economic Development Division is charged with promoting "the healthy growth of Utah agriculture." The Division does this through the Utah's Own program, participating in the Western United States Agricultural Trade Association (WUSATA), Jr. Livestock Association, Market News Reporting, and the Specialty Crop Grant Program. The marketing staff includes Wayne Bradshaw, Ryan Parkinson, Laurie Seron, Andy Pierucci and Mike Smoot.

Utah's Own

Utah's Own promotes local agriculture and food through a branding and marketing program. Companies growing or producing food locally join the program free of cost to utilize the Utah's Own™ trademark to help consumers readily identify local products. This year the Utah's Own staff created a broad advertising campaign to increase consumer awareness of local products and the Utah's Own™ brand. Utilizing billboards, UTA placement, KSL.com, Facebook, and Google ads, the campaign created over 49.5 million impressions.

Utah's Own launched a new website in 2017 to better meet the needs of consumers. The new website is mobile friendly, updated, and a better experience for consumers looking for local products. There are many reasons for buying local, including benefitting Utah's edonomy, which is spelled out in the info-graphic on this page and the text below. Both appear on the front page of the Utah's Own website: utahsown.org.

A recent study showed that if Utahns spent just 10 percent more on local businesses, it could keep up to $1.3 billion in our state's economy every year. Supporting our local food producers creates more jobs for residents, provides extra tax revenues for local governments and provides you with products that simply taste better.

Also in 2017 the program launched a new brand video telling the stories of four amazing producers across the state of Utah.

WUSATA

The Western United States Agricultural Trade Association, commonly referred to as WUSATA, is a non-profit organization formed in 1980 by the 13 western state departments of agriculture. In 2017 the 13 western states hosted or will host 41 activities all across the world; to date participating companies have sold $56 million in products.

Market News Reporting

Market news collects and reports commodity price information critical for agriculture producers and agribusinesses. To provide this important service and insure the integrity of sales information, the Division monitors livestock auctions in Cedar City, Salina, Willard, and Monroe on a weekly basis. The market news reporter also compiles current hay sales information from alfalfa hay buyers and sellers weekly. The information is disseminated through the Department's website, print media, radio broadcast, and call-in service.

Jr. Livestock Show

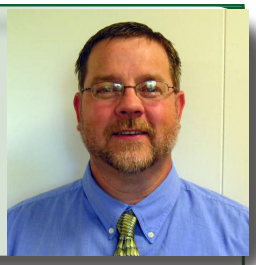
The Division administers the legislative mandated and funded program that assists the State's junior livestock shows. Funds are allocated by an agreed upon formula that promotes youth involvement and offers a quality educational experience.

Specialty Crop Grant

The purpose of the Specialty Crop Block Grant Program (SCBGP) is to solely enhance the competitiveness of specialty crops. Specialty crops are defined as "fruits, vegetables, tree nuts, dried fruits, horticulture, and nursery crops (including floriculture). During the 2017 year almost $300,000 was distributed for research, development, and project expansion.

Refugee farmers at the New Roots Farm in Salt Lake County use Specialty Crop money to learn which crops from their countries grow well in Utah. They also developed a growing guide.

Plant Industry & Conservation



Robert Hougaard
Director

The Division of Plant Industry and Conservation is responsible for ensuring disease free and pest free plants, grains, and seeds, as well as properly labeled agricultural commodities, and the safe application of pesticides and farm chemicals.

Invasive Species Mitigation (ISM)

The role of the Division is to allocate invasive species mitigation funding to projects which have management strategies with a high degree of success in the State of Utah.

Process for Approving Grants:

Applications are submitted to the director of the Division of Plant Industry and Conservation. The Grant Ranking Committee meets to rank projects based on project ranking criteria. The Commissioner of Agriculture and Food, with input from the Utah Conservation Commission and the Department of Natural Resources approves projects to be funded.

Invasive Species Mitigation Funding

Utah statute requires the following ranking criteria be considered:

- Effectiveness in preventing encroach ment of an invasive species
- Damage to a local economy
- Damage to wildlife or livestock habitat

Specific Ranking Criteria:

- Projects which target eradication in the first three years
- Early Detection Rapid Response (EDRR) for State focus species
- Cooperative weed management areas with multiple stakeholder success
- Projects which have a positive impact to rehabilitate areas of infestation
- Projects which have direct correlation to other established management plans
- Ability to show project successes on similar projects
- Local involvement of private land own ers
- Projects with matching funds
- Projects which show an integrated weed management approach

Number of ISM Applications	80
Number of ISM Projects Funded	74
Number of Invasive Species Treated	24
Number of Counties with Projects	16
Total Treated Acres	75,000

75,000

Acres treated in 2016 statewide for invasive weeds

Noxious Weed Control

The state weed specialist administers the Utah Noxious Weed Control Act (Title 4, Chapter 17) and coordinates and monitors weed control programs throughout the state. The nine compliance specialists located throughout the state make hundreds of visits and inspections each year. This includes visits and or direct contact with the agencies listed below:

Retail and wholesale establishments
Nursery outlets and sod farms
Weed supervisors and other county officials
State Agencies
Federal Agencies
Utility companies
Private landowners

Hay and straw certification
Cooperative Weed Management Areas (CWMA's)

Cooperative Weed Management

During the past several years, the UDAF has been working diligently with local land management agencies and counties to encourage the development of Cooperative Weed Management Areas (CWMAs). Weed management areas are designed to bring people together to form partnerships to control noxious or invasive weed species. CWMAs break down traditional barriers that have existed for years among agencies. CWMAs enable county weed departments and the local managers of state and federal lands, along with private land owners, to cooperate and collaborate on similar noxious weed issues. They share resources and help with weed control problems on lands that they do not administer. There are 25 organized cooperative weed management areas in Utah.

Control of Noxious Weeds

The division state weed specialist coordinates weed control activities among the county weed organizations and the compliance specialists. Surveys of serious weed infestations are conducted and control programs are developed through the county weed supervisors, county weed boards, and various landowner agencies. The weed specialist and others continually work with extension and research personnel in encouraging the use of the most effective methods to control the more serious weeds. Under the this program, noxious weed free hay certificates are issued to qualifying hay producers.

Activities in Hay and Straw Certification

Certification of hay and straw to be free from noxious weeds has become an important part of allowing these materials to be fed or utilized on public lands throughout Utah and other western states. Weed free certification is now required for all hay and straw used on public land. Plant Industry compliance specialists performed the following activities in connection with this program:

Number of Inspections: 116

UTAH GRAZING IMPROVEMENT PROGRAM

UGIP is a broad based program focused on rangeland resource health. Our mission is to "improve productivity and sustainability of rangelands and watersheds for the benefit of all."

Many UGIP projects focus on improving grazing management by increasing water availability. Sometimes 50 year old projects need to be replaced or re-dseigned. This water trough in Summit County was leaking and causing a muddy mess and increased erosion. In 2017, the UGIP Board approved funding to redo and improve several spring development projects on this ranch.

Goals:

- Strengthen Utah's Livestock Industry
- Improve Rural Economy
- Enhance the Environment

Additionally, a staff of range specialists located in six regions throughout the state offer the livestock industry information and assistance regarding grazing issues. The program supports grassroots opportunities for livestock producers to provide program direction through six Regional Grazing Advisory Boards and a State Grazing Advisory Board.

The main focus of the program is to invest in and help facilitate improved resource management. Grants are provided for projects to enhance grazing management and rangeland resource health. Projects are planned and implemented at the regional level, where the advisory boards are involved in project prioritization. From 2006 to June 2017, more than $13.6 million in UGIP funds have been obligated to 680 projects. More than $18 million have been invested in the program from matching funds from producers, NRCS (Natural Resource Conservation Service), BLM (Bureau of Land Management), USFS (U.S. Forest Service), SITLA (State Institutional and Trust Lands Administration), DWR (Division of Wildlife Resources), and other resources. Most projects focus on improving grazing management by increasing water availability and building fences to enhance livestock control. The program has improved more than 3.9 million acres.

Projects funded by UGIP are monitored in several ways. Grantees may gather their own data by taking photos of the affected area before and after project completion, and keeping grazing records. UDAF biologists visit projects to gather more in-depth data, including vegetation species composition and cover. Some projects are also monitored using low-level aerial photography.

UDAF/UGIP worked with partners on three large-scale projects in Rich, Sevier/Piute and Box Elder Counties totaling over 1.9 million acres.

We believe in investing human and financial resources to create financial, social, and ecological wealth for the public and private rangelands of Utah elevating the lives of every citizen of the state.

Utah Conservation Commission

The UCC is authorized under the Utah Code. The Act's purpose as declared in code is: "The Legislature finds and declares that the soil and water resources of this state constitute one of its basic assets and that the preservation of these resources requires planning and programs to ensure the development and utilization of these resources and to protect them from the adverse effects of wind and water erosion, sediment, and sediment related pollutants." With this in mind, the Utah Legislature in 1937 created this unique state government entity, and it has been active since, evolving to meet new environmental and social conditions.

Today the commission consults with stakeholders as it strives to protect the natural resources within the state and administers the conservation district programs. The mission of the Conservation Districts is to enable Utah's private land managers to protect and enhance their soil, water and related natural resources. This is done in cooperation with the UCC and Utah's 38 CD's. Conservation districts are authorized by state law. Together, they work with many other state and federal natural resource-oriented agencies and special interest organizations to bring about many short and long-term public benefits. Districts are the local leaders that influence conservation on private, state and federal lands. Their efforts towards conservation improvements can be directed at a large scale watershed approach or assisting an individual landowner. It is through the local leadership of the CDs that brings positive change and sustainability of Utah's farm and range lands.

The Department of Agriculture and Food provides staff support for the UCC, which is chaired by the Commissioner of Agriculture and Food. Conservation districts are using county resource assessments as a base for identifying concerns. Coordinated resource management plans are being developed to collaborate with the local citizens, city and county officials, and state and federal technical staff. The planning efforts are improving watershed health and Utah's natural resources. The UCC and CD's have continued to aid the Department in further implementation of the Grazing Improvement Program and the Invasive Species Mitigation Act (War-on-Weeds).

Low Cost Loans

Several low interest loan programs are provided for farmers, ranchers and other agribusinesses. The loans have aided the agriculture community by providing funds when conventional loans are unavailable by:

- Providing project funding to assist operators in conserving resources and improving efficiency of operations
- Assisting beginning farmers to purchase farm and ranch properties
- Aiding financially distressed operators with long term funding

The portfolios are comprised of approximately 496 loans, and the combined assets of the program as of June 30, 2017 totaled more than $59 million. Loans are funded from revolving funds that grow each year from the earnings of the programs. These programs benefit Utah's economy in numerous ways. Loss history has been minimal.

Agriculture Resource Development Loan (ARDL)

ARDL, the largest program in the Loans Section with 55 percent of its assets and over 500 loans, is administered by the Section for the Utah Conservation Commission. Technical service and marketing of the program are provided by local conservation districts and the Utah Association of Conservation Districts as well as other conservation partners, both federal and state. Examples of eligible projects include animal waste management, water usage management (irrigation systems and wells), rangeland improvement, on farm energy projects, wind erosion control and disaster mitigation and cleanup. ARDL Interest rates are fixed at 3.00%, 2.75% or 2.50% based on the amount of the loan. A term of either 7 or 15 years will be determined by the type of collateral taken to secure the loan. A four percent administration fee is added to loan amount and covers marketing and project planning costs.

Borrowers are encouraged to use these loans to help fund projects jointly with federal and state grants. They can also finance stand-alone projects.

The division also works with the State Revolving Fund under the Division of Water Quality to underwrite and book loans to finance projects for eliminating or reducing nonpoint source water pollution on privately owned lands. That program was recently expanded to include grants as well as loans. The loans are now included in the ARDL program with some modifications.

Rural Rehabilitation Loans

The two programs, distinguished by whether they use federal or state monies, comprise the rest of the agriculture loans. They are administered by the Section for the Agricultural Advisory Board. Their various purposes are to:

- Provide assistance to producers with viable businesses who have need of long term financing in order to continue in business and cannot obtain adequate financing from commercial lenders
- Help beginning farmers to obtain farms and ranches. This includes providing financing for the transfer of ownership of family farms and ranches from one generation to another

These are essentially loans of last resort requiring that applicants be declined by conventional commercial lenders. They are often granted in cooperation with other lenders such as the USDA Farm Service Agency. Terms range up to a maximum of ten years with longer amortizations. Interest rates charged are four percent or less. These long term real estate loans have helped numerous Utah agricultural operations to remain in business. The maximum loan size is usually limited to $350,000.

Petroleum Storage Tank Loan

Besides agriculture loans, the Loans Section has been working with DEQ's Division of Environmental Response and Remediation since 1996 to underwrite loans to property owners, mostly fuel retailers, who have underground storage tanks that require removal, replacement or other necessary procedures. The program has recently been expanded and the maximum loan size has been increased from $45,000 to $150,000. Loans are limited to a maximum of ten years with zero percent interest.

Colorado River Basin Salinity Control

The State of Utah currently receives approximately $2 million yearly from the Colorado River Basin States Salinity Control Forum to reduce salt that enters the Colorado River, which has increased significantly from the initial $350,000 received in 1997. During 2015 the State received funding through the Basin States Program to pipe irrigation canals in Daggett and Uintah counties.

The Salinity Program's irrigation projects are an economic benefit to agriculture in eastern Utah. The new irrigation systems increase watering efficiency, decrease water loss through seepage, and improve crop production and uniformity.

Agriculture Certificate of Environmental Stewardship

Utah law requires the Conservation Commission to develop the Agriculture Certificate of Environmental Stewardship (ACES), applicable to each agricultural sector. It helps agricultural producers of all sizes evaluate their entire operation and make management decisions that sustain agricultural viability, protect natural resources, support environmentally responsible agricultural production practices, and promote positive public opinion. To be eligible, producers must complete three comprehensive steps:

1. Document completion of education modules
2. Complete a detailed application to evaluate on-farm risk, and
3. Participate in an on-farm inspection to verify program requirements applicable to state and federal environmental regulations.

The certification will be for a five-year term, with renewal for an additional five years upon inspection.

Agricultural Sectors: Identified agricultural sectors include the farmstead, animal feeding operations, grazing lands, and cropping systems.

Protects Natural Resources: The ACES process ensures all participating agricultural producers are making decisions that balance production and environmental demands, measures aimed at protecting soil, water, air, plants, animals, and other environmental factors. This will require ACES producers to be committed to farming and ranching practices that protect Utah's natural resources.

The production of food and fiber is essential to a healthy population. ACES's is based on scientific standards that allow farmers to address environmental concerns while remaining economically viable.

Agriculture plays a vital role in Utah communities, and ACES strengthens the relationships between farmers and their neighbors. Producers who closely examine their operation's potential impact on soil, water, air, plants and animals understand the impact these practices can have on their neighbors. ACES's is a collaborative effort of Utah producers, Department of Agriculture and Food, Utah Conservation Commission, Farm Bureau, local Conservation Districts, Department of Environmental Quality, commodity organizations, universities, and other state and federal agencies.

Benefits of ACES

The ACES will offer alternatives to regulatory permits, provide an extra level of protection against frivolous complaints, and help producers market their commodities.

Expectations of ACES

Enable producers to evaluate their agricultural practices and make necessary adjustments

Recognize significant conservation goals that have already been achieved

Adopt land use practices that maintain or improve agricultural land, while sustaining natural resources

Create new opportunities to use conservation for income

Hazardous Algal Blooms

From fall 2016 to spring 2017, UDAF developed a Harmful Algal Bloom response plan to provide the Department with the ability to protect agriculture from, and mitigate the effects of, blooms.The 2017 growing season yielded relatively small blooms, which were of low impact to agriculture.

Not all algae contains toxins. Testing is very important. UDAF test water to make sure it is safe for livestock to drink and to irrigate crops.

Entomological Activities

The Utah Department of Agriculture and Food (UDAF), Entomology Program provides leadership to the Nursery, Insect, Phytosanitary, and Apiary Program, with customers in diverse markets. These markets include: horticulture, pest management, field crops, apiarists, government, academic, agriculture, public, conservation, forestry, natural resources and medical. The full-service approach combines broad-based project management capabilities and extensive value added services like insect and plant disease recognition, public outreach /education, current knowledge of national issues affecting stakeholders. This approach produces effective regulatory programs that protect and conserve Utah's lands and natural resources.

Increased production costs, loss of markets, increased pesticide use, and ecological damage are effects often caused by newly introduced invasive and native harmful insect species. Monitoring projects utilize traps and visual surveys to determine the presence of a wide variety of economic insect species. Invasive insects are most often associated with the global movement of plant material. In addition to the nursery plant trade, the hardwood or softwood packing material commonly used to transport tile, stone, glass, and machinery parts from Asia is the most active pathway.

During 2016, there were approximately 1,300 state and federal Phytosanitary Certificates issued under the direction of the State Entomology Program. These certificates allow Utah commercial agriculture businesses to ship plants and plant products to other states and foreign countries. The State Entomology Program also responded to more than 500 public requests for professional advice and assistance. Such assistance includes insect identification, news releases, control recommendations and participation in various education meetings and workshops.

The State Entomologist administers the Utah Bee Inspection Act (Title 4, Chapter 11), the Insect Infestation Emergency Control Act, the Nursery Act, and various entomological services under authority of Title 4, Chapter 2. Major functions performed during 2016 are summarized below:

Newly Detected Invasive Insect Species

Velvet longhorn beetle: Trichoferus campestris (Faldermann)

Longhorn beetles are a widespread group of insects that bore into trees. The immature form of the longhorn beetle bores into the cambium layer of trees and shrubs, which contributes to the decline of the plant. There are many established species of longhorn beetles in Utah, including pine sawyers, twig girdlers, and root borers. Most recently, an invasive species, the velvet longhorn beetle, was detected in South Salt Lake City (2010,2013), Murray City (2012), Salt Lake City (2013), East Millcreek (2013), Millcreek (2013), Alpine (2013), Pleasant Grove (2013), Orem (2013), West Bountiful (2015) and Tooele (2016). To date thousands of adult specimens of this exotic wood borer has been collected from 19 sites in four Utah Counties. The sites where this beetle has been detected are orchards, riparian areas, and industrial sites. The State Entomology Program is currently assisting in research which will lead to a greater understanding of this pest and will aid in developing tools to help control and mitigate damage to Utah's commercial fruit producers.

Rangeland Insects

Grasshoppers (various species) and Mormon crickets (Anabrus simplex: Haldeman) are native insects that can periodically adversely affect crop and rangeland habitats. Annual visual surveys are deployed to monitor populations of these insects. Priority is given to agricultural areas which are experiencing high populations of these insects. Typically, land owners organize and partner with state and federal agencies to conduct suppression projects. In 2016, approximately 146,553 acres were severely infested with grasshoppers across the state. UDAF participated in cost share with 11 individuals that were managing heavily infested lands. These projects targeted several species of grasshoppers, post-spray surveys indicate that grasshopper populations were reduced to sub-economic levels.

Honey Bee

<u>European honey bee: Apis mellifera (Linnaeus)</u>

The Utah Bee Inspection Act provides for inspection of apiaries in order to detect and prevent the spread of infectious bee diseases. Without a thorough inspection program, highly contagious diseases could spread rapidly, resulting in serious losses to the bee industry in Utah, with corresponding losses to fruit and seed crop producers who are dependent on bees for pollination. During 2016, the state Apiary Program inspected 495 hives. The percentage of the most devastating brood disease American foulbrood (Paenibacillus larvae) detected in these colonies was 0.4%. A less severe brood disease known as chalkbrood (Ascosphaera apis) was far more common. It was detected in 5-10% of hives between the months of July and September. However, excessive varroa mite (Varroa destructor: Anderson and Trueman) infestation was by far the most common problem among hives inspected. On average, untreated colonies were in excess of levels recommended by scientific authorities between the months of August through October. One small hive beetle (Aethina tumida: Murray) was detected in Washington County. Currently, it is not clear if this exotic pest is established in the area.

<u>Africanized honey bee: Apis mellifera hybrid</u>

Africanized honey bee (AHB) is visually identical to its European relative; however, its aggressive nature has earned this honey bee the reputation of being a public hazard. Early detection, supported with information and education, will be a major defense mechanism against this devastating and alarming insect. Considerable education and public awareness has activities have occurred since the AHB was discovered in Southern Utah. Our survey has expanded to include managed colonies and natural migration areas. AHB was first detected in Washington, Iron and Kane Counties in 2008. Two years later these invasive bees were found in San Juan County. In 2015, with the assistance of a county inspector it was confirmed that AHB were present in Grand and Wayne counties. In 2016, a beekeeper in Emery County reported aggressive bees in the Huntington area to a state inspector. Testing revealed these bees to be Africanized.

Quarantined Insects

Exotic orchard pests and their respective host plants, are subject to quarantines of other states. The UDAF helps Utah's fruit growers meet export requirements by administering: a survey program, compliance agreements, and sampling. This program has successfully provided Utah's fruit industry access to out of state markets for their commodities. Since the apple maggot and cherry fruit fly were detected in 1985, UDAF assists property owners by advising orchard spray management techniques and recommending the removal of uncared-for and abandoned orchards.

<u>Gypsy moth Lymantria dispar dispar (Linnaeus)</u>

Gypsy moth is a notorious pest of hardwood trees and UDAF administers a trapping program for this pest. The major benefits of this program are: cost effectiveness, public nuisance reduction, forest and natural resource protection. Gypsy moth was first found in Salt Lake City in the summer of 1988. Since that time, UDAF has been the lead agency in the administration of a successful eradication program. Eradication efforts have been successful and trapping programs will remain vigorous.

<u>Japanese beetle Popillia japonica (Newman)</u>

Japanese beetle (JB) is a pest of more than 300 different types of plants. In addition to being a public nuisance its presence would cause loss of markets and increased production costs for Utah's horticultural and fruit growing industries. In 2006, a small population of JB was detected in Orem City. Since then, UDAF has successfully implemented an eradication program. The elimination of this population in Orem is due to the treatment activities starting in 2007. In subsequent years, additional detections of JB have been found in other parts of the state. However, the number of captures has been so low, it is presumed that there are no established populations in Utah. In 2016, no JB were detected in any of the approximately 2,000 traps placed statewide. Detection trapping and delimiting surveys continue.

<u>European corn borer Ostrinia nubilalis (Hubner)</u>

European corn borer (ECB) is a damaging insect to corn. Utah has a quarantine (Utah Admistrative Rule R68-10) in place for products that could harbor ECB in order to keep this pest from entering the state. A state trapping program is annually conducted in major corn-producing areas for this serious pest. ECB has yet to be detected in Utah.

Jason Noble, Plant Industry Compliance Specialist checking a cherry fruit fly trap.

Exotic Pest Survey

The Cooperative Agricultural Program is funded by the United States Department of Agriculture (USDA) Animal Plant Health Inspection Service (APHIS) to provide a holistic framework for planning, preparedness, response and recovery from invasive pests of regulatory significance. In 2016, UDAF cooperated with Utah State University (USU), to conduct early detection programs for exotic insect and pathogens that would pose a significant threat to Utah's agricultural economies.

Due to the increase of international traffic and the shipment of containerized cargo into the State of Utah, there is a need to monitor for the presence of exotic insects such as wood-boring long-horned beetles and bark beetles. UDAF has selected 20 sites throughout the State where such insects may be introduced or first detected. In the five years this program has been in operation, eight new insect records have been established for the State of Utah.

Asian defoliators (various species) pose a significant threat to the economic viability of Utah's forest product and ornamental industries. Economic potential is high risk because these organisms attack hosts or products with significant commercial value (such as timber, pulp, or wood products). The organism directly causes tree mortality or predisposes host to mortality by other organisms. Damage by an organism causes a decrease in value of the host affected, by lowering its market price, increasing cost of production, or reducing value of property where it is located. Organisms may cause loss of markets (domestic or foreign) due to presence and quarantine significant status. In 2016, UDAF targeted 200 sites with pheromone traps where the possible introduction of these insects would likely occur. No introductions of these insects have been detected in the State of Utah.

UDAF is actively investigating for the presence of the emerald ash borer (Agrilus planipennis Fairmaire, EAB). According to the 2006 GAO report on invasive forest pests the EAB can kill all 16 types of ash trees. As of 2005, the pest had killed an estimated 15 million trees (GAO 2006). Due to increased international traffic and the shipment of containerized cargo into the State of Utah, there is a need to monitor for the presence of exotic insects, including EAB. Exotic forest insects have the potential to kill trees and disrupt native forest ecosystems. Monitoring programs assist in detecting the presence of EAB. In 2016, a contractor for USDA APHIS deployed 69 purple sticky panel traps in 10 counties all baited with Manuka oil throughout the State of Utah. Currently no EAB have been detected in the state of Utah.

Biological Control

Assessing the success of weed biocontrol in Utah, the biological control monitoring program took center stage in 2016 with an aggressive emphasis on permanent site monitoring using Standard Impact Monitoring Protocol's (SIMP). This included adding 19 permanent monitoring sites and six weed species to our SIMP collections. This emphasis on monitoring gives the Department extended data to evaluate the efficacy of each of the biocontrol programs. Additional accomplishments in 2016 were the addition of five biocontrol species to the program. The overall biocontrol program showed an average of a 200% increase across the four areas of program measurement which include: 1) number of collections annually, 2) number of cooperators, 3) number of bio-agents released, and 4) number of SIMP sites monitored. The program added release and monitoring programs with some experimental biocontrol agents based on historical data showing that puncturevine biocontrol agents could not survive in Northern Utah. Puncturevine agents were recovered in Colorado 100 miles south of Denver. The program established five experimental release sites. These new sites were monitored with SIMP monitoring to establish baseline data. The program expanded the collection and distribution of agents in 2016. The program was able to successfully collect for purple loosestrife defoliating beetles, Galerucella spp. in 2016, which increased our releases from 3,000 in 2015 to 162,000 in 2016.

Biocontrol agents added in 2016 included: Mecinus janthiniformis for Yellow Toadflax, Eustenopus villosus for Yellow Starthistle, Nanophyes marmoratus for Purple Loosestrife, Microlarinus lypriformis for Puncturevine, and Microlarinus lareynii for Puncturevine. The biological program enlists the help of many agencies to provide the technical assistance needed to carry out program work. Monitoring of biocontrol allows the Division to determine the effectiveness of specific agents. It also helps to track insectaries that we will use for future collection and redistribution. This program continues to grow through cooperation with multiple state, federal, county and private entities.

Nursery Inspection

The Utah Department of Agriculture and Food regulates perennial plants sold within the state. The Nursery inspection program ensures consumer protection by maintaining high standards of plants and decreases the spread of plant pathogens and insects.

The Nursery Program facilitated four compliance agreements and reviewed approximately 1,500 interstate plant shipments for quarantine compliance. In 2016, 830 commercial nurseries were registered with Utah Department of Agriculture and Food of which 665 were inspected for compliance to the applicable rules and regulations

Pesticide

The UDAF administers the Utah Pesticide Control Act, which regulates the registration and use of pesticides in Utah. This Act authorizes pesticide registration requirements and the pesticide applicator certification program. The Department has primacy

for pesticide use enforcement under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) in Utah. The Department administers sections of FIFRA under which programs are developed and implemented by cooperative grant agreements with the

Environmental Protection Agency (EPA). These programs include the Worker Protection Program, Endangered Species Program, Ground Water/Pesticide Protection Program, Certification Program, and Pesticide Enforcement.

Worker Protection

This program provides general training, worker and handler pesticide safety training, "train the trainer" program, training verification, outreach and communication efforts, reporting and tracking, and performance review actions. UDAF has adopted the national Worker Protection Standards (WPS) Verification Program and distributes WPS Worker and Handler Verification cards to qualified WPS trainers and performs WPS training as necessary.

Endangered Species Pesticide

Utah has an Endangered Species Pesticide Plan that allows the state to provide protection for federally listed species from pesticide exposure while tailoring program requirements to local conditions and the needs of pesticide users. Utah's plan focuses on the use of pesticides as they relate to the protection of threatened and endangered species on private agricultural land and lands owned and managed by state agencies. UDAF is the lead state authority responsible for administering the plan as it relates to the use of pesticides. Through an interagency review committee, special use permits or landowner agreements can be established to allow for the continued use of certain restricted pesticides for those locations that contain threatened and endangered species.

Ground Water/Pesticide Protection

The UDAF has a Ground Water/Pesticide State Management Plan to prevent pesticide contamination of the nation's ground water resources. The Utah Ground Water/Pesticide State Management Plan is a state program that has been developed through cooperative efforts of UDAF with various federal, state, and local resource agencies. The plan includes an assessment of risks posed to the state's ground water by a pesticide and a description of specific actions the state will take to protect ground water resources from potentially harmful effects of pesticides.

Certification

The UDAF has a cooperative agreement with EPA to undertake the following as part of the department's Pesticide Certification program: maintaining state certification programs, state coordination with Utah State University (USU) Extension, state evaluation and participation in training programs, conduct certification activities, maintain records for certified pesticide applicators, and monitor certification program efforts, UDAF works with USU Extension to develop pesticide applicator certification manuals and test questions and administers examinations as part of the licensing requirements of the state.

Pesticide Enforcement

The UDAF enforcement activities include the following: cancellation and suspension of pesticide products, general compliance monitoring, tracking, sample collection and analysis, enforcement response policy, ground water and endangered species pesticide enforcement activities, and FIFRA Section 19 (f) enforcement actions.

Number of Commercial Pesticide Businesses	1,193
Number of Commercial, Non-Commercial and Private Applicators:	7,649
Number of pesticide dealers:	123
Number of pesticide investigations:	440
Number of applicator & dealer record audits	114
Number of documentary pesticide samples collected:	1,696
Number of physical pesticide samples collected:	14
Number of pesticide violations:	273
Number of pesticide applicator training sessions:	27

Pesticide Product Registration

Number of pesticide manufacturers or registrants:	1,24048
Number of pesticide products registered	12,804
Number of product registration requests by Compliance Specialists:	63

Fertilizer

Administration of the Utah Commercial Fertilizer Act (Title 4, Chapter 13) regulates the registration, distribution, sale, use, and storage of fertilizer products. UDAF regulates and licenses fertilizer blenders, monitors the applicators that spray or apply fertilizer, and takes samples for analysis.

Major functions performed in this program in 2016:

Number fertilizer manufacturers/registrants	549
Number of products received and registered	4,923
Number of products registered because of investigations	24
Number of fertilizers sampled, collected, and analyzed	202
Number of samples that failed to meet guarantee	13
Violation percentage	6.44
Guarantee analysis corrected	4

Commercial Feed

Administration of the Utah Commercial Feed Act, (Title 4, Chapter 12) involves inspection, registration, and sampling of commercial feed products. Activities performed during this pro-

gram in 2016 are summarized below:

Number of feed products registered:	14,770
Number of companies registering feed products:	781
Number of companieswith Customer Formula Feed licenses:	49
Number of feed samples collected and tested, including samples of corn and cottonseed products tested for naflatoxin	418
Number of FDA Mad Cow Disease (BSE) Inspections conducted:	53

Cherry Diversion

The Cherry Industry Administrative Board (CIAB) is a marketing order created at the request of, by the vote of, and at the expense of, the tart cherry industry. It was created to assist the industry in dealing with the erratic production cycle of red tart cherries and to improve returns to the growers and processors of red tart cherries in the United States.

The CIAB regulates the processors (aka handlers) of tart cherries. It impacts processors by establishing the portion of each year's production that may freely flow to the marketplace and the portion of each year's production that must be moved into alternative outlets or through alternative options. The order establishes the tools and mechanisms to deal with surpluses or shortfalls of supply for processors.

Division employees assisted 15 different tart cherry growers and/or processors in implementing the protocols of the cherry diversion program in their orchards and processing plants.

Fruit and Vegetable Inspection

At the request of three onion growers, 6,125,070 pounds of onions were inspected for US No. 1 Grade certification following established USDA-FFV marketing standards.

Organic Food

Starting in 2002, the Utah Department of Agriculture and Food (UDAF) has certified organic operations in the State of Utah for the USDS National Organic Program. In the second half of 2016, the state organic program started experiencing an influx of new applicants. As the popularity of organic products grows around the world, more and more potential organic facilities are looking to be certified organic through the Utah Department of Agriculture and Food Organic Program. The organic food program in 2016 certified over 50,000 acres of production farm and pasture ground. This includes such commodities such as wheat, safflower, barley, oats, alfalfa and grass. Processed organic items from Utah are shipped all over North America and to foreign countries such as South Korea, Taiwan, Japan, and many European countries. The demand for organic produce from local farmers markets has driven interest of many more local farms to gain their organic certification.

The UDAF Organic Program continues to offer its support to local producers and processors in order to upgrade and modify their organic system plans and operating systems to meet the requirements of the organic production regulations. The organic program also offers opportunities for consumers to learn about organic foods and the requirements for organic food production.

Organic Participants in Utah

Program	Number Participants
Organic crops	26
Organic livestock	2*
Organic processing	24
Total organic participants	52

*Dual Scope

Seed Inspection and Testing

Administration of the Utah Seed Act (Title 4, Chapter 16) involves the inspection and testing of seeds offered for sale in Utah. The Seed Control Official issues letters of violation on all lots of seed that are in violation of the seed act. The labelers of seed have 15 days to correct the violation. Inspectors make an inspection of the seed lots to determine if the violation has been properly corrected. Seed lots are withheld from sale until the violation is corrected.

Seed analysis work performed in 2016 is summarized below:

Number of official samples submitted by Inspectors	306
Number of samples in violation	48
Percent violations	15.69
Number of service samples submitted by industry	1,195
Number of seed samples tested:	1,501

Seed Testing and Seed Law Enforcement

The seed analysts conduct tests on seed samples submitted by agricultural inspectors, seed companies, and other interested parties. Most common tests include percent germination, purity, and presence of noxious weeds; although a number of other tests are performed upon request. Inspectors monitor the seed trade by collecting representative samples for testing and by checking for proper labeling of all seed offered for sale and for the presence of noxious weeds and other undesirable factors.

Grain Inspection

The Federal Grain Inspection Service provides grain inspection services under authority of Title 4, Chapter 2, Section 2, and under designated authority. Following is a summary of work performed during the past fiscal year under dedicated credit provisions, with expenses paid by revenue received for grading services:

Total number of inspections performed	13,288

Note: volume of work is influenced each year by weather conditions, government crop programs and marketing situations.

Regulatory Services

Travis Waller
Director

Retail Food

Protecting the safety and integrity of the food supply is one of the Utah Department of Agriculture and Food's (UDAF) core functions. The UDAF Food Program functions as a regulatory agency and therefore has many tools to protect the consumers and promote agriculture. The Food Program currently has 4,407 registered food facilities. Our Food inspectors completed a total of 6,558 total inspections, which includes 4,661 routine inspections, 924 follow-up inspections, 285 pre-opening inspections, and 688 other inspections that include, complaint, truck-wreck, consolation, and plan review inspections this past year compared to 5,541 total inspections the previous year. This year has seen less employee turnover than previous years and we are working on training inspectors that have been with the department for a few years in a specialization area. We have inspectors that are specializing in meat compliance, Juice HACCP, and Shellfish Inspections. The expertise these inspectors have greatly benefited the department in being able to more quickly assist other inspectors and food establishment operators when they have difficult regulatory questions. The current goal is to maintain the inspection staff that we have so that we can retain their experience and expertise so that quality inspections can be conducted more quickly.

Our inspectors are well-trained Food Safety professionals and licensed Environmental Health Scientists. They use their experience and expertise on inspections to evaluate risks to the food supply during the processing, storage and transportation of food throughout the State of Utah. They are knowledgeable in assessing and evaluating the safety of high-risk food processes and offers industry stakeholders reasonable solutions in complying with state and federal food safety regulations. When Critical or Priority violations are noted, our inspectors complete follow-up inspections of these facilities in a timely manner to confirm corrective actions have been performed. From 2016 – 2017, there were 68 Voluntary destructions and Hold Orders involving 5,242 pounds of food for a total of $12,195.

Cottage Food

Cottage Food Facilities remain a challenge to get their labels and recipes approved. There are 334 registered Cottage Food Facilities. Managing this program is still very labor intensive as many facilities require additional food safety education prior to their opening to ensure they are following food safety regulations. Our inspectors go out to each new Cottage Food Establishment for a consultation to answer any questions they may have prior to opening as well as to give them addition education on food safety techniques and regulations.

Farmers Markets

Farmers Markets are increasingly popular in addition to having new markets open up many of the current markets have grown in size. Our inspectors have worked with the market coordinators to ensure that their food vendors are registered with the department or permitted by the local health department. Inspectors have been educating market coordinators to ensure that food safety regulations are being followed when inspectors are not at the market. Part of this education is ensuring that the market coordinator knows their responsibilities in ensuring that food that is sold and sampled at their markets follows all of the food safety regulations.

Retail Food Program Standards

UDAF has been enrolled in the FDA Voluntary Retail Programs Standards for 10 years, and we have completed five of the 10 program standards. The self assessment for Standard 9 the

Program Assessment has been completed and is currently going through an external audit. After the audit is completed we will have six of the standards completed. We received a small grant from AFDO to complete Standard 5 Foodborne Illness and Food Defense Preparedness and Response which has been started and will be completed later this year. A few of the standards are ongoing assessments of the program like Standard 4 which the majority of the inspectors who have been Standardized have also gone through Standard 4 assessments.

Food Recalls and Complaints

The Regulatory Division monitors recalls involving food products that pose a public health threat with Class I recalls being the priority. The Division received 277 recall notices from USDA, FDA, and industry last year. Of those, our monitoring showed there were 26 recalls of food products that came to Utah. We utilized our industry contacts to monitor progress on removing recalled products from commerce, and notified the State and Local Health Departments of recalls affecting food service establishments. The Division took significant actions on 11 of the

recalls where we discovered through recall audit checks that industry had not responded appropriately by leaving recalled products on their store shelves available for sale to the public. Similar to previous years, most recalls were related to food allergens, but four of the recalls affecting Utah were due to pathogen or foreign material contamination of the food products and foodborne illness outbreaks.

In 2016 UDAF responded to 123 consumer complaints. As in past years, many of the complaints concerned foreign material in food ranging from metal shards, larger pieces of metal, glass shards, wood chips, insects, and burned dough that sometimes appears to be rodent droppings. We continue to receive numerous complaints about foreign material in food products that ultimately is found to be fungi (mold). Every year we receive many complaints about poor sanitation in some of our regulated facilities and complaints about a food product that the consumer feels made them sick. We also continue to receive foodborne illness complaints from the state Foodborne illness reporting website (igotsick.health.utah.gov) and the Division is working with our state and local partners to improve the reporting tool and make it more effective. The Regulatory Division takes consumer complaints seriously and Division management monitors our response to complaints to ensure that we are doing a thorough job of responding to and solving issues that Utah consumers report to UDAF.

Manufactured Food Standards (MFRPS)

The MFRPS are a set of 10 regulatory program standards developed with the collaborative efforts of FDA, AFDO, and the states. The goal of the Standards is to develop an integrated national food safety system by leveraging resources to build systems within state regulatory food programs that lead to continuous measurable improvements.

The Utah Department of Agriculture and Food Regulatory Services Division was awarded a grant in 2012 to implement the MFRPS within a five-year time frame. The Manufactured Food Program went through a 60-month audit in July 2017 and the results of that assessment are pending but indicate the program achieved significant to full conformance with all 10 program standards.

In early 2017, FDA announced the opportunity for state programs to receive a continuation of grant funding to maintain the level of conformance achieved during the initial five year term. The Division applied for that funding and was awarded the grant. In 2018, the Division will have the opportunity to apply for five additional years of funding for the MFRPS along with five years of grant funding to develop a Utah Food Emergency Rapid Response Team. The extended funding will allow the Division to continue to build improved systems capabilities and develop the trained professionals needed to respond to food emergencies and foodborne illness outbreaks in the State.

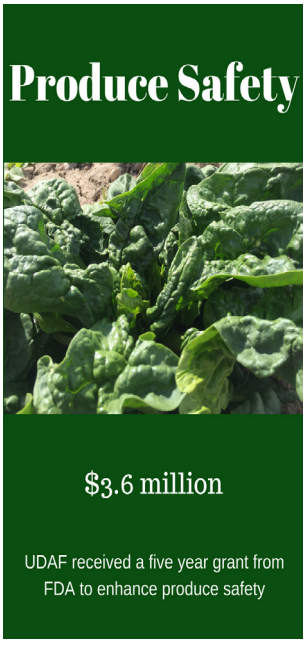
Food Inspection Contract Program

Under this program, inspections are performed by UDAF Regulatory Division food inspectors who are commissioned and credentialed by FDA. Contract inspections not only provide a funding source, but also benefits UDAF with technical training, familiarity with federal requirements and more uniform enforcement of consumer laws through cooperation and coordination with FDA. The contract program benefits the FDA by enlarging coverage of the federal Official Establishment Inventory (OEI) and also helps redirect resources to other priorities. FDA Denver District Office provides inspectional assignments in selected food manufacturers/processors to determine compliance with the FD&C Act and state laws.

In the past, the major inspectional emphasis was placed upon determining significant GMPs and unsanitary conditions and practices that may lead to food becoming adulterated and render food injurious to health. Under FSMA, in 2017 the manufactured food inspectors will be trained to enforce compliance with 21 CFR Part 117 Preventive Controls. Under this new FSMA mandate, many Utah food manufacturing facilities will be required to develop Food Safety Plans similar to HACCP. These new requirements will create additional monitoring and record keeping responsibilities for Utah operators and more detailed and time consuming inspections for our food inspectors. The Regulatory Division Manufactured Food inspectors will begin conducting inspections under Part 117 in early 2018. The Regulatory Division contracted with FDA to conduct 113 FDA inspections in 2018.

National Shellfish Sanitation Program (NSSP)

The National Shellfish Sanitation Program (NSSP) is the federal/state cooperative program recognized by the U.S. Food and Drug Administration (FDA) and the Interstate Shellfish Sanitation Conference (ISSC) for the sanitary control of shellfish produced and sold for human consumption. The purpose of the NSSP is to promote and improve the sanitation of shellfish (oysters, clams, mussels and scallops) moving in interstate commerce through federal/state cooperation and uniformity of State shellfish programs. Participants in the NSSP include agencies from shellfish producing and non-producing States, FDA, EPA, NOAA, and the shellfish industry. Utah adopts by reference the NSSP Model Ordinance by rule to ensure safe shellfish consumption in Utah. The program recently filled the vacant State Shellfish Standardization Officer position. The person selected has completed all the FDA training inspections and standardization and has been released to conduct independent shellfish inspections. Even with the position sitting vacant for six months, our new shellfish officer was able to completely catch up on overdue inspections and is doing an outstanding job.



Produce Safety

In 2016, the Utah Department of Agriculture applied for and was awarded a $3.6 Million, 5-year federal grant as part of a State/Territory Cooperative Agreement to Enhance Produce Safety.

Applying for the grant and entering

into a cooperative agreement with the FDA enables the state of Utah to work closely with its produce growers directly.

Agriculture is by nature a complex industry and does not lend itself to a "one size fits all" regulatory approach. Likewise, the FDA also recognizes that states themselves would be more affective in working directly with their produce growers in developing and implementing these new food safety standards.

The first three years and $1,978,356.00 of the grant will be used in outreach and education of Utah produce growers, to help them meet and /or exceed the new standards.

This new program will be a collaborative effort among several divisions within UDAF and other state agencies, including the division of Regulatory Services, Plant Industry, Utah State University (USU), the Food And Drug Administration (FDA), the National Association of State Departments of Agriculture (NASDA) and the Farmers of Utah. In fact, UDAF has sub-awarded a USU $603,000.00 to help assist with necessary research, educational outreach and implementation of the produce safety rule.

The grant stipulates five performance measures be met over the course of the next five years and include: "Jurisdictional Self Assessment", which includes identifying the various types of commodities grown in Utah that are subject to the rule; "Legislative Research", which entails the UDAF to pursue adoption of the federal rule governing produce safety, or adopting the federal rules by reference; "Strategic Plan", which outlines a step by step process of development and implementation of the produce safety program. "Farm Inventory", which includes collecting statistical information of Utah produce growers and the types of commodities grown. "Infrastructure Development", which includes developing and implementing educational programs and tools to assist produce growers and stakeholders and training staff regulatory staff.

Interestingly enough, an initial survey of Utah's produce growers has verified a unique and diverse spectrum of produce growers throughout the state whose businesses yield a significant bounty of fresh, wholesome food which not only feeds Utahans, but to the region, the country and the world.

While Tree Fruit Growers along the Wasatch Front appear to contribute the most diversity and volume of produce, Utah is home to a wide range of produce crops; including Berry Growers along the Wasatch Back, Melon Growers along the Green River, not to mention the vast amounts of Onions and Corn throughout the "low lands" of Davis, Weber and Box Elder counties. It stands to note, that Utah's unique geography enables producers to grow a diverse number of crops throughout the state.

BEDDING, UPHOLSTERED FURNITURE, & QUILTED CLOTHING PROGRAM

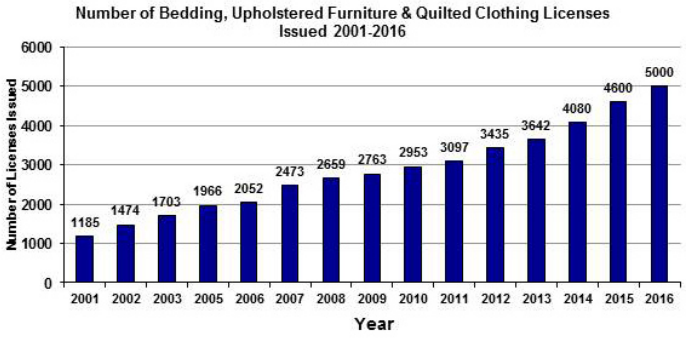
The purpose of the Bedding, Upholstered Furniture, and Quilted Clothing Program is to protect consumers against fraud and product misrepresentation, to assure Utahans hygienically clean products, to provide allergy awareness. This enables consumers to make informed buying decisions based on price, value, and performance and helps maintain equality in the marketplace for manufacturers. Utah law requires manufacturers, supply dealers, wholesalers, sterilizers, and repairers of these products and their components to obtain an annual license before offering items for sale within the state. Products in retail markets are inspected to ensure compliance and Utah's manufacturing sites are inspected for cleanliness and truthful labeling.

During the 2016 General Session H.B 314 was passed and became effective May 10, 2016. This bill enacted U.C.A §4-10-14 requiring the sterilization of all wool, feathers, down, shoddy, hair or other material before the material is used as filling material in new bedding, upholstered furniture, or quilted clothing. Portions of R70-101 were amended to include definitions and methods for the sterilization of these types of fill material. The Department began taking applications for the new Sterilization Permits on July 1, 2017.

In 2016, Utah issued more than 5,000 licenses which generated over $525,000 in revenue. Annual license fees make the program self-sustaining and allow laboratory-testing of suspect products to determine whether their contents are accurately labeled and free from filth and other contaminates. The number of active licenses has more than quadrupled since 2001. Two full time staff members are currently employed.

DAIRY COMPLIANCE PROGRAM

Grade A dairies have slightly increased in number in 2016. Notwithstanding the less than stellar milk prices, interest in dairy has slightly increased over the past year. Milk production per cow fell slightly during the past year. A contributing factor may have been weather conditions. Growth in Raw for Retail operations in the state is still stagnant. The Herd Share Program continues to grow slowly. Robotic Milking System (AMIs) are beginning to catch on in the State of Utah. The state currently has a total of 10 robots with another 8 to 10 projected for installation during 2017. Illnesses from consuming raw milk continue to be an issue in the state.



2016 Inspection Statistics

Table 1

TYPE	NUMBERS	INSPECTIONS/TESTS
Grade A Cow Dairies	185	534
Grade A Goat Dairies	1	8
Farmstead Cheese Dairies	6	18
Dairy Processors	47	186
Raw to Retail Dairies	10	28
Milk Haulers/Samplers	217	75
Milk Trucks	260	72
Pasteurizers	59	197

2016 Cow Statistics

Table 2

Item	Numbers
Total dairy farms in Utah	185 dairies
Total milk cows in Utah	92,000 cows
Average herd size	497 cows
Total milk production	2.095 billion pounds
Average milk production per cow	22,772 pounds per cow per year
Herd Share Participants	18 registrants

2016Plant Statistics

Table 3

Types of Plants

Aseptic Plant	1
Butter Plant	3
Cheese Cutting and Wrapping	2
Dairy HACCP Plants	1
Frozen Dessert Plant	2
Grade 'A' Fluid Milk Plant	11
Ice Cream Plants	9
Manufacturing Grade Cheese	13
Grade 'A' Drying Plant	1
Raw for Retail Dairies	10
Wash Bays	9
Robotic Milkers	10
Single Service Fabricating Plants	4
Yogurt Plants	3
Farmstead Cheese Dairies	6
Goat Dairies	4
Sheep Dairies	1

History

Table 4

Year	# of Dairy farms	Total milk production x 1,000,000	Average # of cows x 1,000	Yearly milk production per cow
2002	372			
2003	359			
2004	347			
2005	323	1661	88	18,875
2006	301	1747	86	20,314
2007	269	1732	85	20,376
2008	251	1776	85	20.894
2009	238	1767	84	21,036
2010	238	1819	85	21,400
2011	242	1854	88	21,068
2012	224	1951	90	21,678
2013	201	2036	92	22,130
2014	193	2182	95	22,968
2015	185	2222	90	22,146
2016	185	2095	92	22,772

Egg & Poultry Grading

The Egg and Poultry Grading Program provides a needed service to the egg and poultry industry and the consumers of Utah. Grading provides a standardized means of describing the marketability of a particular product. Through the application of uniform grade standards, both eggs and poultry can be classified according to a range of quality characteristics. Buyers, sellers and consumers alike can communicate about theses characteristics through a common language. The use of the official USDA grade shield certifies that both eggs and poultry have been graded under the continuous inspection of grading personal. USDA's grading services are voluntary. Egg packers and poultry processors who request this service pay for the services involved.

Program activities include:

Shell Egg Grading
Egg Products Inspection
Shell Egg Surveillance
Poultry Grading
Commodity Destination Inspections

Shell Egg Grading

During the 1970's and 80's, great improvements were made in the processing and merchandising of shell eggs. More efficient processing machines were developed. With the introduction of the polystyrene foam egg carton by Jon M. Huntsman, eggs were being merchandised better. Today eggs are processed on large computerized machines and packaged in a variety of different types and sizes of containers. Even with all of these improvements, USDA grading is still an important marketing tool. It allows the Utah egg industry to market eggs all over the world.

During 2016, USDA licensed Egg Graders graded 2,742,595 Cases (30 Dozen per Case).
the liquid egg industry.

Egg Products Inspection

In 1970, Congress passed the Egg Products Inspection Act. This made it mandatory that liquid, frozen and dried egg products be pasteurized and processed under continuous inspection. Utah Egg and Poultry staff members provide this inspection in Utah with a cooperative agreement with FSIS.

The term "egg products" refers to eggs that are removed from their shells for processing. The further processing of eggs adds greater product stability, longer shelf life, ease in preparation and storage, as well as product safety. With the American trend towards the consumption of prepared foods and fast foods, the increased demand for further processed eggs is sure to continue.

During the year 2016, 1,276,908 (30 dozen per case) cases of shell eggs where processed into liquid or frozen egg products in Utah.

UDAF egg inspectors inspect shell eggs and egg products in plants throughout Utah. They also inspect imported egg commodities bound for school lunch programs.

Shell Egg Surveillance

The USDA has established standards of quality for all eggs that are sold to the consumer. There are mandatory requirements for the handling of certain qualities of eggs that do not meet these standards. All egg producers with over 3,000 layers, firms grading and packing eggs from production sources other than their own, and hatcheries are required to be registered with the USDA. These firms are visited quarterly to verify that shell eggs packed for the consumer are in compliance.

During 2016, Utah State Surveillance Inspectors graded and inspected 438 samples associated with the USDA Surveillance Program.

Poultry Grading

Utah's USDA licensed graders grade whole turkeys and/or parts considering such factors as class, fleshing, finish, freedom from defects, age, weight, and other conditions. The grader applies official standards and regulations to determine the product's grade based upon grading results. Then those graded products can be labeled with the USDA shield for distribution all over the world

The USDA licensed Poultry graders of Utah graded 102,511,150 lbs. of turkey and turkey products in the year 2016.

USDA Commodity Destination Inspections

The National School Lunch Program provides cash and commodity assistance to assist schools in providing nutritious lunches to school children. USDA provides States with commodities for use in preparing school lunches. Every dollar's worth of donated commodities used in a school menu frees up money that a school would otherwise have to spend on food purchases. On an average day, commodities make up about 15 to 20 percent of the product served on the school lunch line. Utah receives approximately 15 million dollars in USDA commdities annually.

Utah Egg and Poultry Graders inspect these commodities as they arrive in Utah. The process involves checking the trailer temperature, breaking the official seals, selecting samples of frozen product, and drilling the product in order to obtain the temperature. An organoleptic inspection is done and a USDA certificate is prepared.

The USDA licensed Graders of Utah inspected 234,000 lbs. of USDA commodities delivered to various Utah destinations during 2016.

Weights and Measures

The Weights and Measures Program involves all weights and measures of every kind and any instrument or device used in weighing or measuring application. The purpose of the program is to ensure that equity prevails in the market place and that commodities bought or sold are accurately weighed or measured and properly identified. A goal of the program is to prevent fraud by routinely conducting unannounced inspections. Weights and Measures also respond to consumer complaints.

Weights and Measures inspectors are strategically located throughout the state to ensure equity in the marketplace prevails throughout Utah. There were 4,875 businesses in Utah with 52,860 weighing and measuring devices for the year 2016. There are many more establishments that should be added to the database.

Almost every commodity imaginable is traded in some form of measurement, whether by weight, measure, count, length, etc. To ensure fairness from producer to consumer the Utah Weights and Measures Program is involved in almost every consumer transaction. The program assures consumers that the weight or measure of food and nonfood products, services, or commodities purchased in Utah is correct.

Our inspectors routinely examine many types of scales that are used in commercial applications. Other devices the program inspects include diesel and gasoline pumps, vehicle tank meters, rack meters, high volume petroleum meters and propane meters. Fuel Quality is checked to verify that the consumer is getting the quality that is stated on the pump. Our inspectors also verify the price at the checkout register assuring that price scans correctly and the customer is paying the advertised price. Inspectors check the net quantity statement on packaged goods and verify that the item contains the amount that is stated on the label.

The state of Utah's Metrology Laboratory maintains the legal standards of mass, length, and volume. This lab is operated and maintained by one person. Our Metrologist checks the accuracy of our program field standards. The accuracy of equipment that is used by repair service companies is also verified by the programs Metrologist. These calibration services are provided using standards for mass, length, and volume that are traceable to the National Institute of Standards of and Technology.

Accomplishments

Inspected and tested Weighing and Measuring devices that are used commercially include gasoline pumps, propane meters, high volume gasoline meters, rack meters, vehicle tank meters, scales, etc. These inspections are unannounced to help both the business and the consumer receive an accurate measurement. These devices are checked to make sure they are operating correctly, legal for trade, and free from fraud and misuse. Utah helps assure that the market place is fair and equitable for both the business and the consumer.

A total of 866 gas stations and 28,252 gasoline pumps and 2,767 fuel storage tanks at Utah's gas stations were inspected during the 2016 calendar year. 11% of all gas stations inspected had something fail the inspection. Increase focus has continued to be placed upon gas stations that had not been inspected in 3 years or more. The inspections were related to unit pricing, security seals intact, advertised price, product labeling, storage tanks labeling, water testing, adequately labeled pumps, octane posting, automatic shut off valve, money calibration, hose conditions, fill caps and covers, readable of displays, anti-drain valve, computer jump and calibration accuracy.

Weights and Measures Inspectors and the Motor Fuel Specialist, Motor Fuel Quality Lab routinely screened gasoline to verify ethanol presence and octane levels. This included reviewing fuel delivery documentation, labeling of the fuel dispensers, and testing fuel storage tanks for water content.

Fuel analysis was performed on fuel samples that were taken for routine inspections and were a response to consumer complaints.

Fuel Lab by the numbers:

- Completed 203 inspections
- Collected 193 samples
- Performed 1539 analyses
- Responded to 15 complaints: Three were justified and resolved. Twelve were not reproducible conditions or a matter of educating the public

New equipment:

- FIA panel – Completed training with vendor. Tested an ASTM ILS fuel – results would have passed statistical reproducibility standards.
- Alcohol GC – Completed training with vendor, GC is calibrated and samples are being analyzed.

Equipment Maintenance and Calibration

- Completed quarterly calibrations on both distillation units. Equipment manufacturer completed annual main tenance and calibration per original purchase agreement.
- Completed semi-annual calibration check on vapor pres sure analyzer. A local lab was identified to perform the calibrations rather than shipping the unit over-seas to the manufacturer.
- Completed annual maintenance and calibration on the flash point analyzer
- The sulfur analyzer was suffering with repeatability issues. The manufacturer diagnosed the unit and deter mined that it was overdue for upgrades; new hard-drive, processor, and firmware were installed. Unit was re paired under warrantee, no charge.

ASTM Participation:

- Subscribed to two ASTM Inter-Laboratory Study pro grams: #2 Diesel fuel, and motor gasoline

Training:

- Spent one week training with the Missouri Motor Fuel Quality Lab. Spent three days in the lab reviewing and performing test methods. Spent one day in the field with an inspector.

Our metrology lab continues to maintain recognition from the National Institute of Standards and Technology by meeting all Echelon III parameters. Consumers rely on the services of this facility to certify equipment used for weight and volumetric measurement in commercial business.

Our Metrologist participates in Inter-laboratory comparisons. This verifies the labs accuracy and precision by comparing metrology programs throughout the country. The Metrology Lab successfully completed all requirements. The Metrologist makes sure that the Weights and Measures Program field staff standards are accurate. Repair service personnel also rely on the Metrology Lab for testing the accuracy of equipment used to calibrate measuring devices.

2,009 artifacts from industry and 337 artifacts from our Weights and Measures Program were tested for a certificate of calibration using standards that are traceable to the National Institute of Standards and Technology.

The Utah Metrology Laboratory is currently recognized under a Regional Measurement Assurance Program provided by the NIST Office of Weights and Measures. During the year we sent our metrologist to the Western Regional Assurance Program yearly training meeting. The State Metrologist received and met all criteria for the Certificate of Measurement Traceability through NIST.

A total of 166 Wheel Load Weigher scale inspections were conducted. These scales are used for law enforcement of weight limits on Utah highways.

Our Weights and Measures program has remained active in the National Conference on Weights and Measures (NCWM). The NCWM is the nation's consensus body that develops model weights and measures regulations adopted by Utah and the rest of the United States. This conference acts as a source of information and a forum for debate in the development of consensus standards for weighing and measuring devices and commodities sold by weight, measure or count, in promoting the use of uniform laws and regulations, and administrative procedures.

1,018 establishments that have small capacity scales (0lb – 1000lbs) received a routine inspection. This included 6,393 small capacity scales.

A total of 190 price verification inspections of retail check-out scanners were conducted. Our inspection program helps the consumer be confident that the price at which a product is adver-

tised or displayed is the price they will be charged at the check-out counter. These inspections include but are not limited to grocery, hardware, general merchandise, drug, automotive supply, convenience, and warehouse club stores.

Inspectors verify the net quantity of contents of packages kept, offered, or exposed for sale, or sold by weight, measure or count. Routine verification of the net contents of packages is important to facilitate value comparison and fair competition. Consumers have the right to expect packages to bear accurate net content information. Those manufacturers whose products are sold in such packages have the right to expect that their competitors will be required to adhere to the same standards. 31,507 packaged items were inspected for net content.

Our Weights and Measures LPG inspector provides inspections to all Utah Vendors dispensing LPG either through dispensers or delivery trucks. 401 propane meters were inspected throughout the state. These inspections included checking appropriate installation and calibration of propane dispensers and meters.

Inspections are conducted on airport fuel trucks, fuel delivery trucks, cement batch plant water meters and other large meters. 249 Vehicle tank meter, 61 rack meter, and 69 water meter inspections were conducted.

Large-scale capacities include 1,000 lbs. and up. These devices may include scales used for weighing livestock, coal, gravel, vehicles, etc., within inspections conducted at auction yards, ranches, ports of entry, mine sites, construction sites, gravel pits and railroad yards, etc. A total of 765 establishments that have large capacity scales were inspected. 1,787 large scales received an inspection.

Consumer Complaints

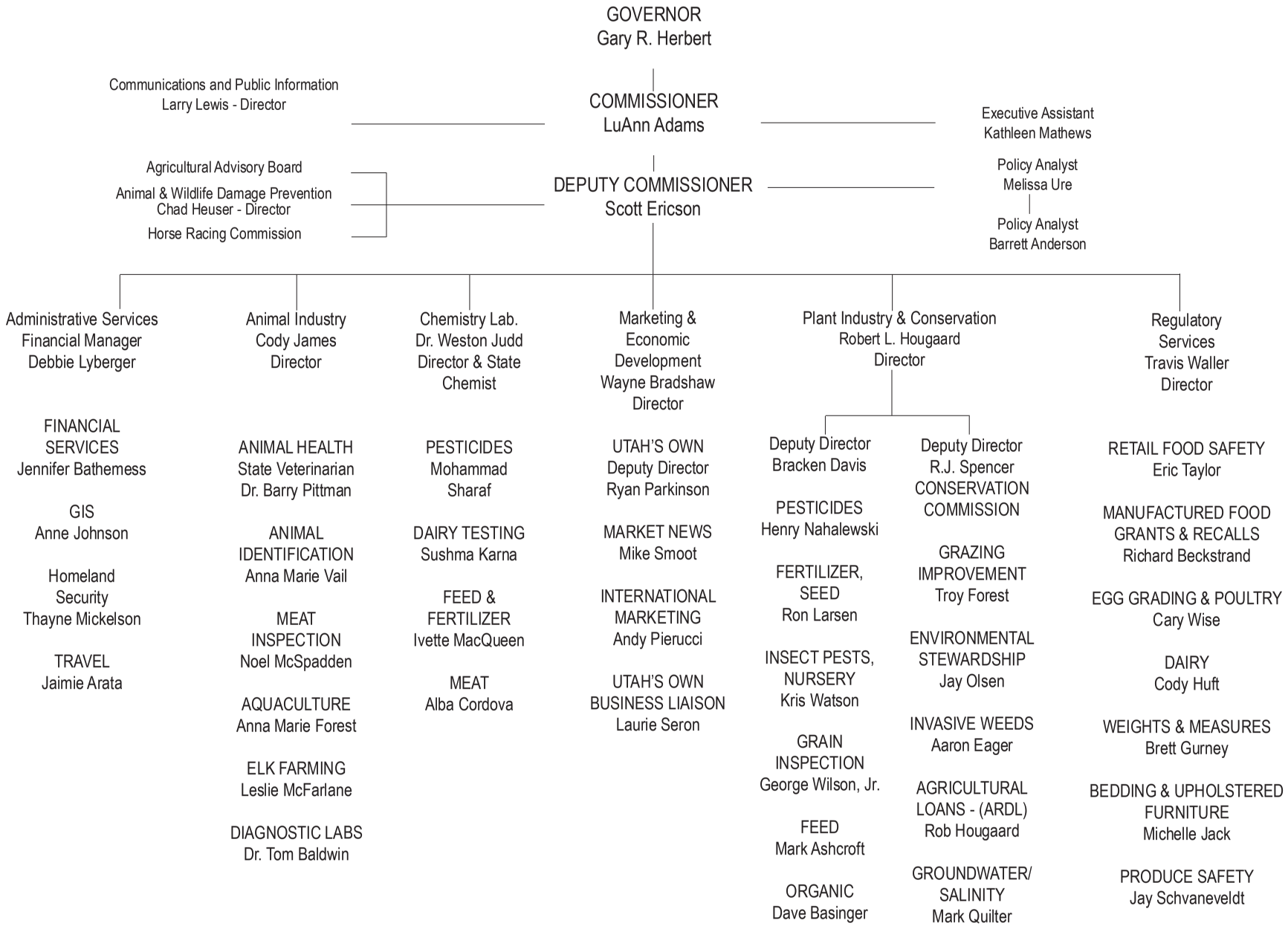
In addition to routine inspections, Weights and Measures Inspectors investigated approximately 68 consumer complaints. Complaints were related to Motor Fuel Quality and quantity, scale accuracy, product packaging and labeling requirements, net contents of packaged goods, and getting charged an incorrect price at the retail cash register scanner.

The registered serviceperson has continued to be an important part of the Weights and Measures Program. Training continued for the service technician for retail motor fuel devices. Additional service technicians including those from out-of-state have been registering and getting a certificate of registration. 244 service technicians were registered with the department. These individuals have become of aware of the requirements of the program which includes taking a class, passing a basic knowledge exam, registering a security seal, having calibration equipment with a current certificate from a NIST recognized laboratory, and sending in placed in service reports. Registered Service persons are required to send a placed in service report when placing a weighing and measuring device into service. 800 placed in service reports were submitted by service persons. This program helps protect the consumer and business owner by improving the security and the accuracy of the gas pump.

Applying uniform weights and measures standards to commercial transactions is important to a strong economy. As population and industry growth continues, so does the need for business and the associated industry. Along with that comes the need to provide weights and measures inspection service to those affected.

Large scale scales are usually not mobile and must be inspected on site. The photo above shows the older, more labor intensive method of inspecting and calibrating large truck scales. In recent years the department has been adding new trucks with more automated equipment, which is safer, quicker and more efficient for inspectors.

UTAH DEPARTMENT OF AGRICULTURE AND FOOD ORGANIZATIONAL CHART



UTAH AGRICULTURE STATISTICS -- 2017

Rank & Quantity Produced, Selected Commodities – Utah, Leading State & United States: 2016

Commodity	Unit	Utah		Leading State		United States
		Rank	Production	State	Production	
Field Crops						
Barley	(1,000 Bu)	14	1,558	Idaho	62,060	199,282
Corn, Grain	(1,000 Bu)	40	5,075	Iowa	2,740,500	15,148,038
Corn, Silage	(1,000 Tons)	26	1,176	Wisconsin	16,590	125,670
Hay, All	(1,000 Tons)	21	2,600	Texas	12,439	134,781
Hay, Alfalfa	(1,000 Tons)	14	2,226	California	5,040	58,263
Hay, Other	(1,000 Tons)	37	374	Texas	11,750	76,518
Safflower Production	(1,000 Lbs)	5	10,935	California	135,300	220,090
Wheat, All [1]	(1,000 Bu)	29	7,184	Kansas	467,400	2,309,675
Wheat, Other Spring	(1,000 Bu)	9	464	North Dakota	269,100	534,027
Wheat, Winter	(1,000 Bu)	26	6,720	Kansas	467,400	1,671,532
Fruits						
Peach Production	(Tons)	11	5,160	California	569,000	778,820
Tart Cherry Production	(Mil Lbs)	2	53	Michigan	224	324
Livestock [2]						
All Cattle & Calves	(1,000 Head)	35	820	Texas	12,300	93,585
All Cows [3]	(1,000 Head)	33	430	Texas	4,950	40,559
Calf Crop	(1,000 Head)	31	380	Texas	4,250	35,083
Beef Cows [3]	(1,000 Head)	28	338	Texas	4,460	31,210
Milk Cows [3]	(1,000 Head)	22	92	California	1,755	9,349
Milk Production	(Mil Lbs)	21	2,095	California	40,469	212,436
All Chickens (Excl Broilers)	(1,000 Head)	20	6,622	Iowa	65,763	494,524
Layers on Hand Dec. 1	(1,000 Head)	20	5,252	Iowa	55,252	376,605
Egg Production [4]	(Mil Eggs)	23	1,271	Iowa	13,608	101,953
All Hogs & Pigs	(1,000 Head)	15	700	Iowa	22,400	71,500
Breeding Hogs & Pigs	(1,000 Head)	16	75	Iowa	1,030	6,090
Pig Crop [4]	(1,000 Head)	16	1,437	Iowa	22,514	125,556
Market Hogs & Pigs	(1,000 Head)	15	625	Iowa	21,370	65,410
Honey Production	(1,000 Lbs)	25	992	North Dakota	37,830	161,882
All Sheep & Lambs	(1,000 Head)	5	275	Texas	700	5,200
Breeding Sheep & Lambs	(1,000 Lambs)	4	255	Texas	560	3,855
Lamb Crop	(1,000 Head)	4	230	Texas	340	3,250
Market Sheep & Lambs	(1,000 Head)	15	20	California	260	1,345
Wool Production	(1,000 Lbs)	3	2,300	California	2,700	25,740
Mink Pelt Production	(Pelts)	2	768	Wisconsin	1,196	3,317
Trout Sold	(1,000 Dollars)	11	633	Idaho	50,298	104,941
Miscellaneous						
Farms	(Number)	37	18,100	Texas	241,500	2,060,000
Land in Farms	(1,000 Acres)	25	11,000	Texas	129,800	911,000
Average Size of Farm	(Acres)	12	608	Wyoming	2,612	442

[1] Excludes Durum wheat for Utah.
[2] Inventory January 1, 2017 for cattle & sheep; December 1, 2016 for hogs & chickens.
[3] Cows & heifers that have calved.
[4] Pig crop & egg production for the marketing year December 1, 2015-November 30, 2016.

Record Highs & Lows: Acreage, Yield & Production of Crops – Utah

Units	Record High		Record Low		Record Began
	(Quantity)	(Year)	(Quantity)	(Year)	(Year)
Corn for Grain					
Harvested ..... (1,000 Acres)	34	2012	2	1963,1966	1882
Yield..... (Bushels/Acre)	178.0	2010	14.7	1889	1882
Production ..(1,000 Bushels)	5,678	2012	85	1934	1882
Corn for Silage					
Harvested ..... (1,000 Acres)	80	1975, 1976	2	1920-1922	1919
Yield..... (Tons/Acre)	25.0	2011	6.0	1934	1919
Production ..... (1,000 Tons)	1,501	1980	17	1921	1919
Barley					
Harvested ..... (1,000 Acres)	190	1957	8	1898	1882
Yield..... (Bushels/Acre)	89.0	2010	22.0	1882	1882
Production ..(1,000 Bushels)	12,880	1982	242	1882	1882
Oats					
Harvested ..... (1,000 Acres)	82	1910	2	2015	1882
Yield..... (Bushels/Acre)	85.0	2002, 2015	25.0	1882,1883	1882
Production ..(1,000 Bushels)	3,338	1914	170	2015	1882
All Wheat					
Harvested ..... (1,000 Acres)	444	1953	65	1880,1881	1879
Yield..... (Bushels/Acre)	59.9	2016	15.4	1919	1879
Production ..(1,000 Bushels)	9,750	1986	1,139	1882	1879
Other Spring Wheat					
Harvested ..... (1,000 Acres)	119	1919, 1920	7	2007	1919
Yield..... (Bushels/Acre)	65.0	1995	18.7	1919	1919
Production ..(1,000 Bushels)	3,366	1953	390	2002	1919
Winter Wheat					
Harvested ..... (1,000 Acres)	342	1953	100	2002	1909
Yield..... (Bushels/Acre)	60.0	2016	12.7	1919	1909
Production ..(1,000 Bushels)	8,100	1986	1,862	1924	1909
All Hay					
Harvested ..... (1,000 Acres)	760	2011	402	1909	1909
Yield..... (Tons/Acre)	3.93	1999	1.77	1924	1909
Production ..... (1,000 Tons)	2,788	1999	679	1934	1909
Alfalfa Hay					
Harvested ..... (1,000 Acres)	580	2011	359	1934	1919
Yield..... (Tons/Acre)	4.40	1993,1998,1999	1.67	1934	1919
Production ..... (1,000 Tons)	2,420	1999	600	1934	1919
Other Hay					
Harvested ..... (1,000 Acres)	180	2011	75	1934	1919
Yield..... (Tons/Acre)	2.40	2013	0.85	1934	1919
Production ..... (1,000 Tons)	420	2013	64	1934	1919
Apples					
Utilized Prod. ... (Million Lbs)	63	1987	3	1889	1889
Apricots					
Utilized Prod. ..... (Tons)	10,000	1957	0	1972,1975,1999	1929
Peaches (Freestone)					
Utilized Prod. ..... (Tons)	22,100	1922	750	1972	1899
Sweet Cherries					
Utilized Prod. ..... (Tons)	7,700	1968	0	1972	1938
Tart Cherries					
Utilized Prod. ... (Million Lbs)	50	2014	1	1972	1938

Record Highs & Lows: Livestock, Poultry, Honey & Mink – Utah

Units	Record High		Record Low		Record Began
	(Quantity)	(Year)	(Quantity)	(Year)	(Year)
Cattle & Calves					
Inventory Jan. 1 ..... (1,000 Hd)	950	1983	95	1867	1867
Calf Crop (Annual) ..... (1,000 Hd)	400	2000, 2001	310	1935,1984	1920
Beef Cows Jan. 1 [1] ..... (1,000 Hd)	374	1983	107	1939	1920
Milk Cows Jan. 1 [1] ..... (1,000 Hd)	126	1945	14	1867	1867
Milk Production (Annual) ..... (Million Lbs)	2,220	2015	412	1924	1924
Cattle on Feed Jan. 1 ..... (1,000 Hd)	81	1966	20	2017	1942
Hogs & Pigs					
Inventory Dec. 1 [2] ..... (1,000 Hd)	790	2007	4	1866-1868	1866
Sheep & Lambs					
Total Inventory Jan. 1 ..... (1,000 Hd)	2,935	1931	260	2004	1920
Breeding Inventory Jan. 1 ..... (1,000 Hd)	2,775	1931	157	1867	1867
Lamb Crop (Annual) ..... (1,000 Hd)	1,736	1930	220	2010	1924
Mkt Sheep & Lambs Jan. 1 .... (1,000 Hd)	70	1995	18	1988	1937
Chickens					
Layers Dec. 1 ..... (1,000 Hd)	5,252	2016	1,166	1935	1925
Egg Production [3] ..... (Million Eggs)	1,271	2016	142	1924	1924
Honey					
Production (Annual) ..... (1,000 Lbs)	4,368	1963	780	2010	1913
Mink					
Pelts Produced ..... (1,000 Pelts)	959	2014	283	1973	1969

[1] Cows & heifers two years old & over prior to 1970; cows that have calved beginning in 1970.
[2] January 1, estimates discontinued in 1969. December 1, estimates beginning in 1969.
[3] Annual egg production estimates cover the period December 1, previous year through November 30.

Number of Farms, Land in Farms, & Average Farm Size – Utah & United States: 2007-2016

[Annual sales of agricultural products of $1,000 or more.]

Year	Utah			United States		
	Number of Farms	Land in Farms	Average Farm Size	Number of Farms	Land in Farms	Average Farm Size
	(Number)	(1,000 Acres)	(Acres)	(Number)	(1,000 Acres)	(Acres)
2007	16,700	11,100	665	2,204,950	921,460	418
2008	16,800	11,000	655	2,184,500	918,600	421
2009	17,200	11,000	640	2,169,660	917,590	423
2010	17,500	11,000	629	2,149,520	915,660	426
2011	17,900	11,000	615	2,131,240	914,420	429
2012	18,000	11,000	611	2,109,810	914,600	433
2013	18,200	11,000	604	2,102,010	914,030	435
2014	18,100	11,000	608	2,085,000	913,000	438
2015	18,100	11,000	608	2,068,000	912,000	441
2016	18,100	11,000	608	2,060,000	911,000	442

Number of Farms by Economic Sales Class – Utah: 2007-2016

Year	$1000-$9,999	$10,000-$99,999	$100,000-$249,999	$250,000-$499,999	$500,000-$999,999 [1]	$1,000,000 & Over [2]	Total
	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)
2007	10,300	4,700	840	410	450	(NA)	16,700
2008	10,200	4,800	870	440	490	(NA)	16,800
2009	10,500	4,900	850	440	510	(NA)	17,200
2010	10,600	5,100	850	420	530	(NA)	17,500
2011	10,700	5,200	880	520	600	(NA)	17,900
2012	10,650	5,300	930	540	580	(NA)	18,000
2013	10,700	5,400	1,000	550	270	280	18,200
2014	10,600	5,500	900	600	220	280	18,100
2015	10,600	5,500	900	600	240	260	18,100
2016	10,700	5,500	800	600	240	260	18,100

[1] $500,000 & over before 2013 & $500,000 - $999,999 2013 & later.
[2] $1,000,000 & over economic sales class not published before 2013.
(NA) Not available.

Farms: Acres by Economic Sales Class – Utah: 2007-2016

Year	$1000-$9,999	$10,000-$99,999	$100,000-$249,999	$250,000-$499,999	$500,000-$999,999 [1]	$1,000,000 & Over [2]	Total
	(1,000 Acres)	(1,000 Acres)	(1,000 Acres)	(1,000 Acres)	(1,000 Acres)	(1,000 Acres)	(1,000 Acres)
2007	850	2,250	1,500	1,200	5,300	(NA)	11,100
2008	850	2,300	1,400	1,150	5,300	(NA)	11,000
2009	800	2,200	1,400	1,200	5,400	(NA)	11,000
2010	800	2,000	1,300	1,300	5,600	(NA)	11,000
2011	700	1,900	1,300	1,400	5,700	(NA)	11,000
2012	650	1,750	1,300	1,500	5,800	(NA)	11,000
2013	650	1,850	1,200	1,400	4,900	1,000	11,000
2014	650	1,900	1,400	1,550	4,500	1,000	11,000
2015	650	1,900	1,400	1,550	4,500	1,000	11,000
2016	700	2,000	1,300	1,450	4,550	1,000	11,000

[1] $500,000 & over before 2013 & $500,000 - $999,999 2013 & later.
[2] $1,000,000 & over economic sales class not published before 2013.
(NA) Not available.

Farm Income: Cash Receipts by Commodity – Utah: 2011-2016

Utah	2011	2012	2013	2014	2015	2016
	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000
All Commodities	1,697,988	1,815,245	1,999,276	2,378,514	1,973,592	1,657,681
Animals & Products	1,197,783	1,238,130	1,445,925	1,844,476	1,521,878	1,244,967
Meat Animals	528,555	577,745	768,569	1,033,417	782,403	656,068
Cattle & Calves	320,289	383,545	554,600	795,236	628,075	515,192
Hogs	208,266	194,200	213,969	238,181	154,328	140,876
Dairy Products, Milk	401,408	379,984	413,010	514,527	375,190	332,960
Poultry & Eggs	142,695	148,810	153,498	178,408	276,852	173,797
Chicken Eggs	70,840	72,537	81,139	107,255	199,491	73,238
Farm Chickens	6	6	7	5	8	10
Turkeys	71,849	76,267	72,352	71,148	77,353	100,549
Miscellaneous Animals & Products	125,125	131,591	110,848	118,124	87,433	82,142
Aquaculture	516	472	617	604	630	633
Trout	516	472	617	604	630	633
Sheep and Lambs	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Honey	1,570	1,777	2,132	1,730	2,177	1,895
Mohair	3	3	3	3	3	3
Other Animals & Products	118,476	125,339	104,576	111,718	80,560	75,471
All Other Animals & Products	52,564	59,427	56,418	56,398	52,788	48,591
Mink Pelts	65,912	65,912	48,158	55,320	27,772	26,880
Wool	4,560	4,000	3,520	4,068	4,063	4,140
Crops	500,205	577,116	553,351	534,038	451,714	412,713
Food Grains	49,151	58,433	41,996	42,043	30,677	28,224
Wheat	49,151	58,433	41,996	42,043	30,677	28,224
Feed Crops	278,254	319,066	316,697	292,487	235,027	195,837
Barley	10,103	10,091	7,937	6,890	3,798	3,476
Corn	24,264	36,040	33,281	24,387	15,395	14,232
Hay	243,153	272,106	274,575	260,471	215,435	178,039
Oats	734	828	905	738	399	89
Oil Crops	4,308	4,675	3,254	4,218	4,015	2,701
Safflower	4,308	4,675	3,254	4,218	4,015	2,701
Vegetables & Melons	3,271	8,618	8,412	6,634	7,392	7,392
Onions	3,271	8,618	8,412	6,634	7,392	7,392
Onions, Storage	3,271	8,618	8,412	6,634	7,392	7,392
Fruits & Nuts	19,554	31,770	28,080	34,029	22,818	24,503
Apples	4,054	3,635	7,607	4,907	4,896	(NA)
Apricots	219	248	129	330	7	(NA)
Cherries	11,137	22,254	14,802	22,711	13,718	17,533
Cherries, Sweet	1,132	1,854	2,041	1,217	193	(NA)
Cherries, Tart	10,005	20,400	12,761	21,494	13,525	17,533
Peaches	4,144	5,633	5,542	6,081	4,197	6,970
All Other Crops	145,668	154,554	154,912	154,627	151,786	154,056
Mushrooms	2,666	14,926	14,987	15,146	16,174	16,165
Miscellaneous Crops	143,002	139,628	139,925	139,481	135,612	137,891

Data as of August 30, 2017.
(NA) Not available.
Values are rounded to the nearest thousand.
Data source: USDA Economic Research Service. www.ers.usda.gov

Farm Income Indicators – Utah: 2011-2016

Utah	2011	2012	2013	2014	2015	2016
	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000
Value of Agricultural Sector Production	2,001,528	1,974,699	2,315,414	2,554,195	2,311,515	1,878,221
Value of Crop Production	531,693	535,120	581,421	508,063	449,199	423,467
Crop Cash Receipts	500,205	577,116	553,351	534,038	451,714	412,713
Value of Animals & Products Production	1,209,313	1,201,102	1,466,611	1,792,122	1,631,233	1,223,304
Animals & Products Cash Receipts	1,197,783	1,238,130	1,445,925	1,844,476	1,521,878	1,244,967
Net Government Transactions	-15,161	-14,868	-9,461	9,408	-9,926	-16,451
Intermediate Product Expenses [1]	1,075,771	1,052,992	1,170,088	1,348,644	1,155,751	953,321
Farm Origin	561,632	535,660	659,618	791,952	681,635	490,474
Feed Purchases	480,254	444,181	442,644	520,614	445,718	360,417
Livestock & Poultry Purchases	45,885	46,880	159,632	218,528	199,389	88,432
Seed Purchases	35,494	44,599	57,341	52,810	36,529	41,626
Manufactured Inputs	221,780	212,724	213,925	212,096	180,900	162,521
Electricity	44,948	41,825	38,289	36,354	39,821	30,491
Fertilizer, Lime, & Soil Conditioners	51,199	60,702	56,366	55,203	53,764	46,249
Pesticides	15,549	18,708	18,517	21,239	18,708	19,854
Fuel & Oils	110,084	91,489	100,753	99,301	68,607	65,928
Other Intermediate Expenses [1]	292,359	304,608	296,545	344,596	293,216	300,326
Machine Hire & Custom Work	17,594	23,056	21,477	26,305	16,955	21,867
Marketing, Storage, & Transportation	40,298	42,377	31,079	44,477	35,274	42,613
Repair & Maintenance	93,807	89,099	98,032	108,250	96,184	83,853
Miscellaneous Expenses [1]	140,660	150,077	145,957	165,564	144,803	151,992
Total Insurance Premiums [2]	31,160	22,528	27,397	31,571	23,531	23,936
Federal Commodity Insurance Premiums	1,816	1,713	1,169	1,366	1,495	1,121
Irrigation	13,487	12,356	12,807	14,591	15,652	15,380
Contract Labor	10,904	9,487	12,104	19,459	10,511	16,138
Gross Value Added	899,692	897,351	1,123,761	1,195,500	1,135,326	892,310
Capital Consumption [1]	130,525	225,736	252,603	335,717	268,982	293,467
Net Value Added	769,167	671,615	871,159	859,783	866,344	598,844
Factor Payments to Stakeholders	274,491	305,494	330,261	310,483	281,291	308,519
Hired Labor & Non-Cash Employee Compensation	172,796	193,744	219,316	211,206	177,579	203,934
Net Rent Paid to Operator Landlords	324	245	398	1,950	2,108	1,500
Net Rent Paid to Non-Operator Landlords	24,995	18,870	30,651	12,844	13,889	9,880
Total Interest Expenses [1]	76,375	92,635	79,897	84,482	87,715	93,205
Net Farm Income	494,677	366,121	540,897	549,301	585,053	290,324

Data as of August 30, 2017
Values are rounded to the nearest hundred. When 'Real (2017 dollars)' is selected, nominal values are adjusted for inflation using the chain-type GDP deflator, base year=2017.
[1] Includes expenses associated with operator dwellings.
[2] Includes federal and private crop and livestock insurance premiums as well as casualty, hail, motor vehicle and all other insurance premiums.

Data Source: USDA Economic Research Service. www.ers.usda.gov

Agricultural Exports: Estimated Value by Commodity Group – Utah: 2011-2015

Utah	2011	2012	2013	2014	2015
	Million Dollars				
Beef & Veal	27.9	32.0	50.8	70.2	51.7
Pork	58.9	55.5	54.4	60.5	41.4
Hides & Skins	16.8	18.2	26.4	28.3	19.6
Other Livestock Products [1]	76.6	82.3	63.9	55.1	38.8
Dairy Products	48.6	52.5	68.9	74.0	55.1
Broiler Meat	--	--	--	--	--
Other Poultry Products [2]	22.8	22.9	25.0	27.4	27.1
Vegetables, Fresh	0.4	1.1	1.1	0.9	0.9
Vegetables, Processed	0.7	2.1	2.0	1.7	1.8
Fruits, Fresh	4.9	7.6	7.0	8.2	5.2
Fruits, Processed	4.5	6.5	6.2	7.3	5.0
Tree Nuts	--	--	--	--	--
Rice	--	--	--	--	--
Wheat	40.6	28.9	31.3	25.8	17.0
Corn	5.3	4.7	3.5	4.7	2.6
Feeds & Other Feed Grains [3]	29.2	30.6	41.4	45.4	42.7
Grain Products, Processed	12.4	13.6	14.8	15.0	13.7
Soybeans	--	--	--	--	--
Soybean Meal	--	--	--	--	--
Vegetable Oils	0.5	0.4	0.2	0.3	0.3
Other Oilseeds & Products [4]	3.6	3.4	3.2	6.5	4.3
Cotton	--	--	--	--	--
Tobacco	--	--	--	--	--
Other Plant Products [5]	74.3	84.6	91.3	97.7	92.8
Total Agricultural Exports	427.8	447.0	491.5	529.0	420.1
Total Animal Products	251.5	263.5	289.4	315.4	233.8
Total Plant Products	176.4	183.5	202.1	213.6	186.3

[1] Includes other non-poultry meats, animal fat, live farm animals, and other animal parts.
[2] Includes turkey meat, eggs, and other fowl products.
[3] Includes processed feeds, fodder, barley, oats, rye, and sorghum.
[4] Includes peanuts (oilstock), other oil crops, corn meal, other oilcake and meal, protein substances, bran and residues.
[5] Includes sweeteners and products, other horticulture products, planting seeds, cocoa, coffee, and other processed foods.
Data sources: USDA Economic Research Service; USDA Foreign Agricultural Service (Global Agricultural Trade System)

ANNUAL CROP SUMMARY

2016 UTAH HIGHLIGHTS

The 2016 corn for grain crop was estimated at 5.08 million bushels, 73 percent above last year's production of 2.94 million bushels, according to the December 1 Agricultural Survey conducted by the Mountain Regional Field Office of the National Agricultural Statistics Service, USDA. The average yield of 175.0 bushels per acre was 2.0 bushels per acre above the yield achieved last year. Area harvested for grain in 2016, at 29,000 acres, was 12,000 acres above last year. Acreage cut for corn silage was estimated at 49,000 acres, up 4,000 acres from last year, with production estimated at 1.18 million tons compared with 1.04 million tons produced last year.

Utah's barley seeded area, at 29,000 acres, is up 2,000 acres from last year. Harvested area, at 19,000 acres, is up 3,000 acres from 2015. Barley yield, at 82.0 bushels per acre is down 2.0 bushels per acre from last year. Barley production in 2016 is estimated at 1.56 million bushels, up 16 percent from the previous year.

All wheat production in Utah, estimated at 7.18 million bushels, is up 16 percent from 2015. All wheat yield was 59.9 bushels per acre, up 11.4 bushels per acre from a year ago. Winter wheat producers seeded 120,000 acres in the fall of 2015 for harvest in 2016, down from 125,000 acres seeded for the previous year's crop. Acreage harvested for grain decreased 7,000 acres from last year to 112,000 acres in 2016. Winter wheat production is estimated at 6.72 million bushels, up 18 percent from last year. Winter wheat yield, at 60.0 bushels per acre, is up 12.0 bushels per acre from last year, and is a new record high yield, 8.0 bushels per acre above the previous record yield of 52.0 bushels per acre, set in 1999. Spring wheat seedings, at 9,000 acres, are down 1,000 acres from last year. Acreage harvested totaled 8,000 acres, down from 9,000 acres harvested last year. Spring wheat production is estimated at 464,000 bushels, down 6 percent from last year. Spring wheat yield, at 58.0 bushels per acre, is up 3.0 bushels per acre from last year.
All hay production for 2016 is estimated at 2.60 million tons, up 6 percent from the 2015 total. Alfalfa hay production was estimated at 2.23 million tons from 530,000 acres harvested, up 135,000 tons from 2015. Average yield for the 2016 crop was 4.20 tons per acre, 0.10 tons per acre above last year. All other hay production totaled 374,000 tons from 170,000 acres harvested, up 6,000 tons from 2015. The average yield of 2.20 tons per acre was down 0.10 tons per acre from last year. New seedings of alfalfa and alfalfa mixtures in Utah were estimated at 55,000 acres, down 15 percent from 2015.

As of December 1, producers in Utah were storing 1.20 million tons of all hay, up 4 percent from the 1.15 million tons stored last year.

Production of safflower in 2016 was 10.94 million pounds, compared with 14.11 million pounds in 2015. Planted acres were 14,000, down 2,000 acres from last year. Harvested acres were 13,500, compared with 15,500 acres in 2015. Safflower yields averaged 810 pounds per acre in 2016, down 100 pounds per acre from last year. Winter wheat seedings last fall for the 2017 crop year are estimated at 115,000 acres, down 4 percent from last year

Barley: Area Planted & Harvested, Yield, Production, Price, & Value – Utah: 2007-2016

Year	Area Planted	Area Harvested	Yield per Acre	Production	Price per Bushel [1]	Value of Production
	(1,000 Acres)	(1,000 Acres)	(Bushels)	(1,000 Bushels)	(Dollars)	(1,000 Dollars)
2007	38	22	81.0	1,782	3.99	7,110
2008	40	27	84.0	2,268	4.41	10,002
2009	40	30	83.0	2,490	2.56	6,374
2010	39	27	89.0	2,403	3.43	8,242
2011	35	22	81.0	1,782	5.53	9,854
2012	44	26	78.0	2,028	5.87	11,904
2013	40	30	78.0	2,340	4.17	9,758
2014	32	20	83.0	1,660	3.13	5,196
2015	27	16	84.0	1,344	2.97	3,992
2016	29	19	82.0	1,558	2.36	3,661

[1] Marketing year average price.

Corn for Grain: Area Planted & Harvested, Yield, Production, Price, & Value – Utah: 2007-2016

Year	Area Planted	Area Harvested	Yield per Acre	Production	Price per Bushel [1]	Value of Production
	(1,000 Acres)	(1,000 Acres)	(Bushels)	(1,000 Bushels)	(Dollars)	(1,000 Dollars)
2007	70	22	150.0	3,300	4.18	13,794
2008	70	23	157.0	3,611	4.40	15,888
2009	65	17	150.0	2,550	4.52	11,526
2010	70	23	178.0	4,094	5.75	23,541
2011	85	30	164.0	4,920	6.97	34,292
2012	92	34	167.0	5,678	7.59	43,096
2013	83	31	170.0	5,270	5.47	28,827
2014	75	28	160.0	4,480	4.13	18,502
2015	65	17	173.0	2,941	4.68	13,764
2016	80	29	175.0	5,075	3.80	19,285

[1] Marketing year average price.

Corn for Silage: Area Harvested, Yield, & Production – Utah: 2007-2016

Year	Area Harvested	Yield per Acre	Production
	(1,000 Acres)	(Tons)	(1,000 Tons)
2007	47	21.0	987
2008	47	23.0	1,081
2009	47	23.0	1,081
2010	46	23.0	1,058
2011	54	25.0	1,350
2012	56	22.0	1,232
2013	49	23.0	1,127
2014	45	22.0	990
2015	45	23.0	1,035
2016	49	24.0	1,176

Alfalfa Hay: Area Harvested, Yield, Production, Price, & Value – Utah: 2007-2016

Year	Area Harvested	Yield	Production	Price per Ton [1]	Value of Production
	(1,000 Acres)	(Tons)	(1,000 Tons)	(Dollars)	(1,000 Dollars)
2007	550	4.10	2,255	131.00	295,405
2008	550	4.20	2,310	170.00	392,700
2009	530	4.20	2,226	102.00	227,052
2010	540	4.00	2,160	106.00	228,960
2011	580	4.10	2,378	185.00	439,930
2012	500	4.10	2,050	190.00	389,500
2013	550	4.20	2,310	182.00	420,420
2014	520	3.90	2,028	188.00	381,264
2015	510	4.10	2,091	162.00	338,742
2016	530	4.20	2,226	127.00	282,702

[1] Marketing year average price.

Other Hay: Area Harvested, Yield, Production, Price, & Value – Utah: 2007-2016

Year	Area Harvested	Yield	Production	Price per Ton [1]	Value of Production
	(1,000 Acres)	(Tons)	(1,000 Tons)	(Dollars)	(1,000 Dollars)
2007	150	2.20	330	113.00	37,290
2008	145	2.20	319	137.00	43,703
2009	160	2.10	336	94.00	31,584
2010	160	2.20	352	98.00	34,496
2011	180	2.20	396	152.00	60,192
2012	160	2.10	336	152.00	51,072
2013	175	2.40	420	152.00	63,840
2014	160	2.30	368	154.00	56,672
2015	160	2.30	368	131.00	48,208
2016	170	2.20	374	104.00	38,896

[1] Marketing year average price.

All Hay: Area Harvested, Yield, Production, Price, & Value – Utah: 2007-2016

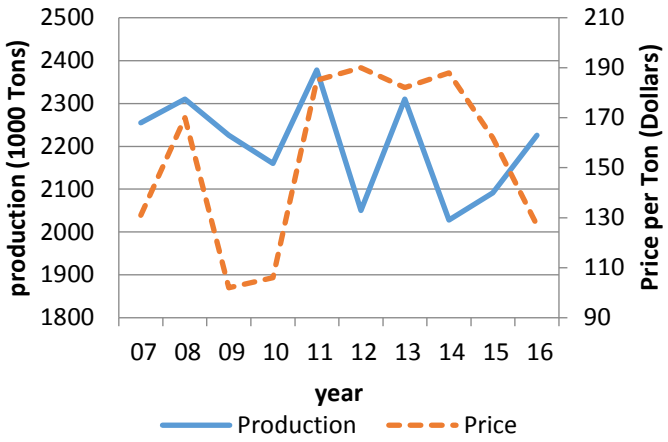
Year	Area Harvested	Yield	Production	Price per Ton [1]	Value of Production
	(1,000 Acres)	(Tons)	(1,000 Tons)	(Dollars)	(1,000 Dollars)
2007	700	3.69	2,585	129.00	332,695
2008	695	3.78	2,629	167.00	436,403
2009	690	3.71	2,562	102.00	258,636
2010	700	3.59	2,512	106.00	263,456
2011	760	3.65	2,774	185.00	500,122
2012	660	3.62	2,386	189.00	440,572
2013	725	3.77	2,730	182.00	484,260
2014	680	3.52	2,396	188.00	437,936
2015	670	3.67	2,459	162.00	386,950
2016	700	3.71	2,600	127.00	330,200

[1] Marketing year average price.

Hay Stocks: Position & Month – Utah: 2007-2016

Year	On Farms May 1	On Farms December 1
	(1,000 Tons)	(1,000 Tons)
2007	185	1,130
2008	215	1,300
2009	285	1,330
2010	245	1,050
2011	144	1,420
2012	350	900
2013	230	1,250
2014	300	1,190
2015	430	1,150
2016	410	1,200

Alfalfa Hay Production & Price — Utah: 2007-2016



Oats: Area Planted & Harvested, Yield, Production, Price, & Value – Utah: 2007-2015

Year	Area Planted	Area Harvested	Yield per Acre	Production	Price per Bushel [1]	Value of Production
	(1,000 Acres)	(1,000 Acres)	(Bushels)	(1,000 Bushels)	(Dollars)	(1,000 Dollars)
2007	35.0	4.0	80.0	320	2.65	848
2008	40.0	3.0	75.0	225	3.20	720
2009	45.0	4.0	81.0	324	2.50	810
2010	40.0	4.0	74.0	296	3.60	1,066
2011	33.0	3.0	81.0	243	4.35	1,057
2012	30.0	3.0	76.0	228	4.40	1,003
2013	40.0	5.0	62.0	310	4.42	1,370
2014	20.0	3.0	69.0	207	3.75	776
2015	20.0	2.0	85.0	170	3.61	614
2016	(2)	(2)	(2)	(2)	(2)	(2)

[1] Marketing year average price.
[2] Estimates discontinued in 2016.

Winter Wheat: Area Planted & Harvested, Yield, Production, Price, & Value – Utah: 2007-2016

Year	Area Planted	Area Harvested	Yield per Acre	Production	Price per Bushel [1]	Value of Production
	(1,000 Acres)	(1,000 Acres)	(Bushels)	(1,000 Bushels)	(Dollars)	(1,000 Dollars)
2007	135	125	42.0	5,250	8.35	43,838
2008	130	120	41.0	4,920	7.40	36,408
2009	140	135	50.0	6,750	5.70	38,475
2010	135	118	48.0	5,664	7.20	40,781
2011	130	124	50.0	6,200	7.62	47,244
2012	125	109	47.0	5,123	8.97	45,953
2013	120	110	44.0	4,840	7.71	37,316
2014	120	109	50.0	5,450	6.85	37,333
2015	125	119	48.0	5,712	4.77	27,246
2016	120	112	60.0	6,720	3.98	26,746

[1] Marketing year average price.

Other Spring Wheat: Area Planted & Harvested, Yield, Production, Price, & Value – Utah: 2007-2016

Year	Area Planted	Area Harvested	Yield per acre	Production	Price per Bushel [1]	Value of Production
	(1,000 Acres)	(1,000 Acres)	(Bushels)	(1,000 Bushels)	(Dollars)	(1,000 Dollars)
2007	11	7	58.0	406	7.35	2,984
2008	20	19	44.0	836	11.30	9,447
2009	14	12	44.0	528	8.69	4,588
2010	16	13	55.0	715	9.27	6,628
2011	21	20	46.0	920	10.90	10,028
2012	15	13	40.0	520	11.50	5,980
2013	18	14	46.0	644	8.66	5,577
2014	10	8	54.0	432	8.58	3,707
2015	10	9	55.0	495	7.00	3,465
2016	9	8	58.0	464	5.50	2,552

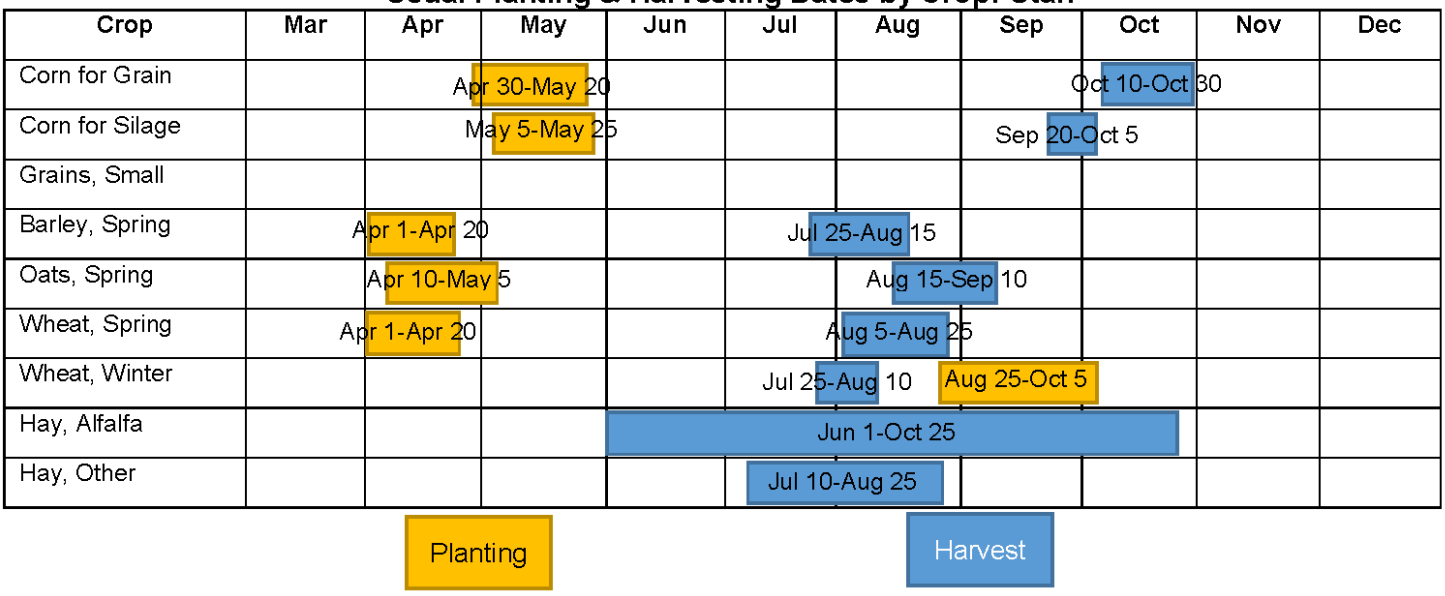
[1] Marketing year average price.

All Wheat: Area Planted & Harvested, Yield, Production, Price, & Value – Utah: 2007-2016

Year	Area Planted	Area Harvested	Yield per Acre	Production	Price per Bushel [1]	Value of Production
	(1,000 Acres)	(1,000 Acres)	(Bushels)	(1,000 Bushels)	(Dollars)	(1,000 Dollars)
2007	146	132	42.8	5,656	8.30	46,822
2008	150	139	41.4	5,756	7.97	45,855
2009	154	147	49.5	7,278	5.92	43,063
2010	151	131	48.7	6,379	7.43	47,409
2011	151	144	49.4	7,120	8.26	57,272
2012	140	122	46.3	5,643	9.59	51,933
2013	138	124	44.2	5,484	7.94	42,893
2014	130	117	50.3	5,882	7.07	41,040
2015	135	128	48.5	6,207	5.18	30,711
2016	129	120	59.9	7,184	4.30	30,891

[1] Marketing year average price.

Usual Planting & Harvesting Dates by Crop: Utah



Barley Stocks: Located Off Farm by Quarter – Utah: 2008-2017 [1]

Year	March 1	June 1	September 1	December 1
	(Bushels)	(Bushels)	(Bushels)	(Bushels)
2008	327,000	111,000	344,000	238,000
2009	240,000	220,000	459,000	688,000
2010	147,000	122,000	415,000	287,000
2011	117,000	84,000	461,000	344,000
2012	184,000	122,000	276,000	(D)
2013	(D)	100,000	277,000	505,000
2014	(D)	159,000	269,000	396,000
2015	293,000	94,000	400,000	363,000
2016	(D)	98,000	327,000	(D)
2017	255,000	(D)	(D)	(2)

Corn Stocks: Located Off Farm by Quarter – Utah: 2008-2017 [1]

Year	March 1	June 1	September 1	December 1
	(Bushels)	(Bushels)	(Bushels)	(Bushels)
2008	1,294,000	1,419,000	1,068,000	(D)
2009	1,084,000	1,040,000	1,023,000	1,066,000
2010	1,208,000	974,000	599,000	883,000
2011	949,000	956,000	830,000	1,010,000
2012	786,000	(D)	975,000	930,000
2013	566,000	(D)	(D)	861,000
2014	544,000	(D)	(D)	737,000
2015	420,000	(D)	(D)	670,000
2016	(D)	(D)	(D)	694,000
2017	(D)	212,000	(D)	(2)

Oat Stocks: Located Off Farm by Quarter – Utah: 2008-2017 [1]

Year	March 1	June 1	September 1	December 1
	(Bushels)	(Bushels)	(Bushels)	(Bushels)
2008	(D)	(D)	30,000	33,000
2009	18,000	22,000	52,000	39,000
2010	40,000	20,000	48,000	49,000
2011	43,000	23,000	134,000	(D)
2012	67,000	61,000	(D)	49,000
2013	50,000	6,000	(D)	52,000
2014	28,000	(D)	44,000	48,000
2015	37,000	22,000	(D)	(D)
2016	47,000	24,000	(D)	(D)
2017	54,000	16,000	25,000	(2)

Wheat Stocks: Located Off Farm by Quarter – Utah: 2008-2017 [1]

Year	March 1	June 1	September 1	December 1
	(Bushels)	(Bushels)	(Bushels)	(Bushels)
2008	4,147,000	3,114,000	4,789,000	3,975,000
2009	4,062,000	3,301,000	2,745,000	4,026,000
2010	4,612,000	2,972,000	5,365,000	5,199,000
2011	4,779,000	1,133,000	4,699,000	4,304,000
2012	4,700,000	3,517,000	4,050,000	4,418,000
2013	4,043,000	3,719,000	4,880,000	4,577,000
2014	4,149,000	3,746,000	5,150,000	4,786,000
2015	4,518,000	4,891,000	6,420,000	5,517,000
2016	5,147,000	4,641,000	5,423,000	5,473,000
2017	4,118,000	3,843,000	6,299,000	(2)

(D) Withheld to avoid disclosing data for individual operations.
[1] Includes stocks at mills, elevators, terminals, and processors.
[2] Estimates available in the December Grain Stocks Release.

Apples: Acreage, Yield, Production, Price & Value – Utah: 2007-2016

Year	Bearing Acreage	Yield per Acre [1]	Production		Price per Pound	Value of Utilized Production
			Total	Utilized		
	(Acres)	(Pounds)	(Million Pounds)	(Million Pounds)	(Dollars)	(1,000 Dollars)
2007	1,400	13,600	19.0	18.0	0.329	5,916
2008	1,400	8,570	12.0	11.6	0.286	3,315
2009	1,400	12,900	18.0	16.0	0.296	4,742
2010	1,400	8,570	12.0	11.7	0.250	2,928
2011	1,400	13,600	19.0	18.3	0.222	4,054
2012	1,400	10,000	14.0	13.8	0.263	3,635
2013	1,300	12,700	16.5	15.8	0.481	7,607
2014	1,300	17,700	23.0	22.4	0.219	4,907
2015	1,200	12,500	15.0	14.9	0.329	4,896
2016	(2)	(2)	(2)	(2)	(2)	(2)

[1] Yield is based on total production, which includes unharvested production and fruit harvested but not sold due to market conditions.
[2] Estimates discontinued in 2016.

Apricot: Acreage, Yield, Production, Price & Value – Utah: 2008-2016

Year	Bearing Acreage	Yield per Acre [1]	Production		Price per Ton	Value of Utilized Production
			Total	Utilized		
	(Acres)	(Tons)	(Tons)	(Tons)	(Dollars)	(1,000 Dollars)
2007	(D)	(D)	260	260	815.00	212
2008	(D)	(D)	410	380	468.00	178
2009	(D)	(D)	320	290	862.00	250
2010	(D)	(D)	280	250	432.00	108
2011	(D)	(D)	200	170	1,290.00	219
2012	(D)	(D)	300	270	919.00	248
2013	(D)	(D)	135	128	1,010.00	129
2014	120	1.90	228	218	1,510.00	330
2015	120	0.06	7	7	(D)	(D)
2016	(2)	(2)	(2)	(2)	(2)	(2)

(D) Withheld to avoid disclosing data for individual operations.
[1] Yield is based on total production.
[2] Estimates discontinued in 2016.

Sweet Cherry: Acreage, Yield, Production, Price & Value – Utah: 2008-2016

Year	Bearing Acreage	Yield per Acre [1]	Production		Price per Ton	Value of Utilized Production
			Total	Utilized		
	(Acres)	(Tons)	(Tons)	(Tons)	(Dollars)	(1,000 Dollars)
2007	550	2.27	1,250	1,250	1,380.00	1,722
2008	500	0.10	50	50	2,440.00	122
2009	500	3.08	1,540	1,330	1,680.00	2,231
2010	500	2.20	1,100	1,080	1,330.00	1,433
2011	500	1.60	800	770	1,470.00	1,132
2012	500	2.60	1,300	1,280	1,450.00	1,854
2013	500	1.66	830	820	2,490.00	2,041
2014	400	2.10	840	810	1,500.00	1,217
2015	300	0.77	230	226	854.00	193
2016	(2)	(2)	(2)	(2)	(2)	(2)

[1] Yield is based on total production.
[2] Estimates discontinued in 2016.

Tart Cherry: Acreage, Yield, Production, Price & Value – Utah: 2008-2016

Year	Bearing Acreage	Yield per Acre [1]	Production		Price per Pound	Value of Utilized Production
			Total	Utilized		
	(Acres)	(Pounds)	(Million Pounds)	(Million Pounds)	(Dollars)	(1,000 Dollars)
2007	2,800	7,140	20.0	19.0	0.250	4,750
2008	2,900	6,900	20.0	19.0	0.330	6,270
2009	3,300	14,200	47.0	34.0	0.270	9,180
2010	3,300	6,970	23.0	22.5	0.270	6,075
2011	3,300	10,600	35.0	34.5	0.290	10,005
2012	3,300	12,100	40.0	40.0	0.510	20,400
2013	3,300	8,120	26.8	26.8	0.476	12,761
2014	3,300	15,500	51.0	49.8	0.432	21,494
2015	3,100	13,100	40.7	40.3	0.336	13,525
2016	3,100	17,000	52.8	49.6	0.353	17,533

[1] Yield is based on total production.

Peaches: Acreage, Yield, Production, Price & Value – Utah: 2007-2016

Year	Bearing Acreage	Yield per Acre [1]	Production		Price per Ton	Value of Utilized Production
			Total	Utilized		
	(Acres)	(Tons)	(Tons)	(Tons)	(Dollars)	(1,000 Dollars)
2007	1,500	3.09	4,500	4,400	667.00	2,934
2008	1,500	3.33	5,000	4,500	868.00	3,906
2009	1,500	3.87	5,800	5,500	1,040.00	5,720
2010	1,500	2.87	4,300	4,240	691.00	2,929
2011	1,500	2.87	4,300	4,100	1,010.00	4,144
2012	1,500	3.53	5,300	5,200	1,080.00	5,633
2013	1,300	4.17	5,421	5,141	1,080.00	5,542
2014	1,300	5.00	6,500	6,200	981.00	6,081
2015	1,300	3.00	3,900	3,880	1,080.00	4,197
2016	1,200	4.30	5,160	4,250	1,640.00	6,970

[1] Yield is based on total production.

Operations: All Cattle & Calves – Utah: 2002, 2007 & 2012

All Cattle & Calves	2002	2007	2012
	(Number)	(Number)	(Number)
Operations with			
1 - 9 Head	1,741	2,208	3,412
10 - 19 Head	912	1,081	1,348
20 - 49 Head	1,289	1,521	1,604
50 - 99 Head	875	977	864
100 - 199 Head	737	819	600
200 - 499 Head	726	595	490
500 Head or More	408	380	307

Data Source: U.S. Census of Agriculture

Operations with Beef Cows – Utah: 2002, 2007 & 2012

Beef Cows	2002	2007	2012
	(Number)	(Number)	(Number)
Operations with			
1 - 9 Head	1,521	1,821	2,838
10 - 19 Head	809	863	1,113
20 - 49 Head	1,077	1,172	1,307
50 - 99 Head	721	768	639
100 - 199 Head	508	503	483
200 - 499 Head	322	359	321
500 Head or More	97	103	126

Data Source: U.S. Census of Agriculture

Operations With Milk Cows – Utah: 2002, 2007 & 2012

Milk Cows	2002	2007	2012
	(Number)	(Number)	(Number)
Operations with			
1 - 9 Head	274	174	256
10 - 19 Head	14	8	15
20 - 49 Head	40	22	31
50 - 99 Head	88	53	30
100 - 199 Head	140	92	54
200 - 499 Head	81	59	45
500 Head or More	43	42	46

Data Source: U.S. Census of Agriculture

Operations With Sheep or Lambs – Utah: 2002, 2007 & 2012

Sheep and Lambs	2002	2007	2012
	(Number)	(Number)	(Number)
1 - 24 Head	842	1,037	1,196
25 - 99 Head	313	354	372
100 - 299 Head	127	109	79
300 - 999 Head	63	48	29
1,000 Head or More	77	67	79

Data Source: U.S. Census of Agriculture

Operations With Hogs & Pigs – Utah 2002, 2007 & 2012

Hogs & Pigs	2002	2007	2012
	(Number)	(Number)	(Number)
All Operations	518	611	669

Data Source: U.S. Census of Agriculture

Cattle & Calves: Number by Class & Calf Crop – Utah: January 1, 2013-2017

Class	2013	2014	2015	2016	2017
	(Head)	(Head)	(Head)	(Head)	(Head)
All Cattle & Calves	790,000	810,000	780,000	840,000	820,000
Cows & Heifers, That Have Calved	460,000	435,000	420,000	420,000	430,000
Beef Cows	365,000	340,000	324,000	325,000	338,000
Milk Cows	95,000	95,000	96,000	95,000	92,000
Calves, Under 500 Pounds	85,000	82,000	70,000	85,000	83,000
Steers, 500 Pounds & Over	70,000	85,000	78,000	90,000	80,000
Heifers, 500 Pounds & Over					
Beef Cow Replacements	60,000	70,000	78,000	95,000	85,000
Milk Cow Replacements	50,000	46,000	48,000	50,000	55,000
Other Heifers	45,000	69,000	64,000	75,000	60,000
Bulls, 500 Pounds & Over	20,000	23,000	22,000	25,000	27,000
Cattle on Feed	26,000	26,000	24,000	27,000	20,000
Calf Crop	380,000	385,000	390,000	380,000	(1)
Unit	Value of Inventory [2], [3]				
Value per Head (Dollars)	1,200	1,350	1,750	1,490	1,180
Value of Inventory (1,000 Dollars)	948,000	1,093,500	1,365,000	1,251,600	967,600

[1] Data available 2018
[2] Value of all cattle & calves.
[3] 2013 revised.

Cattle & Calves: Balance Sheet – Utah: 2012-2016

Inventory Additions & Removals	2012	2013	2014	2015	2016
	(Head)	(Head)	(Head)	(Head)	(Head)
Inventory Beginning of Year	820,000	790,000	810,000	780,000	840,000
Calf Crop	385,000	380,000	385,000	390,000	380,000
In-Shipments	50,000	175,000	191,000	177,000	120,000
Marketings [1]					
Cattle	380,000	446,000	525,000	435,500	446,500
Calves	45,000	51,000	45,000	36,000	36,000
Farm Slaughter Cattle & Calves [2]	2,000	1,000	2,000	1,500	1,500
Deaths					
Cattle	13,000	14,000	14,000	13,000	13,000
Calves	25,000	23,000	20,000	21,000	23,000
Inventory End of Year	790,000	810,000	780,000	840,000	820,000

[1] Includes custom slaughter for use on farms where produced & State out-shipments, but excludes inter-farm sales within the State.
[2] Excludes custom slaughter at commercial establishments.

Cattle & Calves: Production, Marketings & Income – Utah: 2012-2016

Unit	2012	2013	2014	2015	2016
Production [1] (1,000 Lbs)	258,655	313,535	328,000	319,495	320,640
Marketings [2] (1,000 Lbs)	325,100	460,000	533,200	441,500	452,350
Value of Production (1,000 Dollars)	302,585	374,285	482,669	454,189	357,901
Value of Sales [3] (1,000 Dollars)	383,545	554,600	795,236	628,075	515,192
Value of Home Consumption (1,000 Dollars)	8,882	9,121	11,447	9,066	7,376
Gross Income (1,000 Dollars)	392,427	563,721	806,683	637,141	522,568

[1] Includes custom slaughter for use on farms where produced & state out-shipments, but excludes inter-farm sales within the state.
[2] Excludes custom slaughter at commercial establishments. Production & marketings are live weight in pounds.
[3] Excludes inter-farm in-state sales.

Dairy: Milk Production & Milkfat – Utah: 2012-2016

Unit	2012	2013	2014	2015	2016
Number of Milk Cows on Farms [1] .... (1,000 Hd)	95,000	95,000	96,000	95,000	92,000
Production of Milk & Milkfat [2]					
Milk per Cow					
Milk ..... (Pounds)	22,863	22,432	22,989	23,125	22,772
Milkfat ..... (Pounds)	844	843	855	863	865
Total					
Percentage Milkfat..... (Percent)	3.69	3.76	3.72	3.73	3.80
Milk ..... (Million Pounds)	2,172	2,131	2,184	2,220	2,095
Milkfat ..... (Million Pounds)	80	80	81	83	80
Milk Price ..... (Dollars/100 Pounds)	17.60	19.50	23.70	17.00	16.00
Value of Production ..... (1,000 Dollars)	382,272	415,545	517,608	377,400	335,200

[1] As of January 1, of the following year.
[2] Milk sold to plants & dealers as whole milk & equivalent amounts of milk for cream. Includes milk produced by dealers' own herds & small amounts sold directly to consumers. Includes milk produced by institutional herds. Excludes milk sucked by calves.

Milk & Cream: Marketings, Used on Farm, Income, & Value – Utah: 2012-2016

Unit	2012	2013	2014	2015	2016
Combined Marketings of Milk & Cream					
Milk Sold ..... (Million Pounds)	2,159	2,118	2,171	2,207	2,081
Average Price					
Per 100 Pounds of Milk [1] ..... (Dollars)	17.60	19.50	23.70	17.00	16.00
Per Pound of Milkfat ..... (Dollars)	4.77	5.19	6.37	4.56	4.21
Value of Milk Marketings ..... (1,000 Dollars)	379,984	413,010	514,527	375,190	332,960
Used for Milk, Cream & Butter by Producers					
Milk Utilized ..... (Million Pounds)	1.00	1.00	1.00	1.00	1.00
Value..... (Dollars)	176,000	195,000	237,000	170,000	160,000
Milk Used on Farm for Feed(Million Pounds)	12.00	12.00	12.00	12.00	13.00
Gross Producer Income [2] ..... (1,000 Dollars)	380,160	413,205	514,764	375,360	333,120
Value of Milk Produced [3] ..... (1,000 Dollars)	382,272	415,545	517,608	377,400	335,200

[1] Average price for marketing year.
[2] Cash receipts from marketings of milk & cream, plus value of milk used for home consumption.
[3] Includes value of milk fed to calves.

Manufactured Dairy Products – Utah: 2012-2016

Unit	2012	2013	2014	2015	2016
Low Fat Cottage Cheese Prod.[1] .....(1,000 Pounds)	5,395	3,945	5,094	(D)	(D)
Sour Cream Production .....(1,000 Pounds)	13,595	12,550	(D)	(D)	(D)

[1] Fat content less than 4.0 percent.
(D) Withheld to avoid disclosing data for individual operations.

Milk Cows: Production by Month – Utah: 2014-2016 [1]

Year & Month	Milk Cows [2]	Milk per Cow [3]	Milk Production [3]	Year & Month	Milk Cows [2]	Milk per Cow [3]	Milk Production [3]
	(1,000 Head)	(Pounds)	(Million Pounds)		(1,000 Head)	(Pounds)	(Million Pounds)
2014							
January	95	1,840	175	August	95	2,010	191
February	95	1,685	160	September	95	1,890	180
March	95	1,905	181	October	95	1,920	182
April	95	1,895	180	November	95	1,820	173
May	95	1,990	189	December	95	1,875	178
June	95	1,945	185				
July	95	2,000	190	**Annual Total**	95	23,125	2,220
August	96	1,990	191				
September	96	1,885	181	2016			
October	96	1,925	185	January	94	1,845	173
November	96	1,865	179	February	93	1,715	159
December	96	1,960	188	March	92	1,915	176
				April	92	1,885	173
Annual Total	96	22,989	2,184	May	91	1,990	181
				June	91	1,970	179
2015				July	90	1,970	177
January	96	1,965	189	August	90	1,960	176
February	96	1,770	170	September	91	1,900	173
March	96	1,990	191	October	91	1,955	178
April	96	1,950	187	November	92	1,875	173
May	96	2,030	195	December	92	1,920	177
June	96	1,990	191				
July	96	2,010	193	**Annual Total**	92	22,772	2,095

[1] Annual totals as of January 1, the following year
[2] Includes dry cows; excludes heifers not yet fresh.
[3] Excludes milk sucked by calves.

Commercial Cattle Slaughter – Utah: Monthly 2015-2016

Month	Number Slaughtered		Total Live Weight		Average Live Weight	
	2015	2016	2015	2016	2015	2016
	(Head)	(Head)	(1,000 Pounds)	(1,000 Pounds)	(Pounds)	(Pounds)
January	46,500	42,700	62,841	59,943	1,352	1,406
February	41,800	44,600	56,947	61,957	1,364	1,391
March	44,600	48,700	61,097	67,504	1,372	1,391
April	46,500	46,900	62,939	64,359	1,355	1,375
May	42,800	43,300	56,442	58,209	1,319	1,349
June	45,700	50,100	60,873	68,148	1,335	1,364
July	48,000	47,100	64,931	64,936	1,355	1,381
August	45,500	53,200	63,307	72,995	1,394	1,377
September	46,500	51,800	64,722	71,499	1,395	1,385
October	46,500	52,900	64,833	73,192	1,399	1,386
November	42,100	49,900	58,236	68,708	1,387	1,381
December	46,900	46,100	65,906	63,644	1,411	1,383
Annual Total [1]	543,300	577,300	743,073	795,093	1,370	1,381

[1] Totals may not add due to rounding.

Hogs & Pigs: Total Breeding & Market Inventory, Farrowings, Pigs per Litter, Pig Crop, & Marketings – Utah: December 1, 2007-2016

[Farrowings, Pigs per Litter, Pig Crop & Marketings for the Year, December 1, previous year, through November 30.]

Year	Inventory			Sows Farrowing	Pigs per Litter	Pig Crop	Marketings [1]
	Total	Breeding	Market				
	(1,000 Head)	(1,000 Head)	(1,000 Head)	(1,000 Head)	(Head)	(1,000 Head)	(1,000 Head)
2007	790	100	690	160	9.78	1,565.00	1,348.0
2008	740	75	665	163	9.90	1,614.00	1,527.0
2009	730	75	655	167	9.85	1,645.00	1,554.0
2010	740	80	660	164	10.04	1,647.00	1,549.0
2011	760	80	680	163	10.17	1,658.00	1,549.0
2012	740	80	660	163	10.18	1,660.00	1,593.0
2013	700	75	625	167	10.07	1,682.00	1,616.5
2014	610	75	535	162	9.44	1,529.00	1,468.5
2015	680	75	605	158	9.44	1,491.00	1,239.5
2016	700	75	625	157	9.15	1,437.00	1,211.5

[1] Includes custom slaughter for use on farms where produced and state outshipments, but excludes interfarm sales within the state.

Hogs & Pigs: Balance Sheet – Utah: 2012-2016

Inventory Additions & Removals	2012	2013	2014	2015	2016
	(Head)	(Head)	(Head)	(Head)	(Head)
Inventory Beginning of Year [1]	760,000	740,000	700,000	610,000	680,000
Annual Pig Crop [2]	1,660,000	1,682,000	1,529,000	1,491,000	1,437,000
Inshipments	1,000	1,000	1,000	3,000	1,000
Marketings [3]	1,593,000	1,616,500	1,468,500	1,239,500	1,211,500
Farm Slaughter [4]	1,000	500	500	500	500
Deaths	87,000	106,000	151,000	184,000	206,000
Inventory End of Year [5]	740,000	700,000	610,000	680,000	700,000

[1] Hogs & pigs inventory is as of December 1, previous year.
[2] From November 30, previous year to December 1.
[3] Includes custom slaughter for use on farm where produced, state out-shipments, but excludes inter-farm sales within the state.
[4] Excludes custom slaughter for farmers at commercial establishments.
[5] Hogs & pigs inventory is as of December 1.

Market Hogs & Pigs: Inventory by Weight Group – Utah: December 1, 2007-2016

Year	Under 50 Pounds [1]	50-119 Pounds [1]	120-179 Pounds	180 Pounds & Over	Total Market Hogs
	(1,000 Head)	(1,000 Head)	(1,000 Head)	(1,000 Head)	(1,000 Head)
2007	275	148	142	125	690
2008	235	170	140	120	665
2009	260	135	130	130	655
2010	260	135	130	135	660
2011	280	130	130	140	680
2012	275	130	125	130	660
2013	265	115	120	125	625
2014	220	110	110	95	535
2015	245	115	125	120	605
2016	250	120	130	125	625

[1] First two weight groups "under 60 pounds" and "60 - 119 pounds" before 2008.

Hogs & Pigs: Production, Marketings & Income – Utah: 2007-2016

[Dollar values based on data received from U. S. Department of Agriculture's Agricultural Marketing Service]

Year	Production [1]	Marketings [2]	Value of Production [3]	Cash Receipts [3] [4]	Value of Home Consumption	Gross Income
	(1,000 Pounds)	(1,000 Pounds)	(1,000 Dollars)	(1,000 Dollars)	(1,000 Dollars)	(1,000 Dollars)
2007	301,090	282,870	152,190	143,698	244	143,942
2008	312,262	320,460	163,240	167,601	251	167,852
2009	324,227	326,130	153,912	154,912	228	155,140
2010	303,829	301,380	184,623	183,232	291	183,523
2011	302,804	301,380	209,304	208,266	332	208,598
2012	283,570	286,488	192,252	194,200	245	194,445
2013	287,097	292,010	210,555	213,969	167	214,136
2014	265,717	275,755	229,904	238,181	198	238,379
2015	251,338	242,503	159,632	154,328	145	154,473
2016	239,149	236,617	142,295	140,876	134	141,010

[1] Adjustments made for changes in inventory and for inshipments.
[2] Excludes custom slaughter for use on farms where produced and interfarm sales within the State.
[3] Includes allowance for higher average price of State inshipments and outshipments of feeder pigs.
[4] Receipts from marketings and sale of farm slaughter.

Commercial Hog Slaughter – Utah: Monthly 2015-2016

Month	Number Slaughtered		Total Live Weight		Average Live Weight	
	2015	2016	2015	2016	2015	2016
			(1,000 Pounds)	(1,000 Pounds)	(Pounds)	(Pounds)
January	3,500	5,100	573	927	163	180
February	3,500	3,800	540	702	155	187
March	3,700	4,500	642	817	175	183
April	4,500	3,700	680	719	151	193
May	3,800	3,800	661	694	175	184
June	3,500	4,900	581	905	165	183
July	3,800	4,200	630	705	164	170
August	4,600	5,700	1,017	1,099	222	192
September	4,500	5,300	898	939	198	179
October	4,900	5,100	871	873	179	171
November	4,600	4,200	825	753	181	178
December	5,800	4,200	857	786	147	188
Annual Total	50,700	54,400	8,777	9,919	173	182

Sheep & Lambs: Inventory by Class & Lamb Crop – Utah: January 1, 2013-2017

Class	2013	2014	2015	2016	2017
	(Head)	(Head)	(Head)	(Head)	(Head)
All Sheep & Lambs [1]	295,000	280,000	290,000	285,000	275,000
Sheep & Lambs Kept for Breeding					
All Breeding Sheep & Lambs	275,000	260,000	270,000	265,000	255,000
Ewes	225,000	215,000	220,000	215,000	205,000
Rams	9,000	8,000	10,000	8,000	8,000
Replacement Lambs	41,000	37,000	40,000	42,000	42,000
Market Sheep & Lambs					
Total Market Sheep & Lambs	20,000	20,000	20,000	20,000	20,000
Market Sheep	2,000	2,000	2,000	1,000	1,000
Market Lambs	18,000	18,000	18,000	19,000	19,000
Market Lambs by Size Group					
Under 65 Pounds	1,000	1,000	2,000	2,000	3,000
65 - 84 Pounds	2,000	2,000	2,000	3,000	3,000
85 - 105 Pounds	5,000	7,000	5,000	7,000	5,000
Over 105 Pounds	10,000	8,000	9,000	7,000	8,000
Deaths					
Sheep	13,000	11,000	10,000	11,000	(2)
Lambs	18,000	16,000	15,000	15,000	(2)
Units	Lamb Crop & Value of Inventory				
Lamb Crop [3] (Head)	225,000	235,000	230,000	230,000	
Lambing Rate [4] (Lambs/100 Ewes)	100	109	105	107	(2)
Value per Head [5] (Dollars)	205	185	234	223	221

[1] All sheep includes new crop lambs. New crop lambs are lambs born after September 30, the previous year.
[2] Data available 2018
[3] Total for the year. Lamb crop defined as lambs marked, docked or branded.
[4] Not strictly a lambing rate. Represents lamb crop expressed as a percent of ewes 1 year old & older on hand at the beginning of the year.
[5] Average value of all sheep, including lambs, at the beginning of the year.

Wool: Production & Value – Utah: 2012-2016

Units	2012	2013	2014	2015	2016
Sheep & Lambs Shorn [1] (Head)	280,000	240,000	245,000	255,000	245,000
Weight per Fleece (Pounds)	8.9	9.2	9.2	9.4	9.4
Shorn Wool Production (1,000 Pounds)	2,500	2,200	2,260	2,390	2,300
Average Price per Pound (Dollars)	1.60	1.60	1.80	1.70	1.80
Value (1,000 Dollars)	4,000	3,520	4,068	4,063	4,140

[1] Includes shearing at commercial feeding yards.

Sheep & Lamb: Lamb Crop, Farm Slaughter & Death Loss – Utah: 2008-2017

Year	Ewes 1 Year & Older January 1	Lambs per 100 Ewes January 1	Lamb Crop [1]	Farm Slaughter [2]	Deaths	
					Sheep	Lambs
	(1,000 Head)	(Number)	(1,000 Head)	(1,000 Head)	(1,000 Head)	(1,000 Head)
2008	210.0	110	230	4.0	12.0	16.0
2009	220.0	105	230	4.0	13.5	16.0
2010	215.0	102	220	6.0	12.0	15.0
2011	210.0	112	235	6.0	12.0	15.0
2012	230.0	102	235	6.0	13.0	18.0
2013	225.0	100	225	6.1	13.0	18.0
2014	215.0	109	235	6.1	11.0	16.0
2015	220.0	105	230	6.2	10.0	15.0
2016	215.0	107	230	6.1	11.0	15.0
2017	205.0	(3)	(3)	(3)	(3)	(3)

[1] Lamb crop is defined as lambs born in the eastern states & lambs docked or branded in the western states.
[2] Excludes custom slaughter for farmers at commercial establishments.
[3] Data not available until January, 2018.

Losses of Lambs Before Docking, by Cause: Utah, 2011-2016

Cause of Loss	2011	2012	2013	2014	2015	2016
Number of Head	Head					
Bear	300	200	200	100	100	100
Bobcat	(D)	200	200	200	200	300
Coyote	4,700	5,000	5,800	5,200	5,000	5,500
Dog	300	500	300	100	100	200
Mountain Lion	300	200	500	500	500	500
Foxes	(D)	100	200	400	400	500
Wolves	(D)	(D)	(D)	(D)	(D)	(D)
Eagles	600	600	400	700	700	700
Ravens	(D)	100	100	300	200	300
Other/Unknown [1]	1,600	1,400	200	100	100	200
Total Predators	**7,800**	**8,300**	**7,900**	**7,600**	**7,300**	**8,300**
Diseases	(D)	800	700	1,100	1,100	900
Enterotoxaemia	(D)	100	200	200	200	300
Weather Conditions	5,600	4,000	2,800	2,700	2,500	2,600
Lambing Complications	1,900	2,200	1,300	1,900	1,800	2,400
Old Age	NA	NA	NA	NA	NA	NA
On Back	(D)	100	(D)	(D)	(D)	(D)
Poison	(D)	300	100	100	100	100
Theft	(D)	100	(D)	(D)	(D)	(D)
Other/Unknown [1]	2,700	2,100	1,500	2,900	3,000	2,400
Total Non-Predators	**10,200**	**9,700**	**6,600**	**8,900**	**8,700**	**8,700**
Total Losses	**18,000**	**18,000**	**14,500**	**16,500**	**16,000**	**17,000**

Foot notes at bottom of page.

Losses of Lambs After Docking, by Cause: Utah, 2011-2016

Cause of Loss	2011	2012	2013	2014	2015	2016
Number of Head	Head					
Bear	1,000	1,800	1,700	1,700	1,700	1,300
Bobcat	(D)	500	100	200	200	300
Coyote	6,900	8,500	9,400	8,500	7,800	7,000
Dog	700	200	500	200	200	300
Mountain Lion	1,100	1,800	1,700	900	800	2,400
Foxes	(D)	100	(D)	200	200	200
Wolves	(D)	100	(D)	(D)	(D)	100
Eagles	200	100	300	100	100	100
Ravens	(D)	100	(D)	(D)	(D)	(D)
Other/Unknown [1]	1,100	800	400	300	100	200
Total Predators	**11,000**	**14,000**	**14,100**	**12,100**	**11,100**	**11,900**
Diseases	400	400	600	100	100	300
Enterotoxaemia	(D)	200	100	200	200	500
Weather Conditions	900	700	600	400	400	400
Lambing Complications	NA	NA	NA	NA	NA	NA
Old Age	NA	NA	NA	NA	NA	NA
On Back	(D)	100	(D)	(D)	(D)	(D)
Poison	500	600	100	300	300	300
Theft	(D)	100	300	100	100	(D)
Other/Unknown [1]	2,200	1,900	2,200	2,800	2,800	1,600
Total Non-Predators	**4,000**	**4,000**	**3,900**	**3,900**	**3,900**	**3,100**
Total Losses	**15,000**	**18,000**	**18,000**	**16,000**	**15,000**	**15,000**

(D) indicates Un-published: i.e. less than 100 head.

[1] Other/Unknown includes Other and Unknown causes combined with Un-published causes.

Totals may not add due to rounding.

Losses of Sheep and Lambs Combined, by Cause: Utah, 2011-2016[1]

Cause of Loss	2011	2012	2013	2014	2015	2016
Number of Head			**Head**			
Bear	1,800	2,800	2,700	2,900	2,800	2,500
Bobcat	(D)	800	300	500	500	600
Coyote	13,700	16,500	18,400	16,500	15,200	14,900
Dog	1,400	1,300	1,200	500	500	800
Mountain Lion	2,100	2,500	2,900	2,100	2,000	4,000
Foxes	(D)	200	200	700	600	700
Wolves	(D)	100	(D)	(D)	(D)	100
Eagles	800	700	700	800	800	800
Ravens	(D)	200	100	300	200	300
Other/Unknown [2]	3,400	2,500	900	600	400	500
Total Predators	**23,200**	**27,600**	**27,400**	**24,900**	**23,000**	**25,200**
Diseases	1,500	1,700	2,100	1,500	1,500	1,700
Enterotoxaemia	500	700	500	500	500	1,100
Weather Conditions	8,000	5,200	5,100	3,300	3,100	3,400
Lambing Complications	2,400	3,100	1,900	2,800	2,600	3,300
Old Age	1,800	2,900	1,700	1,500	1,400	1,600
On Back	(D)	500	(D)	100	100	100
Poison	1,300	1,400	900	1,300	1,200	1,400
Theft	(D)	300	300	100	100	100
Other/Unknown [2]	6,300	5,600	5,600	7,500	7,500	5,100
Total Non-Predators	**21,800**	**21,400**	**18,100**	**18,600**	**18,000**	**17,800**
Total Losses	**45,000**	**49,000**	**45,500**	**43,500**	**41,000**	**43,000**
Percent of Total by Cause			**Percent**			
Bear	4.0	5.7	5.9	6.7	6.8	5.8
Bobcat	(D)	1.6	0.7	1.1	1.2	1.4
Coyote	30.4	33.7	40.4	37.9	37.1	34.7
Dog	3.1	2.7	2.6	1.1	1.2	1.9
Mountain Lion	4.7	5.1	6.4	4.8	4.9	9.3
Foxes	(D)	0.4	0.4	1.6	1.5	1.6
Wolves	(D)	0.2	(D)	(D)	(D)	0.2
Eagles	1.8	1.4	1.5	1.8	2.0	1.9
Ravens	(D)	0.4	0.2	0.7	0.5	0.7
Other/Unknown [2]	7.6	5.1	2.0	1.4	1.0	1.2
Total Predators	**51.6**	**56.3**	**60.2**	**57.2**	**56.1**	**58.6**
Diseases	3.3	3.5	4.6	3.4	3.7	4.0
Enterotoxaemia	1.1	1.4	1.1	1.1	1.2	2.6
Weather Conditions	17.8	10.6	11.2	7.6	7.6	7.9
Lambing Complications	5.3	6.3	4.2	6.4	6.3	7.7
Old Age	4.0	5.9	3.7	3.4	3.4	3.7
On Back	(D)	1.0	(D)	0.2	0.2	0.2
Poison	2.9	2.9	2.0	3.0	2.9	3.3
Theft	(D)	0.6	0.7	0.2	0.2	0.2
Other/Unknown [2]	14.0	11.4	12.3	17.2	18.3	11.9
Total Non-Predators	**48.4**	**43.7**	**39.8**	**42.8**	**43.9**	**41.4**
Total Losses	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Dollar Value of Losses by Cause			**1,000 dollars**			
Bear	335	491	434	538	547	461
Bobcat	(D)	133	47	91	94	98
Coyote	2,438	2,790	2,925	2,988	2,838	2,541
Dog	261	242	194	93	99	145
Mountain Lion	398	426	464	388	390	705
Foxes	(D)	32	31	126	108	114
Wolves	(D)	16	(D)	(D)	(D)	16
Eagles	134	111	109	142	144	130
Ravens	(D)	32	16	53	36	49
Other/Unknown [2]	635	414	146	111	81	86
Total Predators	**4,201**	**4,687**	**4,366**	**4,529**	**4,336**	**4,346**
Diseases	323	300	341	273	283	301
Enterotoxaemia	97	135	82	91	94	194
Weather Conditions	1,442	853	824	590	567	573
Lambing Complications	436	545	307	516	502	581
Old Age	419	635	294	298	312	340
On Back	(D)	98	(D)	20	22	21
Poison	270	252	152	250	250	278
Theft	(D)	54	47	18	18	21
Other/Unknown [2]	1,181	982	906	1,369	1,422	884
Total Non-Predators	**4,168**	**3,854**	**2,953**	**3,424**	**3,470**	**3,193**
Total Losses	**8,369**	**8,541**	**7,319**	**7,953**	**7,805**	**7,538**

(D) indicates Un-published: i.e. less than 100 head.

[1] Lamb losses include both before and after docking losses.

[2] Other/Unknown includes Other and Unknown causes combined with Un-published causes.

Totals may not add due to rounding.

Losses of Sheep, by Cause: Utah, 2011-2016

Cause of Loss	2011	2012	2013	2014	2015	2016
Number of Head			**Head**			
Bear	500	800	800	1,100	1,000	1,100
Bobcat	(D)	100	(D)	100	100	(D)
Coyote	2,100	3,000	3,200	2,800	2,400	2,400
Dog	400	600	400	200	200	300
Mountain Lion	700	500	700	700	700	1,100
Foxes	(D)	(D)	(D)	100	(D)	(D)
Wolves	(D)	(D)	(D)	(D)	(D)	(D)
Eagles	(D)	(D)	(D)	(D)	(D)	(D)
Ravens	(D)	(D)	(D)	(D)	(D)	(D)
Other/Unknown [1]	700	300	300	200	200	100
Total Predators	**4,400**	**5,300**	**5,400**	**5,200**	**4,600**	**5,000**
Diseases	1,100	500	800	300	300	500
Enterotoxaemia	(D)	400	200	100	100	300
Weather Conditions	1,500	500	1,700	200	200	400
Lambing Complications	500	900	600	900	800	900
Old Age	1,800	2,900	1,700	1,500	1,400	1,600
On Back	(D)	300	(D)	100	100	100
Poison	800	500	700	900	800	1,000
Theft	(D)	100	(D)	(D)	(D)	100
Other/Unknown [1]	1,900	1,600	1,900	1,800	1,700	1,100
Total Non-Predators	**7,600**	**7,700**	**7,600**	**5,800**	**5,400**	**6,000**
Total Losses	**12,000**	**13,000**	**13,000**	**11,000**	**10,000**	**11,000**
Percent of Total by Cause			**Percent**			
Bear	4.2	6.2	6.2	10.0	10.0	10.0
Bobcat	(D)	0.8	(D)	0.9	1.0	(D)
Coyote	17.5	23.1	24.6	25.5	24.0	21.8
Dog	3.3	4.6	3.1	1.8	2.0	2.7
Mountain Lion	5.8	3.8	5.4	6.4	7.0	10.0
Foxes	(D)	(D)	(D)	0.9	(D)	(D)
Wolves	(D)	(D)	(D)	(D)	(D)	(D)
Eagles	(D)	(D)	(D)	(D)	(D)	(D)
Ravens	(D)	(D)	(D)	(D)	(D)	(D)
Other/Unknown [1]	5.8	2.3	2.3	1.8	2.0	0.9
Total Predators	**36.7**	**40.8**	**41.5**	**47.3**	**46.0**	**45.5**
Diseases	9.2	3.8	6.2	2.7	3.0	4.6
Enterotoxaemia	(D)	3.1	1.5	0.9	1.0	2.7
Weather Conditions	12.5	3.8	13.1	1.8	2.0	3.6
Lambing Complications	4.2	6.9	4.6	8.2	8.0	8.2
Old Age	15.0	22.3	13.1	13.6	14.0	14.6
On Back	(D)	2.3	(D)	0.9	1.0	0.9
Poison	6.7	3.8	5.4	8.2	8.0	9.1
Theft	(D)	0.8	(D)	(D)	(D)	0.9
Other/Unknown [1]	15.8	12.3	14.6	16.4	17.0	10.0
Total Non-Predators	**63.3**	**59.2**	**58.5**	**52.7**	**54.0**	**54.5**
Total Losses	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Dollar Value of Losses by Cause			**1,000 dollars**			
Bear	117	175	138	218	223	234
Bobcat	(D)	22	(D)	20	22	(D)
Coyote	489	657	554	556	534	510
Dog	94	131	69	40	45	64
Mountain Lion	163	110	121	139	156	234
Foxes	(D)	(D)	(D)	20	(D)	(D)
Wolves	(D)	(D)	(D)	(D)	(D)	(D)
Eagles	(D)	(D)	(D)	(D)	(D)	(D)
Ravens	(D)	(D)	(D)	(D)	(D)	(D)
Other/Unknown [1]	175	66	52	40	45	21
Total Predators	**1,038**	**1,161**	**934**	**1,032**	**1,024**	**1,063**
Diseases	256	110	138	60	67	106
Enterotoxaemia	(D)	88	35	20	22	64
Weather Conditions	350	110	294	40	45	85
Lambing Complications	117	197	104	179	178	191
Old Age	419	635	294	298	312	340
On Back	(D)	66	(D)	20	22	21
Poison	186	110	121	179	178	213
Theft	(D)	22	(D)	(D)	(D)	21
Other/Unknown [1]	452	350	329	357	378	234
Total Non-Predators	**1,780**	**1,688**	**1,315**	**1,152**	**1,202**	**1,275**
Total Losses	**2,818**	**2,849**	**2,249**	**2,184**	**2,225**	**2,338**

(D) indicates Un-published: i.e. less than 100 head.

[1] Other/Unknown includes Other and Unknown causes combined with Un-published causes.

Totals may not add due to rounding.

Losses of All Lambs, by Cause: Utah, 2011-2016 [1]

Cause of Loss	2011	2012	2013	2014	2015	2016
Number of Head			**Head**			
Bear	1,300	2,000	1,900	1,800	1,800	1,400
Bobcat	(D)	700	300	400	400	600
Coyote	11,600	13,500	15,200	13,700	12,800	12,500
Dog	1,000	700	800	300	300	500
Mountain Lion	1,400	2,000	2,200	1,400	1,300	2,900
Foxes	(D)	200	200	600	600	700
Wolves	(D)	100	(D)	(D)	(D)	100
Eagles	800	700	700	800	800	800
Ravens	(D)	200	100	300	200	300
Other/Unknown [2]	2,700	2,200	600	400	200	400
Total Predators	**18,800**	**22,300**	**22,000**	**19,700**	**18,400**	**20,200**
Diseases	400	1,200	1,300	1,200	1,200	1,200
Enterotoxaemia	(D)	300	300	400	400	800
Weather Conditions	6,500	4,700	3,400	3,100	2,900	3,000
Lambing Complications	1,900	2,200	1,300	1,900	1,800	2,400
Old Age	NA	NA	NA	NA	NA	NA
On Back	(D)	200	(D)	(D)	(D)	(D)
Poison	500	900	200	400	400	400
Theft	(D)	200	300	100	100	(D)
Other/Unknown [2]	4,900	4,000	3,700	5,700	5,800	4,000
Total Non-Predators	**14,200**	**13,700**	**10,500**	**12,800**	**12,600**	**11,800**
Total Losses	**33,000**	**36,000**	**32,500**	**32,500**	**31,000**	**32,000**
Percent of Total by Cause			**Percent**			
Bear	3.9	5.6	5.8	5.5	5.8	4.4
Bobcat	(D)	1.9	0.9	1.2	1.3	1.9
Coyote	35.2	37.5	46.8	42.2	41.3	39.1
Dog	3.0	1.9	2.5	0.9	1.0	1.6
Mountain Lion	4.2	5.6	6.8	4.8	4.2	9.1
Foxes	(D)	0.6	0.6	1.8	1.9	2.2
Wolves	(D)	0.3	(D)	(D)	(D)	0.3
Eagles	2.4	1.9	2.2	2.5	2.6	2.5
Ravens	(D)	0.6	0.3	0.9	0.7	0.9
Other/Unknown [2]	8.2	6.1	1.8	1.2	0.7	1.3
Total Predators	**57.0**	**61.9**	**67.7**	**60.6**	**59.4**	**63.1**
Diseases	1.2	3.3	4.0	3.7	3.9	3.8
Enterotoxaemia	(D)	0.8	0.9	1.2	1.3	2.5
Weather Conditions	19.7	13.1	10.5	9.5	9.4	9.4
Lambing Complications	5.8	6.1	4.0	5.8	5.8	7.5
Old Age	NA	NA	NA	NA	NA	NA
On Back	(D)	0.6	(D)	(D)	(D)	(D)
Poison	1.5	2.5	0.6	1.2	1.3	1.3
Theft	(D)	0.6	0.9	0.3	0.3	(D)
Other/Unknown [2]	14.8	11.1	11.4	17.5	18.7	12.5
Total Non-Predators	**43.0**	**38.1**	**32.3**	**39.4**	**40.6**	**36.9**
Total Losses	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Dollar Value of Losses by Cause			**1,000 dollars**			
Bear	218	316	296	320	324	228
Bobcat	(D)	111	47	71	72	98
Coyote	1,949	2,133	2,371	2,432	2,304	2,031
Dog	168	111	125	53	54	81
Mountain Lion	235	316	343	249	234	471
Foxes	(D)	32	31	107	108	114
Wolves	(D)	16	(D)	(D)	(D)	16
Eagles	134	111	109	142	144	130
Ravens	(D)	32	16	53	36	49
Other/Unknown [2]	459	348	94	71	36	65
Total Predators	**3,163**	**3,526**	**3,432**	**3,497**	**3,312**	**3,283**
Diseases	67	190	203	213	216	195
Enterotoxaemia	(D)	47	47	71	72	130
Weather Conditions	1,092	743	530	550	522	488
Lambing Complications	319	348	203	337	324	390
Old Age	NA	NA	NA	NA	NA	NA
On Back	(D)	32	(D)	(D)	(D)	(D)
Poison	84	142	31	71	72	65
Theft	(D)	32	47	18	18	(D)
Other/Unknown [2]	826	632	577	1,012	1,044	650
Total Non-Predators	**2,388**	**2,165**	**1,638**	**2,272**	**2,268**	**1,918**
Total Losses	**5,551**	**5,691**	**5,070**	**5,769**	**5,580**	**5,200**

(D) indicates Un-published: i.e. less than 100 head.

[1] Lamb losses include both before and after docking losses.

[2] Other/Unknown includes Other and Unknown causes combined with Un-published causes.

Totals may not add due to rounding.

Layers & Eggs – Utah: 2012-2016

Unit	2012	2013	2014	2015	2016
	Inventory, Production & Value [1] 2012-2016				
Average Layers (1,000 Head)	3,648	3,793	4,168	4,409	4,571
Eggs per Layer [2] (Number)	276	286	285	284	278
Total Egg Production (Million Eggs)	1,005	1,084	1,187	1,252	1,271
Value of Eggs Produced (1,000 Dollars)	72,537	81,139	107,255	199,491	73,238
	Chicken Inventory [3], & Value December 1, 2012-2016				
Total Layers (1,000 Head)	3,800	3,940	4,585	4,532	5,252
Total Pullets (1,000 Head)	812	761	923	1,328	1,370
Total Chickens					
Total (1,000 Head)	4,612	4,701	5,508	5,860	6,622
Value					
Average per Head (Dollars)	2.50	2.60	2.50	3.10	2.40
Total Value (1,000 Dollars)	11,530	12,223	13,770	18,166	15,893
	Chickens: Lost, Sold & Value of Sales [4] 2012-2016				
Lost [5] (1,000 Head)	520	788	1,208	863	950
Sold for Slaughter					
Chickens Sold (1,000 Head)	1,869	2,281	1,593	2,484	3,003
Live Weight (1,000 Pounds)	5,981	7,299	5,098	7,949	9,910
Value of Sales (Dollars)	6,000	7,000	5,000	8,000	10,000

[1] Estimates cover the 12 month period, December 1, previous year, through November 30.
[2] Total egg production divided by average number of layers on hand.
[3] Excludes commercial broilers.
[4] Estimates exclude broilers and cover the 12 month period December 1, the previous year through November 30.
[5] Includes rendered, died, destroyed, composted or disappeared for any reason except sold during the 12 month period.

Turkey: Production & Value – Utah: 2008-2016

Year	Production [1]	Production	Value of Production
	(1,000 Head)	(1,000 Pounds)	(1,000 Dollars)
2008	4,100	104,960	60,877
2009	3,200	81,600	40,800
2010	4,600	117,300	75,189
2011	4,300	105,350	71,849
2012	4,100	105,780	76,267
2013	4,000	108,800	72,352
2014	4,000	96,800	71,148
2015	3,800	95,380	77,353
2016	4,700	121,730	100,549

[1] Excludes young turkeys lost.

Mink: Pelts Produced, Females Bred, Average Price & Value – Utah & United States: 2007-2016

Year	Utah		United States			
	Pelts Produced	Females Bred	Pelts Produced	Females Bred	Average Marketing Price	Value of Pelts
	(1,000)	(1,000)			(Dollars)	(1,000 Dollars)
2007.....	600	155	2,828,200	696,100	65.70	185,813
2008.....	550	156	2,820,700	691,300	41.60	117,341
2009.....	614	157	2,866,700	674,200	65.10	186,622
2010.....	678	171	2,840,200	670,200	81.90	232,612
2011.....	699	169	3,091,470	706,000	94.30	291,526
2012.....	(1)	179	(1)	770,000	(1)	(1)
2013.....	855	(1)	3,544,610	(1)	56.30	199,562
2014.....	959	201	3,741,150	851,500	57.70	215,864
2015.....	934	214	3,682,960	848,700	32.00	117,855
2016.....	768	190	3,317,040	767,100	35.00	116,096

(NA) Not available.
[1] Due to sequestration the Mink report was suspended.

Pelts Produced in 2016 & Females Bred for 2017, by Type – Utah [1] & United States:

Type	Pelts Produced 2016		Females Bred To Produce Kits 2017	
	Utah	United States	Utah	United States
	(Pelts)	(Pelts)	(Number)	(Number)
Black.....	260,000	1,685,450	65,000	369,930
Demi/Wild	(D)	62,110	6,500	14,170
Pastel.....	28,000	98,600	6,500	24,750
Sapphire	50,000	135,080	10,000	32,840
Blue Iris.....	1,900	226,130	510	44,620
Mahogany.....	295,000	711,320	65,000	155,730
Pearl	(D)	103,640	(D)	24,700
Lavender.....	(D)	32,310	(D)	9,290
Violet.....	(D)	54,550	(D)	12,350
White.....	(D)	199,570	(D)	50,760
Other.....	(D)	8,280	(D)	1,670
Total.....	**768,010**	**3,317,040**	**178,030**	**740,810**

(D) Withheld to avoid disclosing data for individual operations.
[1] Published color classes may not add to the State total to avoid disclosing individual operations.

Honey: Number of Colonies, Yield, Production, Stocks, Price, & Value – Utah: 2007-2016

[Producers with 5 or more colonies.]

Year	Honey Producing Colonies [1]	Yield per Colony	Production	Stocks December 15 [2]	Average Price per Pound [3]	Value of Production [4]
	(1,000)	(Pounds)	(1,000 Pounds)	(1,000 Pounds)	(Dollars)	(1,000 Dollars)
2007	28	42.0	1,176	270	1.13	1,329
2008	28	48.0	1,344	242	1.57	2,110
2009	26	38.0	988	198	1.46	1,442
2010	26	30.0	780	195	1.53	1,193
2011	23	39.0	897	170	1.75	1,570
2012	25	38.0	950	209	1.87	1,777
2013	30	34.0	1,020	92	2.09	2,132
2014	29	28.0	812	130	2.13	1,730
2015	27	42.0	1,134	147	1.92	2,177
2016	31	32.0	992	169	1.91	1,895

[1] Honey producing colonies are the maximum number of colonies from which honey was taken during the year. It is possible to take honey from colonies which did not survive the entire year.
[2] Stocks held by producers.
[3] Average price per pound based on expanded sales.
[4] Value of production is equal to production multiplied by average price per pound.

Trout: Total Value of Fish Sold, & Foodsize Sales – Utah: 2007-2016

Year	Total Value of Fish Sold [1]	Foodsize (12 Inches or longer)			
		Number of Fish	Live Weight [2]	Sales	
				Total [3]	Average Price per Pound
	(Dollars)		(Pounds)	(Dollars)	(Dollars)
2007	436,000	101,000	111,000	350,000	3.15
2008	535,000	109,000	124,000	433,000	3.49
2009	529,000	99,000	106,000	333,000	3.14
2010	601,000	100,000	116,000	365,000	3.15
2011	516,000	75,000	87,000	307,000	3.53
2012	472,000	90,000	100,000	330,000	3.30
2013	617,000	100,000	151,000	556,000	3.68
2014	604,000	130,000	161,000	531,000	3.30
2015	630,000	90,000	113,000	444,000	3.93
2016	633,000	100,000	128,000	436,000	3.41

[1] Total sales excluding eggs.
[2] Due to rounding, total number of fish multiplied by the average pounds per unit may not exactly equal total live weight.
[3] Due to rounding, total number or live weight multiplied by average value per unit may not exactly equal total sales.

Marketing Year Average Prices, by Commodity – Utah: 2008-2016

Commodity	Unit	2008	2009	2010	2011	2012	2013	2014	2015	2016
Wheat, All	Bu	7.97	5.92	7.43	8.26	9.59	7.94	7.07	5.18	4.30
Wheat, Winter..	Bu	7.40	5.70	7.20	7.62	8.97	7.71	6.85	4.77	3.98
Wheat, Spring..	Bu	11.30	8.69	9.27	10.90	11.50	8.66	8.58	7.00	5.50
Corn, Grain	Bu	4.40	4.52	5.75	6.97	7.59	5.47	4.13	4.68	3.80
Barley, All.....	Bu	4.41	2.56	3.43	5.53	5.87	4.17	3.13	2.97	2.36
Oats [2]	Bu	3.20	2.50	3.60	4.35	4.40	4.42	3.75	3.61	(NA)
Hay, All (Baled)..	Ton	167.00	102.00	106.00	185.00	189.00	182.00	188.00	162.00	127.00
Alfalfa.....	Ton	170.00	102.00	106.00	185.00	190.00	182.00	188.00	162.00	127.00
Other Hay	Ton	137.00	94.00	98.00	152.00	152.00	152.00	154.00	131.00	104.00
Apples, Cmrcl [2] ..	Lbs	0.29	0.30	0.25	0.22	0.26	0.48	0.22	0.33	(NA)
Peaches.....	Ton	868.00	1,040.00	691.00	1,010.00	1,080.00	1,080.00	981.00	1,080.00	1,640.00
Cherries,										
Tart	Lb	0.33	0.27	0.27	0.29	0.51	0.48	0.43	0.34	0.35
Sweet [2]	Ton	2,440.00	1,680.00	1,330.00	1,470.00	1,450.00	2,490.00	1,500.00	854.00	(NA)
Apricots [2]	ton	468.00	862.00	432.00	1,290.00	919.00	1,010.00	1,510.00	(D)	(NA)
Beef Cattle [1].....	Cwt	90.50	80.00	96.00	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Milk Cows	Hd	1,660.00	1,220.00	1,160.00	1,290.00	1,300.00	1,290.00	1,740.00	1,930.00	1,730.00
Calves [1]	Cwt	105.00	104.00	120.00	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Steers & Heifers[1]	Cwt	94.00	83.00	99.00	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Cows [1]	Cwt	43.00	42.00	54.00	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Sheep [1]	Cwt	25.00	30.20	47.80	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Lambs [1].....	Cwt	102.00	99.90	126.00	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Hogs [1]	Cwt	52.30	47.50	60.70	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Honey	Lb	1.57	1.46	1.53	1.75	1.87	2.09	2.13	1.92	1.91
Trout 12 Inches+	Lb	(NA)	(NA)	3.15	3.53	3.30	3.68	3.30	3.93	3.41
Eggs.....	Doz	0.66	0.95	0.68	0.83	0.88	0.87	0.90	1.08	1.91
Milk, All	Cwt	18.10	12.20	16.20	19.60	17.60	19.50	23.70	17.00	16.00

(D) Withheld to avoid disclosing data for individual operations.
(NA) Not available.
[1] Livestock prices (excluding milk cows per head) discontinued 2011.
[2] No longer in the estimate program

Prices Received: Monthly Averages Selected Commodities – Utah: 2007-2016

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	All Barley											
	(Dollars per Bu)	(Dollars per Bu)	(Dollars per Bu)	(Dollars per Bu)	(Dollars per Bu)	(Dollars per Bu)	(Dollars per Bu)	(Dollars per Bu)	(Dollars per Bu)	(Dollars per Bu)	(Dollars per Bu)	(Dollars per Bu)
2007	3.65	3.91	3.70	3.18	3.72	(S)	3.38	3.39	4.71	5.59	5.22	4.99
2008	6.03	(S)	4.76	(S)	(S)	(S)	(S)	4.56	4.45	4.07	(S)	(S)
2009	(S)	(S)	(S)	(S)	3.23	(S)	(S)	2.50	2.25	2.14	2.49	2.72
2010	2.89	3.03	2.95	2.91	2.97	3.21	2.66	2.88	3.05	3.11	3.73	4.35
2011	4.38	4.49	5.00	5.61	(D)	5.38	(D)	5.55	5.80	5.18	5.43	5.53
2012	(D)	5.19	(D)	5.22	(D)	5.15	5.79	5.96	5.91	5.80	5.95	(D)
2013	5.73	(D)	5.68	(D)	5.80	5.76	(D)	4.32	(D)	3.91	(S)	3.84
2014	(D)	3.88	4.08	4.11	4.08	5.18	3.87	3.55	(D)	(D)	(D)	(D)
2015	(D)	(D)	(D)	(D)	(D)	(D)	2.84	(D)	(D)	(D)	(D)	3.56
2016	3.48	(D)	(D)	(D)	(S)	(S)	(2)	(2)	(2)	(2)	(2)	(2)
	Milk [1]											
	(Dollars per Cwt)	(Dollars per Cwt)	(Dollars per Cwt)	(Dollars per Cwt)	(Dollars per Cwt)	(Dollars per Cwt)	(Dollars per Cwt)	(Dollars per Cwt)	(Dollars per Cwt)	(Dollars per Cwt)	(Dollars per Cwt)	(Dollars per Cwt)
2007	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
2008	20.20	18.70	18.70	18.20	18.50	19.50	19.00	17.80	17.40	17.20	16.70	15.70
2009	12.70	10.80	10.90	11.20	10.70	10.90	10.60	11.60	12.40	14.30	14.70	16.00
2010	15.70	15.40	14.90	14.20	15.10	15.60	15.80	16.70	17.40	18.40	18.10	17.00
2011	16.80	18.40	20.10	19.60	19.50	20.50	20.40	21.30	20.60	19.10	19.50	19.00
2012	18.20	16.80	16.50	15.70	15.10	14.60	15.80	17.40	18.80	21.00	21.80	20.60
2013	19.90	19.10	18.60	18.80	19.20	19.10	18.20	18.50	19.50	20.50	21.20	21.50
2014	22.30	24.10	24.10	24.60	24.40	23.00	22.50	23.80	25.00	24.90	23.80	21.50
2015	17.80	16.50	16.40	16.40	16.70	16.90	16.70	16.70	17.00	17.40	18.40	17.80
2016	16.00	15.60	14.90	14.90	14.40	14.40	15.40	16.50	17.30	16.60	17.10	18.80

(D) Withheld to avoid disclosing data for individual operations.
(S) Insufficient number of reports to establish an estimate.
[1] Monthly milk price estimates began 2008.
[2] Estimates discontinued in 2016.

Prices Received: Monthly Averages Selected Commodities – Utah: 2007-2016 (cont)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	All Hay (Baled)											
	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)
2007	99.00	104.00	104.00	109.00	119.00	129.00	126.00	129.00	131.00	131.00	133.00	138.00
2008	139.00	143.00	140.00	148.00	154.00	163.00	172.00	173.00	168.00	168.00	175.00	157.00
2009	149.00	145.00	144.00	130.00	135.00	105.00	100.00	105.00	105.00	100.00	105.00	100.00
2010	90.00	100.00	100.00	95.00	95.00	100.00	100.00	100.00	108.00	108.00	108.00	109.00
2011	109.00	110.00	120.00	159.00	161.00	173.00	199.00	183.00	181.00	200.00	187.00	191.00
2012	189.00	175.00	173.00	189.00	205.00	198.00	199.00	187.00	187.00	187.00	182.00	192.00
2013	183.00	184.00	175.00	182.00	190.00	190.00	194.00	186.00	186.00	175.00	170.00	170.00
2014	174.00	180.00	175.00	170.00	170.00	170.00	194.00	204.00	205.00	199.00	185.00	179.00
2015	180.00	180.00	170.00	175.00	175.00	175.00	165.00	159.00	160.00	160.00	160.00	160.00
2016	160.00	160.00	145.00	145.00	120.00	130.00	130.00	129.00	130.00	130.00	130.00	125.00
	Alfalfa Hay (Baled)											
	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)
2007	100.00	105.00	105.00	110.00	120.00	130.00	130.00	130.00	132.00	132.00	135.00	140.00
2008	145.00	145.00	145.00	150.00	155.00	165.00	175.00	175.00	170.00	172.00	180.00	162.00
2009	150.00	145.00	150.00	140.00	135.00	105.00	100.00	105.00	105.00	100.00	105.00	100.00
2010	90.00	100.00	100.00	95.00	95.00	100.00	100.00	100.00	108.00	108.00	108.00	109.00
2011	109.00	110.00	120.00	160.00	161.00	173.00	200.00	184.00	181.00	200.00	187.00	192.00
2012	189.00	175.00	173.00	189.00	205.00	198.00	200.00	188.00	187.00	187.00	182.00	192.00
2013	183.00	184.00	175.00	183.00	191.00	190.00	195.00	187.00	187.00	175.00	170.00	170.00
2014	175.00	180.00	175.00	170.00	170.00	170.00	195.00	205.00	205.00	200.00	185.00	180.00
2015	180.00	180.00	170.00	175.00	175.00	175.00	165.00	160.00	160.00	160.00	160.00	160.00
2016	160.00	160.00	145.00	145.00	120.00	130.00	130.00	130.00	130.00	130.00	130.00	125.00
	All Other Hay (Baled)											
	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)	(Dollars per Ton)
2007	75.00	80.00	80.00	85.00	93.00	110.00	105.00	110.00	120.00	120.00	120.00	120.00
2008	120.00	120.00	125.00	130.00	145.00	130.00	140.00	140.00	145.00	135.00	130.00	135.00
2009	135.00	140.00	130.00	115.00	130.00	100.00	90.00	90.00	85.00	100.00	(D)	90.00
2010	85.00	100.00	105.00	90.00	85.00	95.00	100.00	85.00	99.00	99.00	99.00	99.00
2011	99.00	100.00	106.00	132.00	133.00	141.00	157.00	148.00	159.00	163.00	150.00	154.00
2012	152.00	142.00	141.00	152.00	163.00	158.00	160.00	151.00	150.00	147.00	147.00	154.00
2013	148.00	148.00	142.00	148.00	153.00	153.00	165.00	155.00	150.00	155.00	145.00	145.00
2014	145.00	145.00	140.00	140.00	140.00	140.00	160.00	165.00	165.00	160.00	150.00	145.00
2015	145.00	145.00	135.00	140.00	140.00	140.00	135.00	130.00	130.00	130.00	130.00	130.00
2016	130.00	130.00	120.00	115.00	100.00	100.00	100.00	100.00	110.00	110.00	110.00	105.00

(D) Withheld to avoid disclosing data for individual operations.

Farm Labor: Number Hired, Wage Rates, & Hours Worked – Mountain II Region: July 2016, October 2016, January 2017, & April 2017 [1] [2]

	July 2016	October 2016	January 2017	April 2017
Hired Workers				
Hired Workers	23,000	20,000	11,000	14,000
Expected to be Employed				
150 Days or More	17,000	16,000	10,000	12,000
149 Days or Less	6,000	4,000	1,000	2,000
Hours Worked (per Week)				
Hours Worked by Hired Workers	43.6	43.1	44.4	45.3
Wage Rates (Dollars per Hours)				
Wage Rates for all Hired Workers	11.09	11.03	12.55	12.29
Type of Worker				
Field	10.93	10.84	11.49	11.48
Livestock	10.48	10.31	11.91	11.62
Field & Livestock Combined	10.70	10.55	11.75	11.55

[1] Mountain II Region includes Colorado, Nevada, and Utah.
[2] Excludes Agricultural Service workers.

Grazing Fees: Annual Average Rates – Utah: 2007-2016

Year	Per Animal Unit [1]	Cow-Calf	Per Head
	(Dollars per Month)	(Dollars per Month)	(Dollars per Month)
2007	12.90	14.60	14.20
2008	13.00	15.90	15.50
2009	13.00	16.30	15.30
2010	13.10	17.00	15.50
2011	13.20	18.60	15.80
2012	13.70	16.70	16.00
2013	14.50	18.50	16.00
2014	15.00	19.00	16.50
2015	16.00	20.00	17.00
2016	16.50	20.00	17.00

[1] Includes animal unit plus cow-calf rate converted to animal unit (AUM) using (1 aum=cow-calf * 0.833)

County Estimates: Select Items & Years – Utah

Item	Unit	State	County					
			Beaver	Box Elder	Cache	Carbon	Daggett	Davis
2016 Production								
All Barley	(Bushels)	1,558,000	(D)	152,000	723,000	(D)	-	(D)
Alfalfa & Alfalfa Mix Hay	(Tons)	2,226,000	106,700	173,500	209,500	22,600	(D)	19,100
January 1, 2017								
All Cattle & Calves	(Head)	820,000	22,500	90,000	55,000	11,200	2,800	3,400
Beef Cows	(Head)	338,000	11,800	34,500	9,500	6,900	1,600	1,800
Milk Cows	(Head)	92,000	1,300	8,900	16,400	-	-	-
Sheep & Lambs	(Head)	275,000	(D)	36,000	1,400	14,600	100	600
Cash Receipts, 2015 [1]								
Livestock	(1,000 Dollars)	1,552,227	189,456	131,072	134,615	9,206	2,776	5,817
Crops	(1,000 Dollars)	405,158	153,22	44,510	23,795	1,817	590	24,200
Total	(1,000 Dollars)	1,957,385	204,778	175,582	158,409	11,023	3,366	30,017
2012 Census of Agriculture [2]								
Number of Farms [3]	(Number)	18,027	277	1,235	1,217	319	51	493
Land in Farms [3]	(Acres)	10,974,369	189,995	1,170,736	268,511	240,652	(D)	55,017
Harvested Cropland [4]	(Acres)	1,054,369	32,291	151,884	106,090	8,776	5,256	11,965
Irrigated Land [5]	(Acres)	1,104,257	37,615	102,925	76,289	11,128	7,294	13,809

See footnote(s) at end of table on page 63.

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County Estimates: Select Items & Years – Utah (Continued)

Item	Unit	County						
		Duchesne	Emery	Garfield	Grand	Iron	Juab	Kane
2016 Production								
All Barley	(Bushels)	(D)	(D)	-	(D)	(D)	53,000	-
Alfalfa & Alfalfa Mix Hay	(Tons)	115,000	66,700	27,000	(D)	233,000	81,000	8,500
January 1, 2017								
All Cattle & Calves	(Head)	49,500	26,500	18,700	3,600	43,500	18,300	8,700
Beef Cows	(Head)	25,500	14,300	11,000	1,800	10,000	(D)	4,800
Milk Cows	(Head)	1,700	(D)	(D)	-	10,000	(D)	(D)
Sheep & Lambs	(Head)	1,500	1,200	500	(D)	34,500	(D)	1,100
Cash Receipts, 2015 [1]								
Livestock	(1,000 Dollars)	61,101	15,400	15,150	2,841	85,325	24,898	7,049
Crops	(1,000 Dollars)	13,343	3,528	2,734	1,648	40,757	8,033	593
Total	(1,000 Dollars)	74,444	18,928	17,884	4,489	126,082	32,931	7,642
2012 Census of Agriculture [2]								
Number of Farms [3]	(Number)	1,058	587	279	81	509	353	183
Land in Farms [3]	(Acres)	1,088,559	156,229	91,533	(D)	532,464	242,909	125,441
Harvested Cropland [4]	(Acres)	59,206	26,117	14,964	3,478	62,909	22,788	2,713
Irrigated Land [5]	(Acres)	100,909	51,743	19,619	4,165	61,619	20,454	3,953

See footnote(s) at end of table on page 63.

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County Estimates: Select Items & Years – Utah (Continued)

Item	Unit	County							
		Millard	Morgan	Piute	Rich	Salt Lake	San Juan	Sanpete	Sevier
2016 Production									
All Barley	(Bushel)	93,000	88,000	(D)	(D)	(D)	(D)	(D)	(D)
Alfalfa & Alfalfa Mix Hay	(Tons)	312,000	28,000	35,000	42,800	7,800	8,000	142,000	105,000
January 1, 2017									
All Cattle & Calves	(Head)	75,000	7,900	15,200	47,000	3,200	15,100	52,000	49,000
Beef Cows	(Head)	23,000	3,600	(D)	30,500	1,600	10,100	16,600	12,400
Milk Cows	(Head)	15,800	700	(D)	-	(D)	-	6,600	4,000
Sheep & Lambs	(Head)	2,500	9,900	8,100	8,800	1,100	5,300	52,000	6,500
Cash Receipts, 2015 [1]									
Livestock	(1,000 Dollars)	154,691	14,548	21,565	51,978	6,275	15,233	213,476	69,626
Crops	(1,000 Dollars)	50,462	2,526	1,399	3,358	11,130	2,060	15,635	14,171
Total	(1,000 Dollars)	205,153	17,074	22,964	55,336	17,405	17,293	229,111	83,797
2012 Census of Agriculture [2]									
Number of Farms [3]	(Number)	728	301	123	158	630	746	901	674
Land in Farms [3]	(Acres)	577,405	228,678	37,843	409,359	78,162	1,608,901	284,311	122,328
Harvested Cropland [4]	(Acres)	110,858	11,104	13,089	55,613	7,023	35,018	61,694	35,005
Irrigated Land [5]	(Acres)	115,207	9,023	13,885	65,965	6,830	4,277	68,864	40,171

See footnote(s) at bottom of page.

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County Estimates: Select Items & Years – Utah (Continued)

Item	Unit	County							
		Summit	Tooele	Uintah	Utah	Wasatch	Washington	Wayne	Weber
2016 Production									
All Barley	(Bushel)	(D)	(D)	(D)	60,000	(D)	(D)	(D)	(D)
Alfalfa & Alfalfa Mix Hay	(Tons)	15,300	32,500	156,000	99,000	13,400	21,800	47,000	51,800
January 1, 2017									
All Cattle & Calves	(Head)	15,200	23,500	38,000	61,000	10,000	15,300	17,900	21,000
Beef Cows	(Head)	9,200	14,000	23,000	16,600	5,900	9,400	9,000	6,200
Milk Cows	(Head)	500	(D)	600	14,800	600	(D)	800	4,700
Sheep & Lambs	(Head)	25,000	2,500	12,300	11,600	22,000	600	7,100	700
Cash Receipts, 2015 [1]									
Livestock	(1,000 Dollars)	24,558	51,343	39,282	136,349	11,808	10,330	16,370	30,089
Crops	(1,000 Dollars)	2,358	8,426	14,908	76,859	2,439	4,987	2,314	11,257
Total	(1,000 Dollars)	26,916	59,769	54,190	213,208	14,247	15,317	18,684	41,346
2012 Census of Agriculture [2]									
Number of Farms [3]	(Number)	618	476	1,231	2,462	450	579	187	1,121
Land in Farms [3]	(Acres)	270,061	347,024	(D)	343,077	149,224	147,991	42,361	117,415
Harvested Cropland [4]	(Acres)	15,115	18,004	48,594	75,086	9,389	8,712	13,983	27,645
Irrigated Land [5]	(Acres)	20,775	22,958	68,950	75,167	12,420	14,781	15,720	37,742

- Represents zero.
(D) Withheld to avoid disclosing data for individual operations.
[1] Source: Bureau of Economic Analysis, U.S. Department of Commerce. All dollar estimates are in current dollars (not adjusted for inflation).
[2] These county estimates are only published once every 5 years with the Census of Agriculture.
[3] State level estimates are published annually, number of farms and land in farms for the state of Utah are for 2015
[4] Includes land from which crops were harvested or hay was cut, and land in orchards.
[5] Includes all land watered by any artificial or controlled means, such as sprinklers, furrows or ditches and spreader dikes.

County Estimates: All Barley, All Cropping Practices – Utah: 2015 & 2016 [1]

District & County	Acres				Harvested Yield		Production	
	Planted		Harvested					
	2015	2016	2015	2016	2015	2016	2015	2016
	(Acres)	(Acres)	(Acres)	(Acres)	(Bushels)	(Bushels)	(Bushels)	(Bushels)
Northern								
Box Elder	2,600	3,500	1,800	1,800	80.0	84.4	144,000	152,000
Cache	9,100	10,000	8,700	9,200	79.8	78.6	694,000	723,000
Morgan	1,200	1,500	1,000	1,200	90.0	73.3	90,000	88,000
Other Counties	1,000	2,000	400	1,700	80.0	88.2	32,000	150,000
Total	13,900	17,000	11,900	13,900	80.7	80.1	960,000	1,113,000
Central								
Juab	(D)	600	(D)	600	(D)	88.3	(D)	53,000
Millard	3,100	3,900	1,050	950	94.3	97.9	99,000	93,000
Sanpete	1,700	(D)	600	(D)	91.7	(D)	55,000	(D)
Utah	3,400	1,400	1,300	650	91.5	92.3	119,000	60,000
Other Counties	1,200	2,600	550	800	98.2	70.0	54,000	56,000
Total	9,400	8,500	3,500	3,000	93.4	87.3	327,000	262,000
Eastern								
Other Counties	1,000	(D)	300	(D)	100.0	(D)	30,000	(D)
Total	1,000	(D)	300	(D)	100.0	(D)	30,000	(D)
Southern								
Other Counties	2,700	(D)	300	(D)	90.0	(D)	27,000	(D)
Total	2,700	(D)	300	(D)	90.0	(D)	27,000	(D)
Other Districts.....	(D)	3,500	(D)	2,100	(D)	87.1	(D)	183,000
State								
Total	**27,000**	**29,000**	**16,000**	**19,000**	**84.0**	**82.0**	**1,344,000**	**1,558,000**

(D) Withheld to avoid disclosing data for individual operations.

[1] Missing counties and counties with missing data are included in the appropriate district's "Other Counties". Districts with missing data are included in "Other Districts".

County Estimates: Alfalfa & Alfalfa Mixtures for Hay, All Cropping Practices – Utah: 2015 & 2016 [1]

District & County	Acres Harvested		Harvested Yield		Production	
	2015	2016	2015	2016	2015	2016
	(Acres)	(Acres)	(Tons)	(Tons)	(Tons)	(Tons)
Northern						
Box Elder	45,000	41,500	4.25	4.20	191,000	173,500
Cache	45,000	47,100	4.30	4.45	193,000	209,500
Davis	3,500	4,100	4.55	4.65	16,000	19,100
Morgan	8,500	9,500	2.75	2.95	23,300	28,000
Rich	15,000	14,400	2.70	2.95	40,200	42,800
Salt Lake	2,000	2,000	4.00	3.90	8,000	7,800
Tooele	8,000	8,100	3.75	4.00	30,000	32,500
Weber	13,000	13,300	3.75	3.90	48,500	51,800
Total	140,000	140,000	3.95	4.05	550,000	565,000
Central						
Juab	16,000	19,500	4.40	4.15	70,000	81,000
Millard	59,000	62,500	4.80	5.00	282,000	312,000
Sanpete	37,000	40,300	4.05	3.50	150,000	142,000
Sevier	23,000	22,500	3.75	4.65	86,000	105,000
Utah	22,000	29,200	4.20	3.40	92,000	99,000
Total	157,000	174,000	4.35	4.25	680,000	739,000
Eastern						
Carbon	7,000	6,900	3.60	3.30	25,300	22,600
Daggett	3,000	(D)	2.05	(D)	6,200	(D)
Duchesne	30,000	30,500	3.45	3.75	104,000	115,000
Emery	17,000	19,800	3.30	3.35	55,700	66,700
Grand	(D)	(D)	(D)	(D)	(D)	(D)
San Juan	4,400	5,300	1.85	1.50	8,200	8,000
Summit	(D)	7,000	(D)	2.20	(D)	15,300
Uintah	29,500	35,000	3.75	4.45	110,000	156,000
Wasatch	4,500	4,200	3.40	3.20	15,400	13,400
Other Counties	11,600	9,300	4.35	4.95	50,200	46,000
Total	107,000	118,000	3.50	3.75	375,000	443,000
Southern						
Beaver	25,000	20,800	4.75	5.15	118,500	106,700
Garfield	10,000	7,800	3.15	3.45	31,300	27,000
Iron	42,500	43,000	5.10	5.40	217,500	233,000
Kane	2,500	2,300	3.60	3.70	9,000	8,500
Piute	8,000	8,100	4.25	4.30	33,900	35,000
Washington	5,500	4,400	5.05	4.95	27,800	21,800
Wayne	12,500	11,600	3.85	4.05	48,000	47,000
Total	106,000	98,000	4.60	4.90	486,000	479,000
State						
Total	**510,000**	**530,000**	**4.10**	**4.20**	**2,091,000**	**2,226,000**

(D) Withheld to avoid disclosing data for individual operations.
[1] Missing counties and counties with missing data are included in the appropriate district's "Other Counties". Districts with missing data are included in "Other Districts".

County Estimates: Cattle – Utah: January 1, 2016 & 2017 [1]

District & County	All Cattle		Beef Cows		Milk Cows	
	2016	2017	2016	2017	2016	2017
	(Head)	(Head)	(Head)	(Head)	(Head)	(Head)
Northern						
Box Elder	92,000	90,000	33,000	34,500	9,500	8,900
Cache	57,000	55,000	9,200	9,500	16,100	16,400
Davis	3,500	3,400	1,700	1,800	(D)	-
Morgan	8,100	7,900	3,500	3,600	600	700
Rich	48,000	47,000	29,000	30,500	-	-
Salt Lake	3,200	3,200	1,500	1,600	(D)	(D)
Tooele	24,000	23,500	13,500	14,000	(D)	(D)
Weber	21,500	21,000	6,000	6,200	4,700	4,700
Central						
Juab	18,700	18,300	(D)	(D)	(D)	(D)
Millard	77,000	75,000	22,500	23,000	16,900	15,800
Sanpete	53,000	52,000	16,000	16,600	6,700	6,600
Sevier	50,000	49,000	11,900	12,400	4,000	4,000
Utah	62,000	61,000	15,900	16,600	16,000	14,800
Eastern						
Carbon	11,400	11,200	6,600	6,900	(D)	-
Daggett	2,900	2,800	1,500	1,600	-	-
Duchesne	51,000	49,500	24,500	25,500	2,700	1,700
Emery	27,000	26,500	13,700	14,300	100	(D)
Grand	3,700	3,600	1,800	1,800	(D)	-
San Juan	15,500	15,100	9,800	10,100	(D)	-
Summit	15,600	15,200	9,000	9,200	800	500
Uintah	39,000	38,000	22,000	23,000	700	600
Wasatch	10,300	10,000	5,700	5,900	500	600
Southern						
Beaver	23,000	22,500	11,400	11,800	(D)	1,300
Garfield	19,200	18,700	10,600	11,000	(D)	(D)
Iron	45,000	43,500	9,600	10,000	8,900	10,000
Kane	8,900	8,700	4,600	4,800	(D)	(D)
Piute	15,500	15,200	(D)	(D)	(D)	(D)
Washington	15,700	15,300	9,000	9,400	100	(D)
Wayne	18,300	17,900	8,600	9,000	700	800
Other Counties	-	-	12,900	13,400	6,000	4,600
State Total	**840,000**	**820,000**	**325,000**	**338,000**	**95,000**	**92,000**

- Represents zero.
(D) Withheld to avoid disclosing data for individual operations.
[1] Counties with missing data are included in "Other Counties".

County Estimates: Sheep – Utah: January 1, 2016 & 2017 [1]

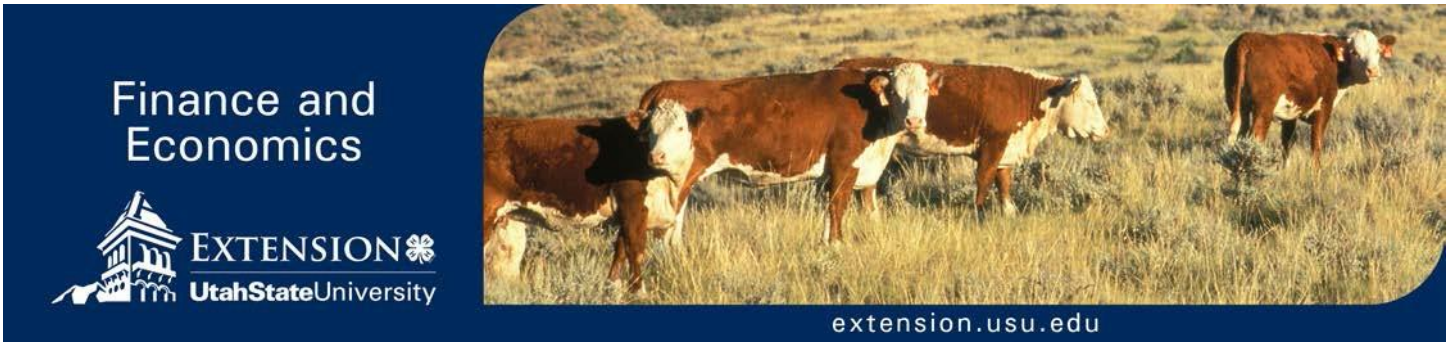
District & County	All Sheep & Lambs 2016	All Sheep & Lambs 2017
	(Head)	(Head)
Northern		
Box Elder	38,000	36,000
Cache	1,400	1,400
Davis	600	600
Morgan	11,000	9,900
Rich	9,100	8,800
Salt Lake	1,100	1,100
Tooele	2,500	2,500
Weber	600	700
Central		
Juab	(D)	(D)
Millard	3,000	2,500
Sanpete	57,000	52,000
Sevier	6,000	6,500
Utah	13,300	11,600
Eastern		
Carbon	14,000	14,600
Daggett	100	100
Duchesne	1,500	1,500
Emery	1,400	1,200
Grand	(D)	(D)
San Juan	5,400	5,300
Summit	27,000	25,000
Uintah	12,600	12,300
Wasatch	19,300	22,000
Southern		
Beaver	(D)	(D)
Garfield	500	500
Iron	35,000	34,500
Kane	1,100	1,100
Piute	8,000	8,100
Washington	700	600
Wayne	6,600	7,100
Other Counties	8,200	7,500
State Total	**285,000**	**275,000**

(D)Withheld to avoid disclosing data for individual operations.
[1] Counties with undisclosed data are included in "Other Counties".

County Estimates: Cash Rent per Acre [1] – Utah: 2014 & 2016

District & County	Rented for Cash [2 3 4]					
	Irrigated Cropland		Non-Irrigated Cropland		Pastureland	
	2014	2016	2014	2016	2014	2016
	(Dollars/Acre)	(Dollars/Acre)	(Dollars/Acre)	(Dollars/Acre)	(Dollars/Acre)	(Dollars/Acre)
Northern						
Box Elder	107.00	115.00	27.00	39.50	4.80	(D)
Cache	104.00	96.50	41.00	40.00	13.00	13.50
Davis	153.00	129.00	26.00	(D)	20.50	(D)
Morgan	76.00	79.50	(D)	21.50	(D)	(D)
Rich	49.00	28.50	16.00	(D)	(D)	6.50
Salt Lake	81.00	97.50	(D)	(D)	(D)	5.80
Tooele	72.50	41.00	(D)	11.00	8.30	4.00
Weber	100.00	93.00	42.50	31.00	23.00	20.00
Other Counties	(D)	(D)	33.50	(D)	7.10	6.60
Total	106.00	96.50	33.00	33.00	7.20	6.90
Central						
Juab	49.50	43.50	15.00	14.50	4.60	3.80
Millard	96.00	101.00	(D)	(D)	3.40	4.80
Sanpete	75.00	87.00	18.50	(D)	4.80	5.00
Sevier	99.50	94.50	(D)	38.50	11.50	6.60
Utah	86.50	98.00	19.50	50.00	4.90	5.70
Other Counties	(D)	(D)	16.50	20.00	(D)	(D)
Total	86.00	92.00	18.00	21.50	4.60	5.10
Eastern						
Carbon	47.00	53.00	(D)	(D)	2.20	(D)
Duchesne	63.50	59.00	(D)	(D)	(D)	(D)
Emery	50.00	47.00	(D)	11.50	1.70	2.90
San Juan	(D)	53.00	(D)	(D)	2.50	2.60
Summit	49.50	46.50	(D)	30.50	3.30	3.00
Uintah	50.00	64.50	(D)	(D)	11.00	11.00
Wasatch	59.00	74.50	(D)	24.00	7.60	8.60
Other Counties	38.00	35.00	(D)	20.50	15.00	5.70
Total	54.50	57.00	(D)	21.00	4.10	4.80
Southern						
Beaver	(D)	45.50	(D)	(D)	30.00	27.50
Garfield	62.00	52.50	(D)	(D)	(D)	8.00
Iron	116.00	99.00	(D)	(D)	2.60	2.40
Kane	(D)	71.50	(D)	(D)	(D)	3.60
Piute	45.00	62.50	(D)	(D)	(D)	8.80
Washington	96.00	96.50	(D)	(D)	(D)	4.70
Wayne	62.00	67.00	(D)	(D)	13.50	11.00
Other Counties	92.00	(D)	(D)	23.00	5.20	(D)
Total	96.50	85.50	(D)	23.00	3.70	3.40
Other Districts	(D)	(D)	19.00	(D)	(D)	(D)
State						
Total	**91.00**	**88.00**	**25.00**	**25.50**	**5.00**	**5.00**

(D) Withheld to avoid disclosing data for individual operations.
[1] Cash Rents estimated every other year
[2] Counties with missing data are included in the appropriate district's "Other Counties".
[3] Districts with missing totals are included in "Other Districts"
[4] Counties not listed may also be included in "Other Counties or "Other Districts".



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Northern Utah Grass-Fed Beef Production Costs and Returns, 2016

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Introduction

Sample costs and returns to raise grass-fed beef cattle for direct-to-consumer sales on small- scale operations in Northern Utah are presented in this publication. This publication is intended to be a guide used to make production decisions, determine potential returns, and prepare business and marketing plans. The practices described are not the recommendations of Utah State University, but rather the production practices and materials considered typical as determined by 2016 producer survey results. Costs, materials, and practices are not applicable to all situations as management and production practices vary among ranchers in the region.

Ranch Description

Ranch

The representative ranch consists of 5 acres of land leased annually at $1,100/acre (Realtor.com, 2016). The ranch leases an additional 10 acres of improved pasture land for weaned calf grazing from April to December at $200/head (Neibergs and Nelson, 2009).

Livestock

The livestock inventory consists of 12 cows and one bull. The weaned calf crop is 10, of which 5 are steers and 5 are heifers (92% calving rate and 9% death loss). Fall calving (mid-October) is practiced on the ranch.
Calves are weaned in the spring and are put on improved pasture in mid-April at approximately 450 pounds.
Calves (8) are slaughtered and prepared for customers in late December at a final live weight of 950 pounds along with two cull breeding cows of 1,200 pounds each. Twoof the heifer calves are retained and placed with breeding stock.

Production Practices

Feed

The forage base for the ranch consists of spring, summer, and fall grazing (April to November) on federal land/leased

pasture for breeding livestock at $150/head annually (Neibergs and Nelson, 2009). Winter feed (December to March) for breeding livestock and calves consists of alfalfa and grass hay at $288/head annually ($120/ton premium alfalfa; USDA-AMS, 2016a), where calves consume on average at a 25% calf to cow ratio. Weaned calves are fed on improved pasture from April to December at a rate of $200/head. Alfalfa pasture provides an ADG of 2 pounds per calf (Ringwall, 2012). Salt and mineral supplements are provided during the year at $250/ton.

Veterinary/Medical

Total annual veterinary costs for breeding and weaned livestock are $35 per head (Neibergs and Nelson, 2009).

Marketing

Calves are marketed through direct market channels such as farmers markets, CSA programs, and individual ranch websites. Cull animals are marketed through wholesale channels. Annual marketing costs including website development, market fees, and transportation costs are calculated at $100 per animal sold.

Labor

Labor includes one owner/manager who is paid out of net returns to the operation.

Livestock Pricing

Livestock pricing for grass-fed beef sold through direct markets averaged $550/cwt for a dressed steer or heifer (USDA-AMS, 2016). As dressed weight is 63% (iGrow, 2013) of live weight at slaughter, a dressed weight of 600 pounds was used to calculate the $3.60/pound live animal price for calves (see Table 1). Grass-fed cull cows were valued at $2,400 each or $2.00/pound wholesale in 2016 (USDA-AMSb, 2016). Registered Angus bulls sold for $3,500 on average in 2016 (RanchWorldAds, 2016). All livestock is sold live and any

processing fees would need to be paid by the buyer or added to the costs provided.

Ranch Investments

Cash Overhead

Cash overhead consists of various cash expenses paid out during the year. These costs include property taxes, interest, office expenses, liability and property insurance, accounting/legal costs, as well as investment/machinery repairs (see Table 2).

Property Taxes. Property taxes in Utah differ across counties. For the purposes of this publication, property taxes on buildings are calculated at 1 percent of the average asset value of the property. Property taxes on land should be taken into consideration, but are not included here.

Insurance. Insurance on ranch investments vary, depending on the assets included and the amount of coverage. Property insurance provides coverage for property loss at .666 percent of the average asset value. Liability and crop insurance covers accidents and crop loss on the 5-acre ranch at an annual cost of $250.

Fuel and Lube. The fuel and lube for machinery and vehicles is estimated at $2,000 annually for the 5- acre ranch.

Maintenance. Annual repairs on all ranch investments or capital recovery items that require maintenance are calculated at 2 percent of the average asset value for buildings, improvements, and equipment and 7 percent of the average asset value for machinery and vehicles.

Office & Travel. Office and travel costs are estimated at $1,000 for an average year for the 5-acre ranch. These expenses include office supplies ($200), telephone/internet service ($600), and educational workshops ($200).

Accounting & Legal. Annual accounting and legal costs are estimated at $450 for an average year for the 5-acre ranch (Cook Martin Poulson, P.C., 2016).

Interest on Retained Livestock. Annual costs of retaining breeding livestock are calculated at 5% of the animal's sales value. Pasture-fed breeding heifers in 2016 were valued at $2,400 each wholesale (USDA-AMS, 2016b). Two of the ten heifers are replaced annually and bulls every 5 years.

Capital Recovery

Capital recovery costs are the annual depreciation (opportunity cost) of all ranch investments. Capital recovery costs are calculated using straight line depreciation. All equipment listed is new unless otherwise noted. For used machinery, the price is calculated as one-half of the new purchase price and useful life is two-thirds that of new machinery (Painter, 2011). The pasture feeding equipment required, as well as costs and useful life, were taken from Neibergs and Nelson (2009).

Salvage Value

Salvage value is 10 percent of the purchase price for equipment and machinery, which is an estimate of the remaining value of an investment at the end of its useful life. The salvage value for bulls is one-half the purchase price.

Average Asset Value Computation

$$\left(\frac{\text{Purchase Price + Salvage Value}}{2}\right)$$

Straight Line Depreciation Computation

$$\left(\frac{\text{Purchase Price - Salvage Value}}{\text{Useful Life}}\right)$$

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Table 1. Northern Utah Grass-Fed Beef Production Costs and Returns, 10 Head

Description	Weight Per Animal	Unit of Measure	Total Units	Price/Cost Per Unit	Total Value	Value/Cost Per Head Sold
GROSS INCOME						
Cull Cows	1200.00	Pounds	2.00	$ 2.00	$ 4,800.00	$ 2,400.00
Cull Bulls	1500.00	Pounds	0.00	$ -	$ -	$ -
Heifer Calves	950.00	Pounds	3.00	$ 3.60	$ 10,260.00	$ 3,420.00
Steer Calves	950.00	Pounds	5.00	$ 3.60	$ 17,100.00	$ 3,420.00
TOTAL INCOME				**$ 32,160.00**	**$ 3,216.00**	
OPERATING COSTS						
Improved Pasture	April to December: Weaned Calves	Head	10.00	$ 200.00	$ 2,000.00	$ 200.00
Summer Pasture/Range	April to November: Breeding Livestock	Head	13.00	$ 150.00	$ 1,950.00	$ 195.00
Winter Feed (Alfalfa)	November to March	Head	15.50	$ 288.00	$ 4,464.00	$ 446.40
Land Lease		Acre	5.00	$ 1,100.00	$ 5,500.00	$ 550.00
Veterinary/Medical		Head	23.00	$ 35.00	$ 805.00	$ 80.50
Marketing		Head	10.00	$ 100.00	$ 1,000.00	$ 100.00
Salt & Minerals		Ton	1.00	$ 250.00	$ 250.00	$ 25.00
Maintenance		Annual	1.00	$ 954.25	$ 954.25	$ 95.43
Fuel & Lube		Annual	1.00	$ 2,000.00	$ 2,000.00	$ 200.00
Utilities		Annual	1.00	$ 500.00	$ 500.00	$ 50.00
Miscellaneous		Head	23.00	$ 5.00	$ 115.00	$ 11.50
TOTAL OPERATING COSTS				**$ 19,538.25**	**$ 1,953.83**	
INCOME ABOVE OPERATING COSTS				**$ 12,621.75**	**$ 1,262.18**	
OWNERSHIP COSTS						
Capital Recovery (Depreciation):						
Buildings, Improvements, & Equipment		Annual	1.00	$ 780.00	$ 780.00	$ 78.00
Machinery & Vehicles		Annual	1.00	$ 2,055.00	$ 2,055.00	$ 205.50
Purchased Livestock (Bulls)		Annual	1.00	$ 350.00	$ 350.00	$ 35.00
Cash Overhead:						
Liability Insurance		Annual	1.00	$ 250.00	$ 250.00	$ 25.00
Office & Travel		Annual	1.00	$ 1,000.00	$ 1,000.00	$ 100.00
Accounting & Legal Fees		Annual	1.00	$ 450.00	$ 450.00	$ 45.00
Interest on Retained Livestock		Annual	1.00	$ 1,200.00	$ 1,200.00	$ 120.00
Annual Investment Insurance		Annual	1.00	$ 120.88	$ 120.88	$ 12.09
Annual Investment Taxes		Annual	1.00	$ -	$ -	$ -
TOTAL OWNERSHIP COSTS				**$ 6,205.88**	**$ 620.59**	
TOTAL COSTS				**$ 25,744.13**	**$ 2,574.41**	
NET PROJECTED RETURNS				**$ 6,415.87**	**$ 641.59**	

Table 2. Ranch Investment Summary

Description	Purchase Price	Livestock Share (%)	Revised Purchase Price	Useful Life (yrs)	Salvage Value	Annual Capital Recovery	Annual Insurance	Annual Taxes	Annual Repairs
Buildings, Improvements, & Equipm									
Portable Fencing	$ 2,500.00	100%	$ 2,500.00	15	$ 250.00	$ 150.00	$ 9.16	$ -	$ 27.50
Portable Corrals/Chutes	$ 6,000.00	100%	$ 6,000.00	15	$ 600.00	$ 360.00	$ 21.98	$ -	$ 66.00
Watering Facilities	$ 2,000.00	100%	$ 2,000.00	10	$ 200.00	$ 180.00	$ 7.33	$ -	$ 22.00
Tools/Equipment	$ 1,000.00	100%	$ 1,000.00	10	$ 100.00	$ 90.00	$ 3.66	$ -	$ 11.00
Sub Total	$ 11,500.00	NA	$ 11,500.00	NA	$ 1,150.00	$ 780.00	$ 42.12	$ -	$ 126.50
Machinery & Vehicles									
Case Skip Loader (used)	$ 20,000.00	10%	$ 2,000.00	10	$ 200.00	$ 180.00	$ 7.33	$ -	$ 77.00
3/4 Ton Pickup	$ 40,000.00	10%	$ 4,000.00	8	$ 400.00	$ 450.00	$ 14.65	$ -	$ 154.00
Livestock Trailer (used)	$ 10,000.00	100%	$ 10,000.00	10	$ 1,000.00	$ 900.00	$ 36.63	$ -	$ 385.00
Flatbed Trailer (used)	$ 5,000.00	100%	$ 5,000.00	10	$ 500.00	$ 450.00	$ 18.32	$ -	$ 192.50
4-Wheeler (used)	$ 5,000.00	10%	$ 500.00	6	$ 50.00	$ 75.00	$ 1.83	$ -	$ 19.25
Sub Total	$ 80,000.00	NA	$ 21,500.00	NA	$ 2,150.00	$2,055.00	$ 78.75	$ -	$ 827.75
Purchased Livestock									
Bulls (1)	$ 3,500.00	100%	$ 3,500.00	5	$ 1,750.00	$ 350.00	$ -	$ -	$ -
Sub Total	$ 3,500.00	NA	$ 3,500.00	NA	$ 1,750.00	$ 350.00	$ -	$ -	$ -
Total	**$ 95,000.00**	**NA**		**NA**	**$ 5,050.00**	**$3,185.00**	**$ 120.88**	**$ -**	**$ 954.25**
Retained Livestock (interest only)									
Heifers (10)	$ 24,000.00	100%	$ 24,000.00	NA	$ 24,000.00	$ 1,200.00	$ -	$ -	$ -
Total	**$ 24,000.00**				**$ -**	**$ 1,200.00**	**$ -**	**$ -**	$ -

Table 3. Total Ranch Income and Net Returns by Sales Price

Price Per Pound (Live Weight)	Total Ranch Income	Income Per Head Sold	Total Ranch Net Returns
$ 2.80	$ 26,080.00	$ 2,608.00	$ 335.87
$ 3.00	$ 27,600.00	$ 2,760.00	$ 1,855.87
$ 3.20	$ 29,120.00	$ 2,912.00	$ 3,375.87
$ 3.40	$ 30,640.00	$ 3,064.00	$ 4,895.87
$ 3.60	$ 32,160.00	$ 3,216.00	$ 6,415.87
$ 3.80	$ 33,680.00	$ 3,368.00	$ 7,935.87
$ 4.00	$ 35,200.00	$ 3,520.00	$ 9,455.87
$ 4.20	$ 36,720.00	$ 3,672.00	$ 10,975.87
$ 4.40	$ 38,240.00	$ 3,824.00	$ 12,495.87
$ 4.60	$ 39,760.00	$ 3,976.00	$ 14,015.87
$ 4.80	$ 41,280.00	$ 4,128.00	$ 15,535.87

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Southeastern Utah Small-Scale Mixed Vegetable Production Costs and Returns – 2 Acres, 2016

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Sample costs and returns to produce mixed vegetables under drip irrigation and sold through direct markets in Southeastern Utah (San Juan, Garfield, Wayne, and Grand counties) are presented in this publication. This publication is intended to be a guide used to make production decisions, determine potential returns and prepare business and marketing plans. The practices described are not the recommendations of Utah State University, but rather the production practices considered typical of a well-managed farm in the region. All practices, yields, and cost data were collected from regional markets and producers unless otherwise noted. Pricing was based upon an average of farmers' market prices across the 2015-2016 seasons. Practices, yields, costs, and pricing are not applicable to all situations as management, cultural practices, markets, and growing conditions vary across the region.

Farm. The representative farm consists of two acres of land planted in a variety of high value vegetable crops. Table 1 shows the acreage, yield, and pricing for each product. Agricultural land lease costs range from $300 to $1,000 annually. A lease rate of $500 per acre is used here.

Crop Pricing & Yields. Vegetable pricing was calculated by taking the average of farmers' market prices collected at four farmers' markets in Western Colorado and Eastern Utah in 2015-2016 (See Table 1). Average prices and yields are used to calculate returns given in Table 2. A 5% loss rate is applied to all yields to account for spoilage, damage, and unsold product.

Labor. As mixed vegetable production on small acreage is labor intensive, the total farm labor (including owner labor) is 1800 hours across the season at a cost of $10/hr. The annual cost is $18,000 for the 2 acre farm, or $9,000/acre (See Table 2).

Irrigation System. A drip irrigation system is used to irrigate both acres. The cost to install the system is $1,000 per acre, or $2,000 across all acres for the pump, filter, mainline, and setup. The annual fee for drip tape is $1,000/acre. The system life averages 7 years (Harward Irrigation, 2016).

Irrigation. The irrigation water costs for agricultural water use are $500/acre annually assuming a delivery system is in place.

Marketing. Marketing fees include market stand costs ($800) and transportation to two markets weekly ($1,000). Labor costs involved in marketing are included in the labor costs described above.

Packaging. Packaging required to bring products to market average $400 annually across all items (Hubert.com, 2016; USU Extension, 2016a).

Food Safety/Testing. These annual costs include a $500 water test, a $30 scale calibration fee, a $300 one-time workshop fee, and a $1,000 Global GAP inspection fee (USU Extension, 2016b).

Production Inputs. All input pricing for seed, plants, fertilizer, herbicide, etc. is provided by item in Table 2 (Intermountain Farmers Association (IFA), 2016).

Fuel and Lube. The fuel and lube for machinery and vehicles is calculated at 8 percent of the average asset value (See Table 3).

Investment Repairs. Annual repairs on all farm investments or capital recovery items that require maintenance are calculated at 2 percent of the average asset value for buildings, improvements, and equipment and 7 percent of the average asset value for machinery and vehicles.

Cash Overhead. Cash overhead consists of various cash expenses paid out during the year. These costs include property taxes, interest, office expenses, liability, property insurance, and accounting/legal costs (See Table 3).

Insurance. Insurance on farm investments vary, depending on the assets included and the amount of coverage. Property insurance provides coverage for property loss at .666 percent of the average asset value. Liability and crop insurance covers accidents and crop loss on the 2 acre farm at an annual cost of $400.

Office & Travel. Office and travel costs are estimated at $1,000 for an average year for the 2 acre farm. These expenses include office supplies ($200), telephone/internet service ($600), and educational workshops ($200).

Accounting & Legal. Annual accounting and legal costs are estimated at $450 for an average year for the 2 acre farm (Cook Martin Poulson, P.C., 2016).

Capital Recovery. Capital recovery costs are the annual depreciation (opportunity cost) of all farm investments. Capital recovery costs are calculated using straight line depreciation. All equipment listed is new unless otherwise noted. For used machinery the price is calculated as one-half of the new purchase price and useful life is two-thirds that of new machinery (Painter, 2011).

Salvage Value. Salvage value is 10 percent of the purchase price, which is an estimate of the remaining value of an investment at the end of its useful life. The salvage value for land is the purchase price, as land does not normally depreciate.

Average Asset Value Computation

$$\left(\frac{\text{Purchase Price + Salvage Value}}{2}\right)$$

Straight Line Depreciation Computation

$$\left(\frac{\text{Purchase Price - Salvage Value}}{\text{Life}}\right) \text{Useful}$$

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Table 1: Southeastern Utah Mixed Vegetable Acreage, Yields, & Pricing, 2 acres

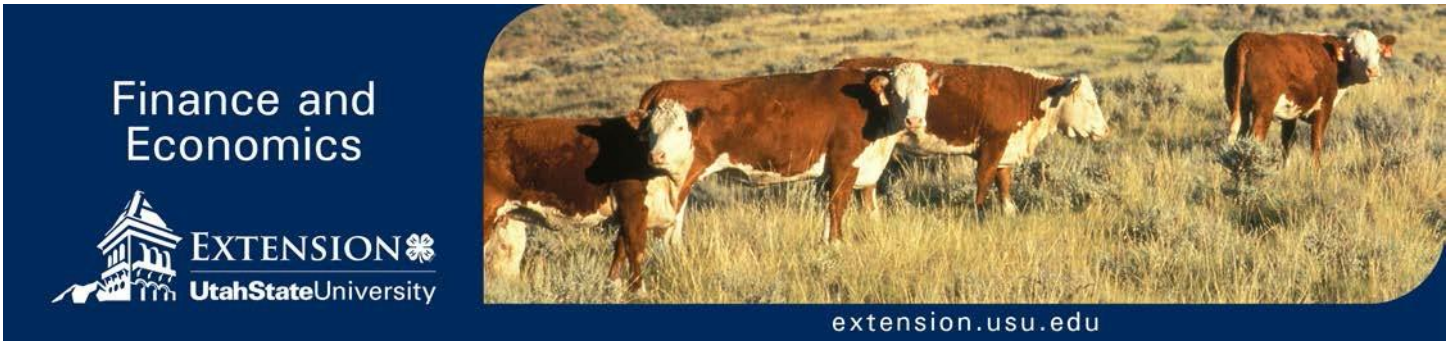
Product	Acres	Yield	Unit	Farmers' Market Price
Tomatoes	0.25	3,500	Lbs	$2.72
Peas	0.1	700	Lbs	$3.50
Winter Squash	0.1	500	Lbs	$0.75
Summer Squash	0.1	550	Each	$1.11
Beans	0.1	850	Lbs	$3.08
Okra	0.25	5,400	Lbs	$1.75
Beets	0.25	3,700	Lbs	$1.23
Potatoes	0.25	1,200	Lbs	$1.64
Leeks	0.25	2,300	Lbs	$1.88
Carrots	0.1	500	Lbs	$1.86
Leafy Greens	0.25	750	Lbs	$7.00

Table 2: Southeastern Utah Small-Scale Mixed Vegetable Production Costs & Returns, 2 acres

	Total Units	Unit	Price/Cost Per Unit	Total Cost/Value	Total Cost/Value Per Acre
GROSS INCOME					
Tomatoes	3,500	Lbs	$2.72	$ 9,044.00	$ 4,522.00
Peas	700	Lbs	$3.50	$ 2,327.50	$ 1,163.75
Winter Squash	500	Lbs	$0.75	$ 356.25	$ 178.13
Summer Squash	550	Each	$1.11	$ 579.98	$ 289.99
Beans	850	Lbs	$3.08	$ 2,487.10	$ 1,243.55
Okra	5,400	Lbs	$1.75	$ 8,977.50	$ 4,488.75
Beets	3,700	Lbs	$1.23	$ 4,323.45	$ 2,161.73
Potatoes	1,200	Lbs	$1.64	$ 1,869.60	$ 934.80
Leeks	2,300	Lbs	$1.88	$ 4,107.80	$ 2,053.90
Carrots	500	Lbs	$1.86	$ 883.50	$ 441.75
Leafy Greens	750	Lbs	$7.00	$ 4,987.50	$ 2,493.75
TOTAL GROSS INCOME				$ 39,944.18	$ 19,972.09
OPERATING COSTS					
Land Rental	2	Acres	$ 500.00	$ 1,000.00	$ 500.00
Irrigation Water	2	Acres	$ 500.00	$ 1,000.00	$ 500.00
Utilities	1	Annual	$ 1,500.00	$ 1,500.00	$ 750.00
Farm Labor	1800	Hours	$ 10.00	$ 18,000.00	$ 9,000.00
Packaging	1	Annual	$ 400.00	$ 400.00	$ 200.00
Food Safety/Testing	1	Annual	$ 1,830.00	$ 1,830.00	$ 915.00
Marketing	1	Annual	$ 1,800.00	$ 1,800.00	$ 900.00
Herbicide/Insecticide	2	Acres	$ 45.00	$ 90.00	$ 45.00
Fertilizer	2	Acres	$ 60.00	$ 120.00	$ 60.00
Seeds	1	Annual	$ 700.00	$ 700.00	$ 350.00
Plants	1	Annual	$ 200.00	$ 200.00	$ 100.00
Drip Tape	2	Acres	$ 1,000.00	$ 2,000.00	$ 1,000.00
Fuel & Lube	1	Annual	$ 660.00	$ 660.00	$ 330.00
Maintenance	1	Annual	$ 693.00	$ 693.00	$ 346.50
Miscellaneous	2	Acres	$ 100.00	$ 200.00	$ 100.00
TOTAL OPERATING COSTS				$ 30,193.00	$ 15,096.50
INCOME ABOVE OPERATING COSTS				$ 9,751.18	$ 4,875.59
OWNERSHIP COSTS					
CASH OVERHEAD COSTS					
Liability/Crop Insurance				$ 400.00	$ 200.00
Accounting & Legal				$ 450.00	$ 225.00
Office & Travel				$ 1,000.00	$ 500.00
Annual Investment Insurance				$ 93.41	$ 46.70
NONCASH OVERHEAD COSTS (Capital Recovery)					
Buildings, Improvements, & Equipment				$ 1,430.71	$ 715.36
Machinery & Vehicles				$ 1,928.57	$ 964.29
TOTAL OWNERSHIP COSTS				$ 5,302.69	$ 2,651.35
TOTAL COSTS				$ 35,495.69	$ 17,747.85
NET PROJECTED RETURNS				**$ 4,448.48**	**$ 2,224.24**

Table 3: Southeastern Utah Small-Scale Mixed Vegetable Investment Summary, 2 acres

Description	Purchase Price	% of Use	Purchase Price	Useful Life (Yrs)	Salvage Value	Annual Capital Recovery	Annual Insurance	Annual Repairs	Annual Fuel & Lube
Buildings, Improvements, and Equipment									
Hand Tools	$1,000.00	100%	$1,000.00	5.00	$100.00	$180.00	$3.66	$11.00	$ -
Implements	$2,500.00	100%	$2,500.00	10.00	$250.00	$225.00	$9.16	$27.50	$ -
Packing Shed (8X10)	$3,000.00	100%	$3,000.00	15.00	$300.00	$180.00	$10.99	$33.00	$ -
Coolers (6)	$600.00	100%	$600.00	3.00	$ -	$200.00	$2.00	$6.00	$ -
Carts (6)	$1,800.00	100%	$1,800.00	5.00	$ -	$360.00	$5.99	$18.00	$ -
Drip Irrigation System	$2,000.00	100%	$2,000.00	7.00	$ -	$285.71	$6.66	$20.00	$ -
Sub Total	$10,900.00		$10,900.00	NA	$650.00	$ 1,430.71	$38.46	$115.50	$ -
Machinery and Vehicles									
1-1/2 Ton Truck	$30,000.00	50%	$15,000.00	7.00	$1,500.00	$ 1,928.57	$54.95	$577.50	$660.00
Sub Total	$30,000.00		$15,000.00	NA	$1,500.00	$ 1,928.57	$54.95	$577.50	$660.00
Total	**$40,900.00**		**$25,900.00**	**NA**	**$2,150.00**	**$ 3,359.29**	**$93.41**	**$693.00**	**$660.00**



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Southern Utah Grass-Fed Beef Production Costs and Returns, 2016

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Introduction

Sample costs and returns to raise grass-fed beef cattle for direct-to-consumer sales on small- scale operations in Southern Utah are presented in this publication. This publication is intended to be a guide used to make production decisions, determine potential returns, and prepare business and marketing plans. The practices described are not the recommendations of Utah State University, but rather the production practices and materials considered typical as determined by 2016 producer survey results. Costs, materials, and practices are not applicable to all situations as management and production practices vary among ranchers in the region.

Ranch Description

Ranch

The representative ranch consists of 5 acres of land leased annually at $500/acre (Realtor.com, 2016). The ranch leases an additional 10 acres of improved pasture land for weaned calf grazing from April to December at $200/head (Neibergs and Nelson, 2009).

Livestock

livestock inventory consists of 12 cows and one bull. The weaned calf crop is 10, of which 5 are steers and 5 are heifers (92% calving rate and 9% death loss). Fall calving (mid-October) is practiced on the ranch. Calves are weaned in the spring and are put on improved pasture in mid-April at approximately 450 pounds.

Calves (8) are slaughtered and prepared for customers in late December at a final live weight of 950 pounds along with two cull breeding cows of 1,200 pounds each. Twoof the heifer calves are retained and placed with breeding stock.

Production Practices

Feed

The forage base for the ranch consists of grazing on federal land/leased pasture for breeding livestock at $25/month per animal or $300/head annually (Neibergs and Nelson, 2009). Calves also graze on federal

land/leased pasture in the winter months at a 25% calf to cow ratio. Weaned calves are fed on improved pasture from April to December at a rate of $200/head. Alfalfa pasture provides an ADG of 2 pounds per calf (Ringwall, 2012). Salt and mineral supplements are provided during the year at $250/ton.

Veterinary/Medical

Total annual veterinary costs for breeding and weaned livestock are $35 per head (Neibergs and Nelson, 2009).

Marketing

Calves are marketed through direct market channels such as farmers' markets, CSA programs, and individual ranch websites. Cull animals are marketed through wholesale channels. Annual marketing costs including website development, market fees, and transportation costs are calculated at $100 per animal sold.

Labor

Labor includes one owner/manager who is paid out of net returns to the operation.

Livestock Pricing

Livestock pricing for grass-fed beef sold through direct markets averaged $550/cwt for a dressed steer or heifer (USDA-AMS, 2016). As dressed weight is 63% (iGrow, 2013) of live weight at slaughter, a dressed weight of 600 pounds was used to calculate the $3.60/pound live animal price for calves (see Table 1). Grass-fed cull cows were valued at $2,400 each or $2.00/pound wholesale in 2016 (USDA-AMSb, 2016). Registered Angus bulls sold for $3,500 on average in 2016 (RanchWorldAds, 2016). All livestock is sold live and any processing fees would need to be paid by the buyer or added to the costs provided.

Ranch Investments

Cash Overhead

Cash overhead consists of various cash expenses paid out during the year. These costs include property taxes, interest, office expenses, liability and property insurance, accounting/legal costs, as well as investment/machinery repairs (see Table 2).

Property Taxes. Property taxes in Utah differ across counties. For the purposes of this publication, property taxes on buildings are calculated at 1 percent of the average asset value of the property.
Property taxes on land should be taken into consideration, but are not included here.

Insurance. Insurance on ranch investments vary, depending on the assets included and the amount of coverage. Property insurance provides coverage for property loss at .666 percent of the average asset value. Liability and crop insurance covers accidents and crop loss on the 5-acre ranch at an annual cost of $250.

Fuel and Lube. The fuel and lube for machinery and vehicles is estimated at $2,000 annually for the 5- acre ranch.

Maintenance. Annual repairs on all ranch investments or capital recovery items that require maintenance are calculated at 2 percent of the average asset value for buildings, improvements, and equipment and 7 percent of the average asset value for machinery and vehicles.

Office & Travel. Office and travel costs are estimated at $1,000 for an average year for the 5- acre ranch. These expenses include office supplies ($200), telephone/internet service ($600), and educational workshops ($200).

Accounting & Legal. Annual accounting and legal costs are estimated at $450 for an average year for the 5-acre ranch (Cook Martin Poulson, P.C., 2016).

Interest on Retained Livestock. Annual costs of retaining breeding livestock are calculated at 5% of the animal's sales value. Pasture-fed breeding heifers in 2016 were valued at $2,400 each wholesale (USDA-AMS, 2016b). Two of the ten heifers are replaced annually and bulls every 5 years.

Capital Recovery

Capital recovery costs are the annual depreciation (opportunity cost) of all ranch investments. Capital recovery costs are calculated using straight line depreciation. All equipment listed is new unless otherwise noted. For used machinery, the price is calculated as one-half of the new purchase price and useful life is two-thirds that of new machinery (Painter, 2011). The pasture feeding equipment required, as well as costs and useful life, were taken from Neibergs and Nelson (2009).

Salvage Value

Salvage value is 10 percent of the purchase price for equipment and machinery, which is an estimate of the remaining value of an investment at the end of its useful life. The salvage value for bulls is one-half the purchase price.

Average Asset Value Computation

$$\left(\frac{\text{Purchase Price + Salvage Value}}{2}\right)$$

Straight Line Depreciation Computation

$$\frac{\left(\text{Purchase Price - Salvage Value}\right)}{\text{Useful Life}}$$

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Table 1. Southern Utah Grass-Fed Beef Production Costs and Returns, 10 Head

Description	Weight Per Animal	Unit of Measure	Total Units	Price/Cost Per Unit	Total Value	Value/Cost Per Head Sold
GROSS INCOME						
Cull Cows	1200.00	Pounds	2.00	$ 2.00	$ 4,800.00	$ 2,400.00
Cull Bulls	1500.00	Pounds	0.00	$ -	$ -	$ -
Heifer Calves	950.00	Pounds	3.00	$ 2.90	$ 8,265.00	$ 2,755.00
Steer Calves	950.00	Pounds	5.00	$ 2.90	$ 13,775.00	$ 2,755.00
TOTAL INCOME					**$ 26,840.00**	**$ 2,684.00**
OPERATING COSTS						
Improved Pasture	April to December: Weaned Calves	Head	10.00	$ 200.00	$ 2,000.00	$ 200.00
Pasture/Range	Breeding Livestock	Head	13.00	$ 300.00	$ 3,900.00	$ 390.00
Pasture/Range	November to March: Calves	Head	10.00	$ 125.00	$ 1,250.00	$ 125.00
Land Lease		Acre	5.00	$ 500.00	$ 2,500.00	$ 250.00
Veterinary/Medical		Head	23.00	$ 35.00	$ 805.00	$ 80.50
Marketing		Head	10.00	$ 100.00	$ 1,000.00	$ 100.00
Salt & Minerals		Ton	1.00	$ 250.00	$ 250.00	$ 25.00
Maintenance		Annual	1.00	$ 954.25	$ 954.25	$ 95.43
Fuel & Lube		Annual	1.00	$ 2,000.00	$ 2,000.00	$ 200.00
Utilities		Annual	1.00	$ 500.00	$ 500.00	$ 50.00
Miscellaneous		Head	23.00	$ 5.00	$ 115.00	$ 11.50
TOTAL OPERATING COSTS					**$ 15,274.25**	**$ 1,527.43**
INCOME ABOVE OPERATING COSTS					**$ 11,565.75**	**$ 1,156.58**
OWNERSHIP COSTS						
Capital Recovery (Depreciation):						
Buildings, Improvements, & Equipment		Annual	1.00	$ 780.00	$ 780.00	$ 78.00
Machinery & Vehicles		Annual	1.00	$ 2,055.00	$ 2,055.00	$ 205.50
Purchased Livestock (Bulls)		Annual	1.00	$ 350.00	$ 350.00	$ 35.00
Cash Overhead:						
Liability Insurance		Annual	1.00	$ 250.00	$ 250.00	$ 25.00
Office & Travel		Annual	1.00	$ 1,000.00	$ 1,000.00	$ 100.00
Accounting & Legal Fees		Annual	1.00	$ 450.00	$ 450.00	$ 45.00
Interest on Retained Livestock		Annual	1.00	$ 1,200.00	$ 1,200.00	$ 120.00
Annual Investment Insurance		Annual	1.00	$ 120.88	$ 120.88	$ 12.09
Annual Investment Taxes		Annual	1.00	$ -	$ -	$ -
TOTAL OWNERSHIP COSTS					**$ 6,205.88**	**$ 620.59**
TOTAL COSTS					**$ 21,480.13**	**$ 2,148.01**
NET PROJECTED RETURNS					**$ 5,359.87**	**$ 535.99**

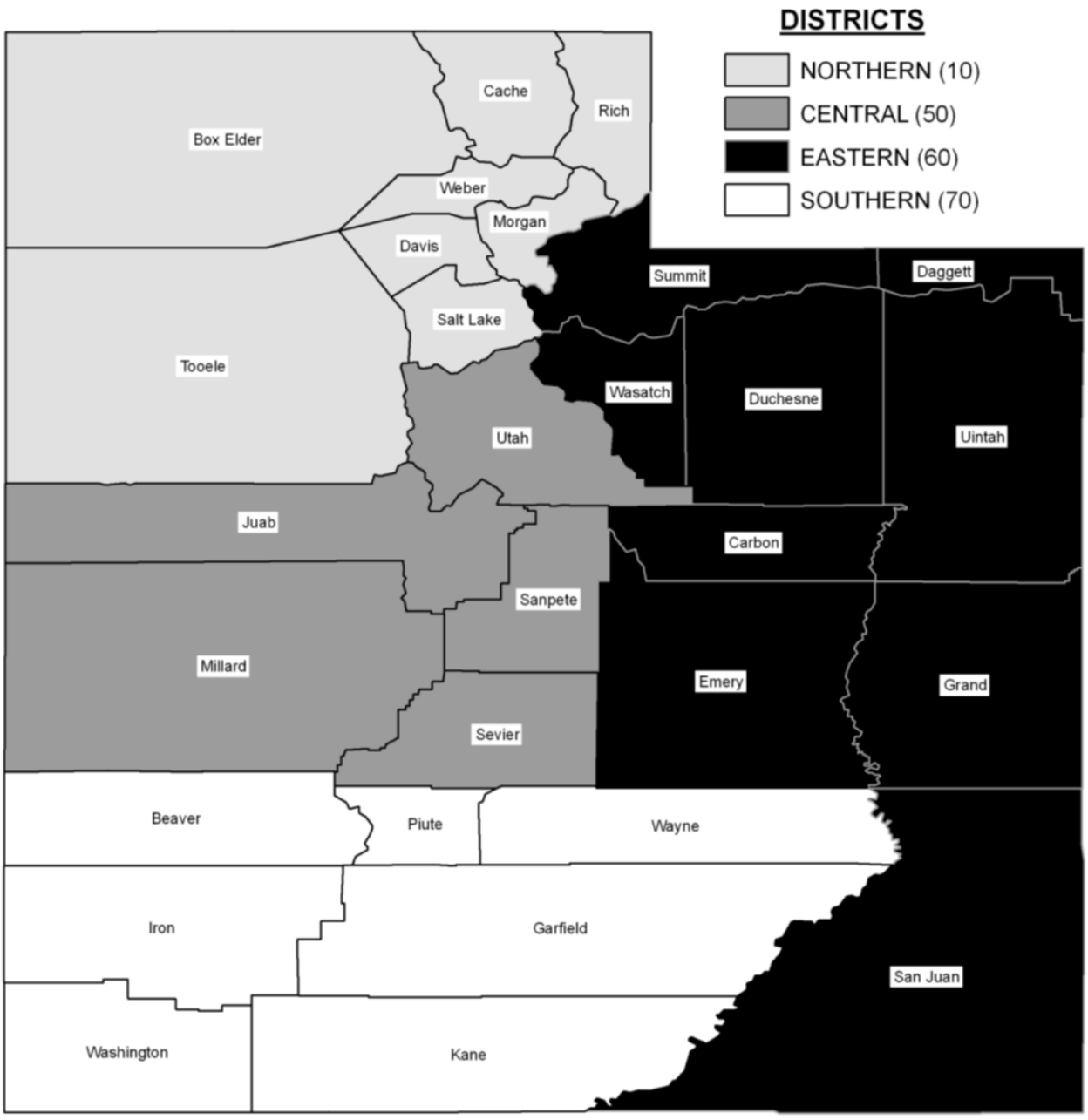
Table 2. Ranch Investment Summary

Description	Purchase Price	Livestock Share (%)	Revised Purchase Price	Useful Life (yrs)	Salvage Value	Annual Capital Recovery	Annual Insurance	Annual Taxes	Annual Repairs
Buildings, Improvements, & Equipment									
Portable Fencing	$2,500.00	100%	$2,500.00	15	$250.00	$150.00	$9.16	$ -	$27.50
Portable Corrals/Chutes	$6,000.00	100%	$6,000.00	15	$600.00	$360.00	$21.98	$ -	$66.00
Watering Facilities	$2,000.00	100%	$2,000.00	10	$200.00	$180.00	$7.33	$ -	$22.00
Tools/Equipment	$1,000.00	100%	$1,000.00	10	$100.00	$90.00	$3.66	$ -	$11.00
Sub Total	$11,500.00	NA	$11,500.00	NA	$1,150.00	$780.00	$42.12	$ -	$126.50
Machinery & Vehicles									
Case Skip Loader (used)	$20,000.00	10%	$2,000.00	10	$200.00	$180.00	$7.33	$ -	$77.00
3/4 Ton Pickup	$40,000.00	10%	$4,000.00	8	$400.00	$450.00	$14.65	$ -	$154.00
Livestock Trailer (used)	$10,000.00	100%	$10,000.00	10	$1,000.00	$900.00	$36.63	$ -	$385.00
Flatbed Trailer (used)	$5,000.00	100%	$5,000.00	10	$500.00	$450.00	$18.32	$ -	$192.50
4-Wheeler (used)	$5,000.00	10%	$500.00	6	$50.00	$75.00	$1.83	$ -	$19.25
Sub Total	$80,000.00	NA	$21,500.00	NA	$2,150.00	$2,055.00	$78.75	$ -	$827.75
Purchased Livestock									
Bulls (1)	$3,500.00	100%	$3,500.00	5	$1,750.00	$350.00	$ -	$ -	$ -
Sub Total	$3,500.00	NA	$3,500.00	NA	$1,750.00	$350.00	$ -	$ -	$ -
Total	**$95,000.0**	**NA**		**NA**	**$5,050.00**	**$3,185.00**	**$120.88**	**$ -**	**$954.25**
Retained Livestock (interest only)									
Heifers (10)	$24,000.00	100%	$24,000.00	NA	$ 24,000.00	$1,200.00	$ -	$ -	$ -
Total	**$24,000.00**				**$ -**	**$1,200.00**	**$ -**	**$ -**	$ -

Table 3. Total Ranch Income and Net Returns by Sales Price

Price Per Pound (Live Weight)	Total Ranch Income	Income Per Head Sold	Total Ranch Net Returns
$2.00	$20,000.00	$2,000.00	$(1,480.13)
$2.20	$21,520.00	$2,152.00	$39.87
$2.40	$23,040.00	$2,304.00	$1,559.87
$2.60	$24,560.00	$2,456.00	$3,079.87
$2.80	$26,080.00	$2,608.00	$4,599.87
$3.00	$27,600.00	$2,760.00	$6,119.87
$3.20	$29,120.00	$2,912.00	$7,639.87
$3.40	$30,640.00	$3,064.00	$9,159.87
$3.60	$32,160.00	$3,216.00	$10,679.87
$3.80	$33,680.00	$3,368.00	$12,199.87
$4.00	$35,200.00	$3,520.00	$13,719.87

UTAH COUNTIES AND DISTRICTS



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