

Mission :

To support and promote Arizona agriculture in a way that encourages farming, ranching and agribusiness, protects the well-being of people, plants, animals and the environment while safeguarding commerce, consumers and natural resources.



**ARIZONA
DEPARTMENT OF AGRICULTURE
ANNUAL REPORT**

FY2018

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Arizona Department of Agriculture

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September 30, 2018

Honorable Douglas A. Ducey
Governor, State of Arizona
1700 W. Washington Street
Phoenix, AZ 85007

Dear Governor Ducey:

We are pleased to present to you the Arizona Department of Agriculture's Annual Report for Fiscal Year 2018. We continue to strive for excellence and we are working diligently to enhance our customer service initiatives with a goal to be recognized as a world class organization and the best Agriculture Department in the country.

The Department has a tradition of excellence in working with the public and industry to ensure the quality and safety of the food supply for Arizona, the United States and the world. These important efforts are reflected in our Strategic Plan, our mission and our vision.

Moving into FY 2019, we will continue to work with our customers and stakeholders to ensure that we are responsive to their needs. This December we are co-hosting the 4th Annual Agribusiness Roundtable. The importance of agriculture and its contributions to the citizens and to this state is apparent. Agriculture has been estimated at being a \$23.3B industry resulting in the creation of 138,000 jobs in our great state.

In addition, we always strive to become more effective and revise our Agency Scorecard to more accurately reflect our core business processes and goals and these metrics will continue to assist us in making key decisions and in staying laser-focused on these vital processes and goals. On a daily basis, we challenge ourselves to improve our efficiency and our processes so we can provide government at the speed of business.

Furthermore, we will remain steadfast and diligent in working with all of our industry sectors to help us in implementing our long-range five year plan for the Department. Not only are we providing industry with efficient service, but it is important we continue a path of excellence through long-range planning.

Governor, we look forward to continue working with you on issues important to Arizona's agriculture community as we continue to strive for quality in all that we do.

Sincerely,

A handwritten signature in blue ink, appearing to be "M. Killian", written over a horizontal line.

Mark W. Killian Director

MK:st



As the Arizona Department of Agriculture (AZDA) completes its 27th year as an agency, the AZDA has a mission, "to support and promote Arizona agriculture in a way that encourages farming, ranching and agribusiness, protects the well-being of people, plants, animals and the environment while safeguarding commerce, consumers and natural resources."

The AZDA was created in 1991 and sought to bring together various boards and commissions and all aspects of agriculture under one roof, using the fewest regulations possible while improving customer service, enhancing protection of the public, consumers and natural resources. Additionally, the AZDA was tasked with assisting producers in raising the best crops and herds, educating the public about Arizona agriculture and increasing the demand for our commodities.



Throughout FY 2018, Director Killian has attended numerous industry and representative meetings to talk about the AZDA and its eight main divisions/programs and to solicit feedback from its customers and the public. Top priorities that many partners cited were the need to advocate for agriculture, encourage continuous improvements, challenge the status quo, commit to excellent customer service and employ professional employees. People should understand and recognize the magnitude of Agriculture's impact on

the Arizona economy - \$23.3 and more than 138000 jobs.

The AZDA is still focusing on enhancing our customer service and helping clients understand the need for certain regulations and how to comply with such regulations. The AZDA continues to review all regulations to make sure they are still necessary. This past year, this ongoing process has already eliminated 117 rules. The agribusiness community encompasses more than farms and ranches; it includes packers, processors, shippers, equipment, water delivery systems, finance and other support industries. To further highlight the economic impact of agriculture in the state, the AZDA has joined with the Arizona Agribusiness & Water Council to host its Fourth Annual Arizona Agribusiness Roundtable. At the inaugural event Governor Doug Ducey spoke to more than 200 people, representing a broad spectrum of businesses involved in agriculture.



2018's theme is *What is the Future of Arizona Agriculture? The Good, the Bad & the Unknown*, and we anticipate approximately 300 attendees at this December 10th conference.



Diversity is key to Arizona's agriculture stability from year to year. However industry always faces challenges. The AZDA continually assists industry in addressing these challenges.

Education is also an important task of the AZDA. Although agriculture is vital in that it provides our food supply and is a large contributor to the economy, it also provides open space, wildlife habitat and efforts to protect and conserve our natural resources.

Several divisions/programs of the AZDA work together to ensure Arizona's food supply is safe, commodities are pest-free and workers are protected, in addition to checking that pesticides are applied correctly and according to federal safety regulations.

Arizona is the 3rd largest producing state for fresh market vegetables, and it is 4th in the country in acres of organic vegetables. Arizona agriculture produces more than 112 million cartons of fresh produce. Arizona growers export tons of plants, seeds, nuts, vegetables and livestock feed to over 70 countries around the world. The agriculture industry is growing in Arizona as more producers see the benefits of the weather and the business climate.



Arizona's livestock industry covers beef, lamb, mutton, egg and dairy production. In 2018, Arizona producers created 455.7M pounds of red meat. Dairies and dairy farmers produce one of the state's top commodities--with 205,000 cows producing more than 4.2B pounds of milk.

AZDA staff works with industry to make sure food-borne bacteria and viruses are not present from the beginning of the inspection process until it reaches a grocery store or restaurant. Staff also checks for and protects against animal diseases that could threaten people or the Industry.

Protecting the food supply and ensuring every Arizonan is eating disease-free commodities is just part of the AZDA's duties. Additionally, staff check the quality and quantity of fuel, check various scales, prices at retail and check for credit card skimmers at gas pumps.

AZDA employees also ensure that those people spraying homes and fields to prevent pests are educated and licensed, and that pesticide products sold in stores match the labels. Investigators follow up on calls from the public about animal welfare and native plant act violations.

It is essential that the AZDA is as efficient as possible. In this last year, the AZDA oversaw approximately 148,000 licenses, including over 10,000 livestock brands and over 123,000 devices. In the last year, AZDA employees conducted approximately 17,000 inspections and tested 10,570 samples from dairies, meat, seed, fertilizer and feed, including pet food. The AZDA's general fund budget of more than \$9 million provides some of the funds needed to conduct all of the AZDA's tasks. Federal grant dollars and industry fees fulfill the rest of the budget.



Each Division of the AZDA provides support to Arizona Agriculture. The following sections highlight accomplishments and tasks of each.

Agricultural Consultation & Training (ACT)

The Agricultural Consultation and Training Program is an innovative compliance assistance program unique to an agricultural regulatory agency. This program embraces the Arizona Department of Agriculture's (AZDA) goal of encouraging farming, ranching and agribusiness, while protecting consumers and natural resources by utilizing a non-enforcement approach. ACT is not affiliated with any of AZDA's enforcement programs, allowing staff members to provide a formal means by which the regulated agricultural community may request compliance assistance without regulatory intervention. Agricultural Consultation and Training serves Arizona's diverse agricultural community by promoting agriculture, conducting training and increasing awareness of, and voluntary compliance with, regulatory requirements. ACT provides agricultural conservation education through the following compliance assistance and education programs:

- Pesticide Safety
- Air Quality

The Agricultural Consultation & Training Program also houses the following programs:

- Good Agricultural Practices/Good Handling Practices Food Safety Program
- Livestock & Crop Conservation Grant Program
- Specialty Crop Block Grant Program
- Arizona Citrus Research Council
- Arizona Iceberg Lettuce Research Council
- Arizona Grain Research and Promotion Council
- Agricultural Employment Relations Board

Pesticide Safety Compliance Assistance

The Environmental Protection Agency's (EPA) Worker Protection Standard (WPS) is designed to reduce the risk of pesticide exposure to pesticide handlers and agricultural workers. The WPS includes requirements for pesticide safety training, notification of pesticide applications, use of personal protective equipment, restricted entry intervals following pesticide application, decontamination supplies and emergency medical assistance. The Agricultural Consultation and Training (ACT) Pesticide Safety staff assists agricultural employers in complying with federal and state Worker Protection Standards by providing pesticide safety training for pesticide handlers and agricultural workers, developing pesticide information resources in English and Spanish, and performing mock inspections to assist farm and nursery owners in complying with pesticide regulations.

Pesticide Safety Training

Among the more popular services provided by ACT staff are free pesticide safety training courses. Course attendees learn how to work safely around pesticides or in areas where pesticides have been applied and the steps to recognize, respond to, and prevent pesticide exposure.

The training courses are provided in English and Spanish and are open to anyone who would like to attend. Licensed and certified pesticide applicators may also attend to learn about the WPS and to receive two hours of continuing education toward the renewal of their licenses.

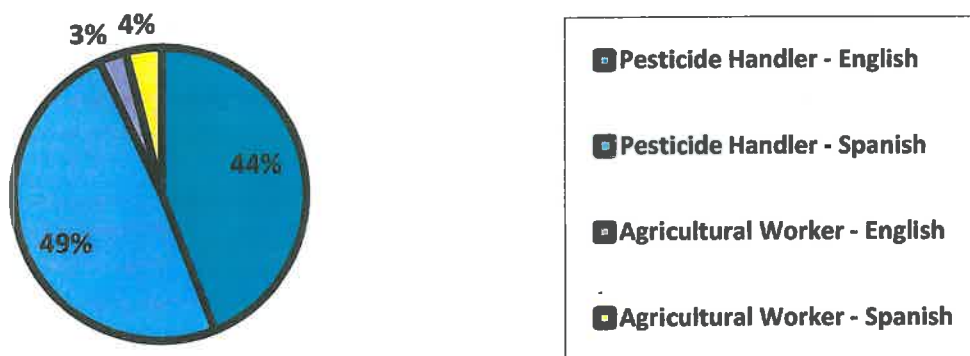
During FY 2018, ACT staff presented WPS pesticide safety training to 593 people who were employed by 61 agricultural operations, landscaping companies, tribal communities, golf courses and governmental agencies.

Two-hour pesticide handler courses were provided to 549 people who worked directly with pesticides. Of the handlers, 20 certified applicators participated to receive updated information and Continuing Education hours toward the renewal of their private or commercial certifications.



In addition to the pesticide handlers, 44 agricultural workers attended a one-hour pesticide safety course. Agricultural workers perform tasks such as weeding, irrigating, and harvesting crops in areas where pesticides had been applied in the previous 30 days.

The following chart shows the percentage of attendance in each type of training and language in which the information was provided:



Arizona Pesticide Safety Train-the-Trainer Workshops

Each year, staff in the Arizona Department of Agriculture’s (AZDA) Agricultural Consultation and Training Program works with industrial hygienists from AZDA’s Environmental Services Division to present pesticide safety train-the-trainer workshops for trainers of agricultural workers and pesticide handlers.

The workshops, presented in English and Spanish, are designed to increase knowledge on human health and environmental concerns when working with pesticides and learning the steps to reduce exposure.

Hands-on training techniques and group activities are used to demonstrate how to extend pesticide information to pesticide handlers and agricultural workers. In addition to attending the workshop, participants must pass a 50-question trainer exam before becoming qualified to provide WPS training in Arizona.

In fiscal year 2018, the team of instructors presented 11 workshops to 194 people. The workshops were held in Tucson, Marana, Phoenix, Yuma, and Mohave Valley, Arizona. By the end of FY18, 185 people completed the trainer requirements and earned a 3-year certification to train workers and handlers in Arizona.

Pesticide Applicator Pre-Certification Courses and Exam Events

ACT staff administers private and commercial applicator licensing exams during trade shows, conferences, and to large groups working in remote areas.

During FY18, ACT staff was invited to provide pesticide applicator pre-certification training and/or administer certified applicator exams to 94 people during six events. The events were held in Cottonwood, Phoenix, Willcox, Springerville, Tsaile, Arizona and Gallup, New Mexico.



Southwest Conservation Corps members have fun displaying gloves made of different materials during a pre-certification course.

Event participants worked for state and tribal governmental agencies involved in invasive weed control programs; golf courses; and privately-owned agricultural operations. Many of the people who participated in these pre-certification training courses and exam events were new to their jobs and had little to no prior experience working with pesticides. Despite this, 58 test takers passed the National Pesticide Applicator's Core Exam and earned a Private Applicator Certification. An additional 9 people passed both the National Pesticide Applicator Core Exam and a use-specific category exam to earn a Commercial Applicator's Certification.

Pesticide Safety Teaching Tools, Informational Resources, and Training Modules

ACT staff develops new and adapts existing teaching tools, informational resources, and training modules. These materials are used during safety events and are distributed to agricultural employers, employees, health care professionals, and outreach educators.

The ACT pesticide program works closely with the Pesticide Educational Resources Collaborative (PERC) in the development and translation of new national WPS materials, specifically those designed for pesticide safety training purposes. During the current fiscal year, ACT staff helped to edit and illustrate an on-line train-the-trainer course composed of twelve narrated modules and quizzes. Staff also assisted with the Spanish-language translation of the National Worker Protection Standard Trainer Manual. Both resources will be available to the general public.

Air Quality Compliance Assistance

Regulated Agricultural Best Management Practices

The Regulated Agricultural Best Management Practices (RABMP) program has completed its fifteenth year of providing air quality compliance assistance to Arizona's agricultural community through a cooperative agreement with the Arizona Department of Environmental Quality (ADEQ). The RABMP program provides a means by which Arizona's agricultural community can request compliance assistance without incurring regulatory intervention for applicable federal, state and local regulation.



The RABMP program goal is to provide the regulated agricultural community in Maricopa, Yuma and Pinal Counties with the necessary resources to achieve compliance with applicable air quality standards. With the addition of the newly formed West Pinal County Nonattainment Area, the RABMP Coordinator is still actively reaching out to growers in Pinal County.

The air quality program staff regularly participates in local meetings of agricultural stakeholders such as:

- Maricopa County rule 310 and 310.01 public process
- Pinal County PM10 reduction stakeholder group
- Yuma County stakeholder groups for the Ag BMP program
- Governor’s Agricultural Best Management Practices Committee Technical Workgroup
- State and County Farm Bureau
- Pinal County I-10 Corridor Dust Mitigation Workgroup

The federal Clean Air Act requires that air pollutant emissions be controlled from all significant sources in areas that do not meet the National Ambient Air Quality Standards. Air quality regulation for agricultural dust requires farmers, nursery professionals, and producers in animal agriculture in certain parts of Arizona to implement agricultural Best Management Practices (BMPs) to help reduce air pollution, especially particulate matter (PM10). Agricultural BMPs are feasible and effective practices that have been evaluated for their efficiency, applicability, likelihood for implementation, and have been adopted into state regulation.

Examples of BMPs include:

- Reduce tillage operations by implementing conservation tillage.
- Combine tractor operations to reduce the number of passes by a tractor in a field.
- Groom manure surface to reduce PM emissions from wind erosion.
- Provide cooling in the corrals to increase the stocking density in the cool areas of the corral.
- Cover silage to reduce emissions from wind erosion.
- Apply and maintain aggregate cover on unpaved roads to help reduce the generation of PM by acting as a barrier to erosive forces from vehicle traffic.
- Limit tillage and harvest activity during high wind events.



Outreach and education is provided to Arizona’s agricultural community about air quality in an effort to reduce regional dust pollution through:

- **On-site visits to farms and nurseries** for site specific assessments and recommendations. For fiscal year 2018 there were 139 visits made to producers to promote the program.
- **Agricultural BMP training for producers.** In fiscal year 2018 there were 14 trainings, presentations, and promotions of the program to agricultural workers and representatives. Outreach and training reached 1,627 participants.
- **High wind advisory email alerts.** During fiscal year 2018, fifty-two forecasts were sent to 355 producers in Maricopa, Yuma, and Pinal Counties.
- **“Air Quality & Agriculture – Air Quality in Action”, a quarterly newsletter.** In fiscal year 2018, 1,373 copies of the newsletter were sent to 339 stakeholders in Maricopa, Yuma, and Pinal Counties.
- **Articles and ads in industry periodicals.** In fiscal year 2018, five articles and ads were published with a readership of 8,611 people.
- **Cooperation with other agencies** such as the Arizona Department of Environmental Quality (ADEQ) and county farm bureaus to address compliance issues needing correction. These include public complaints and violations. During fiscal year 2018, four issues were corrected.
- **Best Management Practices:** In fiscal year 2018 the Regulated Agricultural Best Management Practices program completed BMP reviews for 73 operations, with 434 BMPs implemented and an estimated 536,935 lbs. /yr. emissions reduced.

The Technical Workgroup to the Governor’s Agricultural Best Management Practices Committee met in 2018 to discuss and approve the Three-Year Expanded Survey for producers in Pinal County. After numerous meetings a survey was approved by the workgroup that met the Arizona Department of Environmental Quality requirements from the Environmental Protection Agency

Rule R18-2-610.03(D) states that producers in Pinal County beginning in 2018 and every 3 years after, shall complete and submit a survey to the Arizona Department of Agriculture detailing acreage, crop types, total miles of commercial farm roads, total acreage of non-cropland and the best management practices selected in each of the categories. With the cooperation of industry members, 74 completed surveys were collected from farms, nurseries, dairies, feedlots, and irrigation districts. Information was compiled and an aggregate set of data was sent to the Arizona Department of Environmental Quality. The data was collected to model the overall benefit the Ag BMP Program has had on PM10 emissions within the West Pinal County Non-attainment Area.

The RABMP Coordinator is a member of the Pinal County I-10 Corridor Dust Mitigation Workgroup. This workgroup consists of Federal, State, and Local agencies to address windblown dust that creates hazardous driving conditions along the I-10 corridor. The area of concern this past year is a five mile radius around mile marker 214. To address this area for the short term the committee approved to stabilize a 50 acre plot along the I-10 with a soil stabilizer in October of 2017. The area will be monitored for the next year for any dust movement and vegetation growth. The committee also started collecting data from the area around mile marker 190 – 194 to see what mitigation steps could be completed in this area along I-10.



In 2005 the Yuma Ag BMP program was implemented to address the PM10 problem in Yuma County, but no outreach materials were available. Outreach to the community began in fiscal year 2010 to promote the Yuma agricultural industry's proactive approach to addressing the PM10 problem. In fiscal year 2018 the RABMP Coordinator met with producers, attended industry functions, and participated in stakeholder meetings. The Yuma PM10 Nonattainment Area Workgroup reconvened in 2018 to establish a strategy timeline to reach an attainment designation by July of 2022. Steps include inventory improvements, re-evaluating current control measures and looking for new best available control measures.



Good Handling Practices/Good Agriculture Practices (GHP/GAP)



The Agricultural Consultation and Training (ACT) Program of the Arizona Department of Agriculture (AZDA), through a United States Department of Agriculture-Agricultural Marketing Service (USDA-AMS) Specialty Crop Block Grant Program grant, offers Arizona's agricultural community assistance in developing a food safety program that will pass the USDA GHP/GAP audit. Good Handling Practices (GHP) refers to post-harvest operations, while Good Agriculture Practices (GAP) refers to on-farm operations and systems, ensuring these crops are produced, packed, stored and handled in the safest

manner possible to minimize risks of microbial contamination.

GHP/GAP is a voluntary, on-site farm verification program which has been developed for growers, harvesters, packers, warehouses, transportation lines, and gardeners of consumable specialty crops (fresh fruit, vegetables, and tree nuts). The ACT GHP/GAP Program offers classroom training as well as on-site evaluations for the development of operation-specific food safety protocols for the USDA/AMS food safety audit and certification.



Food Safety Certification

While sales of fresh produce to some buyers do not require a food safety certificate, many buyers of fresh produce require third-party food-safety certification as a purchase specification. Without this certificate, a grower may not be able to sell produce to the larger buyers.



Certification allows for produce sales to restaurants, hospitals, school districts, farmers markets, wholesalers and distributors who accept the USDA GHP/GAP certification for mitigating food safety hazards.

Classroom Training

ACT's Food Safety Projects Coordinator (FSPC) organizes training classes for industry members throughout the state. These lively, interactive classes have been held in Phoenix, Tucson, Flagstaff, Yuma, Snowflake, Cottonwood, Kingman, Tsale, and Willcox.



The structure of the GHP/GAP training class is tailored to the participants' needs, covering the entire fresh fruit and vegetable industry: growing, harvesting, warehousing, transporting, and whole distribution. Also included is dealing with the possibility of intentional sabotage of produce.

There is no cost to attend the workshop, or for training materials, which include monitoring logs and tracking forms.

Further incentivizing food safety, AZDA will offset the cost of a successful USDA audit with a cost-share grant of up to 75% while funds remain available from USDA/AMS.

Consultations/On-Site Visits



Upon request the FSPC visits farms, greenhouses, aquaponic facilities and aeroponic operations to discuss food safety concerns with the owners. During the on-site visit, the grower and FSPC will review the grower's operation as compared to the GHP/GAP audit, and begin developing their food safety program. During fiscal year 2018 10 on-site consultations were conducted by the FSPC, with 1 new operation passing the GHP/GAP audit and achieving certification, while 7 previously certified operations were recertified.

Outreach

The FSPC has been invited to present the GHP/GAP program to groups as varied as the University of Arizona's Controlled Environment Agriculture Center (CEAC), Tucson, Garden Club of the East Valley, Mesa, Neighborhood veggie growers, a visiting ag professor of the ITSON (Institute of Technology of Sonora, Mexico), and the Local First Arizona's Food & Farm Forum. During fiscal year 2018 the FSPC conducted 4 presentations with over 200 people attending.

During fiscal year 2018 ACT's GHP/GAP Program reached nearly 1600 individuals representing 155 AZ specialty crop operations through Arizona Farm Bureau blogs, on-site visits, training, and technical assistance.

The FSPC is also the food safety technical advisor to the Sun Produce Cooperative, a local collaboration of growers, distributors and packers, designed to maximize delivery of locally grown produce to local schools and marketplaces.



Livestock & Crop Conservation Grant Program

The Livestock & Crop Conservation Grant Program (LCCGP) was created on September 18, 2003, by the Arizona State Legislature to assist ranchers and farmers with the implementation of conservation projects that ultimately provide for the preservation of open space. The Arizona Department of Agriculture is charged with developing, implementing and managing the program. The LCCGP is funded through the Proposition 303 Growing Smarter Statute that was passed by public referendum in 1998. Approximately \$1.8 million was available in grant funds each year, through fiscal year 2011.

Per the grant program authorizing statute, A.R.S. §41-511.23 (G) (1), eligible applicants include individual landowners and grazing and agricultural lessees of state or federal lands desiring to implement conservation based management alternatives using livestock or crop production or reduction practices to provide wildlife habitat or other public benefits that preserve open space. Grant funds may be used for projects taking place on private, State and Federal land. The grant program has functioned on a biennial grant cycle.



During the two-year cycle, the LCCGP grant manual, grant guidelines, and rating criteria are subject to a public comment period. The sixth and final grant cycle was completed in fiscal year 2016. Several state and federal agencies worked together on a large scale geographical conservation project that utilized additional unspent grant funds from all previous grant cycles, and leveraged funds from other agencies.

During fiscal year 2018, the LCCGP Coordinators monitored completed projects from the previous grant cycles.

The following types of projects were completed by grantees:

- Utilization of funds as match/cost share to other conservation grants. For example, if the applicant is participating in, or plans to apply for, a USDA Natural Resources Conservation Service (NRCS) Environmental Quality Incentives Program (EQIP) grant which typically requires that the applicant provide a percentage of the total project funding, LCCGP funds could be awarded for use as the required cost share funds to the EQIP contract.
- On-the-Ground Conservation Projects (for example: riparian fencing, water resource development, grassland restoration).
- Livestock deferment funding in relation to a conservation practice or project. For example, if the applicant chooses to implement a conservation management practice such as prescribed burning or herbicide

application that requires the deferment of livestock, the applicant may apply for LCCGP funds to cover the costs associated with deferring livestock.



The LCCGP Coordinators continue to administer the existing grant contracts from all previous grant cycles. Throughout the duration of the grant project, the LCCGP Coordinators provide administrative support and information, address questions and concerns and assist the grantees with reimbursement and funding advance requests. At the close of FY18, 56 of the 56 grantees from the fiscal year 2005 cycle, 70 of the 70 grantees from the fiscal year 2007 cycle, 62 of the 63 grantees from the fiscal year 2009 cycle, 43 of the 43 grantees from the fiscal year 2011 cycle, 13 of the 13 grantees from the fiscal year

2013 cycle and 12 of 16 grantees from the fiscal year 2016 cycle had completed their proposed grant projects. Additionally, throughout fiscal year 2018, approximately \$175,000 was disbursed to grantees to work on their contracted projects

LCCGP Coordinators continue to monitor projects funded by grant funds. Through on-site visits to review what has been completed, they are able to ensure that the funding is being utilized properly and provide additional technical services to grantees.

Specialty Crop Block Grant Program-Farm Bill



On December 21, 2004, the Specialty Crops Competitiveness Act of 2004 authorized the USDA to provide state assistance for specialty crops. Under Section 101 of the statute, the Secretary of Agriculture is directed to “make grants to States for each of the fiscal years 2005 through 2009 to be used by State Departments of Agriculture solely to enhance the competitiveness of specialty crops.” The Food, Conservation, and Energy Act of 2008 (Farm Bill) amended the Specialty Crops Competitiveness Act of 2004. Under the amended Act, the Secretary of Agriculture is directed to make grants to States for each of the fiscal years 2008 through 2012 (referred to as the

Specialty Crop Block Grant Program – Farm Bill or SCBGP-FB) to be used by State Departments of Agriculture to enhance the competitiveness of specialty crops. The Agricultural Act of 2014 continues funding for the program through 2018. Specialty Crops are defined as fruits, vegetables, tree nuts, dried fruits, and nursery crops (including floriculture). The value of U.S. specialty crops is equivalent to the combined value of the five directly subsidized program crops. However, sixty percent of all farmers do not raise program crops and do not receive direct subsidies. The purpose of this Act is to help address this inequity between program crops and specialty crops.

The Arizona Department of Agriculture’s Specialty Crop Block Grant Program - Farm Bill is administered by the ACT program. In fiscal year 2018, Arizona’s State Plan was approved by the U.S. Department of Agriculture’s Agricultural Marketing Service (AMS), and a cooperative agreement, which provided \$1,145,987.81 in grant funds to the AZDA, was executed on September 27, 2017. The SCBGP-FB Program Coordinators worked with sub-grantees to execute grant award agreements, and provide guidance and assistance with quarterly reports and quarterly reimbursements

On March 7, 2018, AMS announced the availability of \$72.1 million in federal fiscal year 2018 funding. The funding is authorized by the Agricultural Act of 2014 (Farm Bill). Each state department of agriculture is eligible to receive a base grant of approximately \$240,528.00. In addition, AMS allocated the remainder of the grant funds based on the proportion of the value and acreage of **specialty** crop production in the state. The 2018 base grant amount plus the AMS assigned value and acreage of specialty crop production for Arizona is \$1,499,506.70. The SCBGP-FB Program Coordinator submitted the Arizona State Plan to AMS on May 23, 2018.

Arizona Citrus Research Council



The Arizona Citrus Research Council was created by A.R.S. §3-468 to support the development of citrus research programs and projects within the Arizona citrus industry. The Council is funded by a per carton (1.5 cents) assessment paid by Arizona Citrus producers. Last year, the Arizona citrus industry produced nearly 1.9 million cartons of grapefruits, lemons, oranges and tangerines.

Council programs and projects target production, plant pest and disease control, efficient fertilization and irrigation techniques and variety development.

The Council is comprised of five citrus producers appointed by the Governor:

- Two producers from District One (including Yuma County)
- One producer from District Two (Maricopa, Pima and Pinal Counties)
- Two producers at large

Fiscal Year 2018 Financial Status - Arizona Citrus Research Council

Revenue	\$25,637.95
Expenses	\$58,883.40

Legislation passed in the 2012 legislative session created the Arizona Citrus Trust Fund which holds the Council's revenue in trust.

Arizona Iceberg Lettuce Research Council



The Arizona Iceberg Lettuce Research Council was created by A.R.S. §3-526 to conduct research for an Arizona industry that produced approximately 24 million cartons of iceberg lettuce in FY 2018. The Council is funded by a per carton (.004 cents) assessment paid by Arizona iceberg lettuce producers.

Council members are appointed by the Governor and consist of seven producers:

- Four producers from District One (including Yuma and La Paz Counties)
- Three producers at large

The Council reviews and awards a wide range of research proposals on topics such as variety development, lettuce pest eradication, and for programs relating to food safety, production, harvesting, handling and transporting lettuce from fields to markets. During fiscal year 2018, the Council continued to support research projects by granting more than \$90,000 to the University of Arizona. Some examples of research grant projects include post-emergence broadleaf weed control, Yuma area-wide monitoring for lettuce insects, fungicides and lettuce genetics to manage downy mildew and evaluation of new insecticides for insect management in desert head lettuce.

Fiscal Year 2018 Financial Status - Arizona Iceberg Lettuce Research Council

Revenue	\$104,838.39
Expenses	\$ 97,307.25

Legislation passed in the 2012 legislative session created the Arizona Iceberg Lettuce Trust Fund which holds the Council's revenue in trust.

Arizona Grain Research and Promotion Council



The Arizona Grain Research and Promotion Council was created by A.R.S. §3-581 through §3-594 and utilizes grower 'check-off funds' to aid in marketing wheat and barley, participate in research projects and other programs that assist in reducing freshwater consumption, develop new grain varieties and improve grain production, harvesting and handling methods.

Research continues to be a top priority of the Council by continuing support for the research activities of the University of Arizona. Research projects focused on water use and rooting of low input barley, measuring evapotranspiration of Desert Durum at multiple scales, small grain variety testing and the evaluation of weed resistance to herbicides. More than \$84,000 was granted for research projects during fiscal year 2018.

The Council supports the activities of the U.S. Wheat Associates, the export market development arm of the United States wheat industry. This support is important because more than half of Arizona's durum wheat is exported. The council collaborates with the California Wheat Commission to conduct an annual crop quality survey of the Desert Durum® crop in Arizona and Southern California and publishes the results for buyers around the world.

Fiscal Year 2018 Financial Status - Arizona Grain Research and Promotion Council

Revenue	\$109,582.65
Expenses	\$144,072.11

Legislation passed in the 2012 legislative session created the Arizona Grain Research Trust Fund which holds the Council's revenue in trust.

Agricultural Employment Relations Board



The Agricultural Employment Relations Board (AERB) was created by A.R.S. §23-1386 in 1993 to provide a means to bargain collectively that is fair and equitable to agricultural employers, labor organizations and employees, to provide orderly election procedures, to resolve questions concerning representation of agricultural employees and to declare that certain acts are unfair labor practices that are prohibited and subject to control by the police power of this state. The Board has an annual budget of \$23,300.

The Board is comprised of seven members (and two alternates):

- Two agricultural employers/management
- Two organized agricultural labor representatives
- Three public members, from which a Chairman must be selected.

Animal Services Division (ASD)

Animal Health and Welfare Program

Priorities and Oversight

The first priority of the Animal Services Division's (ASD) Animal Health and Welfare Program (AHWP) is the prevention of certain diseases of livestock, poultry and commercial fish; and if established, their subsequent eradication. Relatedly, AHWP protects the public from diseases which are transmissible from livestock to people. Field staff in AHWP enforce all ownership and dominion laws as well as specific equine neglect and livestock cruelty statutes. Additionally, through the State Emergency Response and Recovery Plan (SERRP), AHWP is involved in a myriad of human and animal welfare contingencies. Lastly, the staff of the Meat and Poultry Inspection Program is responsible for the oversight of livestock and poultry slaughtering as well as processing.

Animal Health Programs

There were a total of 5 Administrative Orders issued this fiscal year for animal health issues. Of this amount, 60% were for Equine Herpes Myeloencephalopathy (EHM). 20% were for rabies and the remaining 20% were for Equine Infectious Anemia and Piroplasmiasis. There were a total of 16 Illegal Entry Hold Orders issued this fiscal year for illegal movement into Arizona. Of this amount, there was 139 head of cattle, 3 head of horses, 5 pigs and 3 head of sheep.

We managed one herd that was diagnosed with a rabies positive cow. As this was a fox variant rabies, the decision to do a 6 month quarantine was valid and prudent to prevent exposure to other animals. As long as we do not have any neurological animals or unexplained deaths that test positive for rabies, this herd will come off quarantine on August 15th.

We continue to collect samples for Brucellosis suis at slaughter as well as scrapies sampling from slaughter.

No Foreign Animal Diseases (FADs) were diagnosed in Arizona during this time.

Ongoing state / federal / industry programs for the control and elimination of:

- Brucellosis
- Tuberculosis
- Pseudorabies
- Equine Infectious Anemia
- Scrapie

Ongoing state / federal / industry programs for the benefit of public health:

- Rabies control
- West Nile Virus and other equine encephalomyelitides (zoonoses)
- National Poultry Improvement Plan (control of multiple diseases)
- Animal Disease Traceability
- Multiple obligations under the Emergency Support Functions of

USDA Cooperative Agreements

Traditionally various animal health surveillance programs have been funded via the Umbrella Cooperative Agreement grant with the USDA / Animal and Plant Health Inspection Service (APHIS) / Veterinary Service (VS). These health programs have primarily included poultry, cattle, horse, swine, sheep, goats, and zoonotic/public health concerns. April 1, 2017 began the new reporting year for USDA / AHPIS / VS.

Umbrella Grant: Animal Disease Surveillance Program

Early recognition of an animal disease outbreak is essential to reducing the impact of a devastating disease

on the agriculture industry in Arizona. This cooperative agreement has four parts which include general surveillance, diagnostic testing, outreach & education, and preparedness & response. Protecting the health of food producing livestock and poultry will result in a stable source of wholesome food, reduce the likelihood of animal diseases causing human health problems and preserve the economic viability of Arizona animal agriculture by maintaining disease free confidence with our trading partners.

Several Arizona Livestock Incident Response Team (ALIRT) investigations were conducted during this reporting period in conjunction with the Arizona Veterinary Diagnostic Laboratory. None of these were found to be a Foreign Animal Disease. Our State Veterinarian and Assistant State Veterinarian have attended the Foreign Animal Disease Diagnostician (FADD) course. In the spring of 2018 the ASD was able to hire an additional Assistant State Veterinarian that will attend the Foreign Animal Disease Diagnostician course later this year. Having additional FADDs in the department allows for a more rapid response to investigations and less dependence on USDA / APHIS / VS during the initial investigation.

Arizona's ASD has been very successful in the eradication of several program diseases and have achieved a "Free" status with both brucellosis and tuberculosis. Even though we currently have a free status, we continuously follow up with suspect cases from cattle being tested for interstate movement. We have not found any positive animals through diagnostic testing this year.

Arizona's voluntary National Poultry Improvement Plan (NPIP) was established for hobbyist and exhibition poultry and game bird breeding flocks and products. The State Veterinarian's Office has worked in cooperation with the division's Egg Program to hire an NPIP Coordinator who works with local breeders and producers to conduct testing and inspections while educating them on biosecurity. NPIP is about disease monitoring, sanitation and record keeping. Though the newly established NPIP program is voluntary, any person moving hatching eggs, chicks or older birds across state lines may be required to become NPIP-certified in order to meet other state's entry requirements and the new Federal Interstate Movement Law requirements. This program allows us a better opportunity for surveillance along with the educational aspect to the public. We already have an NPIP program for commercial producers. We have also been monitoring for Avian Influenza (AI) and Virulent Newcastle Disease (vND) throughout the state and to date have not had any birds come up positive. One of the primary goals of the NPIP program is to increase AI and vND surveillance.

One of the cooperative agreement's other goals is to monitor diseases in animals that are transmissible to humans (zoonotic). We have worked with the Arizona Department of Health Services (ADHS) to make sure the public is educated and protected during outbreaks of Plague, Leptospirosis and Rabies. We participate in monthly conference calls which maintain an exchange of information & dialogue between departments. We have also been involved in joint educational outreach events with ADHS for public education and rabies vaccination clinics in southern Arizona.

As of August 9, 2017 the Department no longer participates in the Animal Disease Traceability Cooperative Agreement. As mentioned earlier, since that time we have hired an additional Assistant State Veterinarian that will greatly enhance our capacity for program disease surveillance and foreign animal disease investigations in Arizona. The ASD continues to track suspected disease cases with the limited resources that have been allocated. However, if additional funding could be provided, our goal would be modernize our database with an electronic data base that is kept in house, yet allows us to track animal movement in a more efficient manner than looking through paper records which is time consuming and costly to the tax payer of Arizona.

Annual Licenses

Aquaculture

The Aquaculture Program regulates commercial operations that grow, transport and process fish and shrimp. These are the numbers of issued licenses: 17 transporters, 10 processors of fish and shrimp for

human consumption, 25 growing facilities, 1 research and educational facilities and 6 operations that charge a fee for fishing.

Feedlots

Twenty seven feedlot licenses were issued. This is only required for feedlots with 500 or more head of beef cattle.

Inspection Data Tracking

As of July 1, 2017, the Livestock Inspection Program began tracking field activities through the Arizona Department of Transportation's Enforcement and Compliance Division. This change has resulted in our customers having access to a 24/7 dispatch. The dispatch phone number of 623-445-0281 did not change during this transition. When we went to the IT inspection in July, 2017 we were able to track the inspection numbers for our staff. They did over 10,800 inspections on the computer system. There are instances that paper inspections are necessary; however, the IT inspection system has improved the Department's efficiency and accuracy of the inspections which allows for freer movement of livestock. This data is summarized in the table titled "FY 2018 Calls for Service from the Public" at the end of the ASD section.

Self-Inspection Program

Currently, over 5200 producers are approved to use the Self-Inspection Program. This is an increase of about 300 from the prior year. Livestock owners understand the value of documenting animal movement and have accepted responsibility for intrastate documentation through Self-Inspection certificates. Livestock Officers, Inspectors and Deputies document non-Self-Inspection activities such as the sale of range cattle and custom slaughter livestock. Exhibitions, fairs and shows have also been supportive of the "seasonal exhibition pass" implemented by statute and rule. Livestock theft investigation and enforcement cases remain at a low level, and Arizona continues to maintain disease free status in all industry / state / federal cooperative disease control programs.

Arizona Livestock Incident Response Team Program

The Arizona Livestock Incident Response Team (ALIRT) program was implemented through legislative authorization in FY 2005. Annual funding has been used to train and equip participating private veterinarians to conduct investigations of unusual livestock disease events and to conduct outreach and education to the livestock producers. Participating veterinarians and state staff received training in March 2015. Since its initiation, several investigations have been conducted and in every case, the response resulted in a preliminary diagnosis within 48 hours, with laboratory diagnosis confirmation soon after.

ALIRT is an emergency response program overseen by ADA and implemented through cooperation with the University of Arizona's Department of Veterinary Science Veterinary Diagnostic Laboratory and Cooperative Extension. USDA Wildlife Service and Veterinary Service actively participate in a program designed to facilitate the potential diagnosis of unexplained livestock losses. Once a problem has been discovered, various levels of response may be initiated. It all starts with the producer, local veterinarian, and/or the local University of Arizona Cooperative Extension Office. If warranted trained ALIRT private veterinarians will respond to the scene, start the investigation and collect samples. This is followed by a conference call of the ALIRT steering committee that determines what, if any, actions are necessary. This year the Midwestern University Diagnostic Laboratory was added to the ALIRT response network to facilitate a more timely response especially for cases in the northern half of the state where a necropsy is needed.

The cost of case work-up is covered by ALIRT program funding and includes expenses for the ALIRT private veterinarian and other response personnel, as well as laboratory expenses related to the diagnosis. Once a diagnosis is made and/or a treatment program is implemented, the expense becomes the responsibility of the producer. The producer plays a key role in this process, starting with the reporting of a problem in his herd. The producer also is important in preparing a herd history and identifying any contributing factors that may assist in diagnosis. The ALIRT program responds at the invitation of the owner or manager and is

available to individual producers who have significant unexplained animal illnesses and/or death or if an area. The program also begins if region is having multiple suspicious livestock losses. The ALIRT program was designed for the producer and all information collected remains confidential. Emergencies are reported by calling the Arizona State Veterinarian at 602-542-4293 or the University of Arizona Veterinary Diagnostic Laboratory at 520-621-2356.

This last year Midwestern University Pathology lab was added to the ALIRT program to increase response time for issues in the Northern part of Arizona.

Meat and Poultry Inspection Program

The Meat and Poultry Inspection (MPI) Program is a federal-state cooperative program, funded 50% from the state General Fund and 50% by USDA / Food Safety Inspection Service (FSIS). The program oversees slaughter and processing of amenable meat animals and poultry which are offered for official inspection prior to sale to the public. Operating to help ensure both food safety and truth in labeling to consumers, inspectors visit regulated facilities on a daily basis. The program authority is established by state statutes and rules, the federal Meat Inspection Act and the federal Poultry Products Inspection Act.

State MPI personnel monitor general plant and equipment sanitation, processing sanitation, good manufacturing practices during production, ante mortem and post mortem inspection at slaughter, humane handling, Hazard Analysis Critical Control Point (HACCP) implementation, multi-ingredient formulation, the use of approved labeling, net weights and perform laboratory sampling programs as requested. They also verify compliance with state and federal regulations prior to allowing the inspected and passed triangle shaped "mark of inspection" to be applied to applicable products.

ADA inspectors receive training including HACCP inspection procedures, Sanitation Standard Operating Procedures and animal ante mortem and post mortem inspection procedures for disease.

Each day one of the state's 25 state inspected plants operates, an MPI employee makes at least one unannounced visit to review production. If discrepancies are found, they are documented and discussed with plant management to determine what corrective actions will be taken to ensure that no unwholesome or mislabeled product leaves the plant. In slaughter plants an MPI Inspector observes each animal presented for slaughter both alive and at various stages during the carcass dressing procedure looking for any pathology that may be present.

Unfit and/or unwholesome carcasses and parts are removed from the human food chain and de-characterized for inedible purposes. Humane handling is strictly enforced to ensure no animal is mistreated or improperly stunned at slaughter.

Sanitation is observed and verified each day a plant operates by a pre-operational check of facility and all equipment prior to the start of operations and/or operational sanitation checks to verify sanitation is maintained during production.

HACCP verification is performed by reviewing the HACCP plan and all supporting documentation. Direct observation or review of records is performed at all Critical Control Points. Corrective actions are taken when a deviation occurs. Verification and reassessment is performed as required by regulation.

Labels are reviewed to show that they reflect the product is actually as the label states and that the label meets all labeling requirements per regulation, including approval and allergen declaration. Formulation is observed to verify the product is being made to meet product standards and as approved. Net weights are verified on certified scales weighing random lots of finished product to ensure compliance.

Product samples are taken as requested by the Program Manager in selected establishments and delivered to the State Agricultural Laboratory to be analyzed for the pathogen of concern. In the event of non-compliance, establishments are notified by written non-compliance reports and regulatory control actions

are taken as needed to ensure affected product does not reach the consumer.

Inspectors also periodically visit the other 46 processors known as “custom exempt,” which are firms that process meats, game and poultry for personal consumption of the owner. These types of processors may not sell meat to the general public without obtaining an official slaughter and processing license.

More than 700 food safety samples per year are submitted to the State Agricultural Laboratory to be analyzed for E-coli 0157:H7, non-0157 Shiga Toxin E-coli (STEC), Salmonella, Listeria Monocytogenes or violative antibiotic residue. Additionally, antibiotic residue samples requested by USDA / FSIS and Tuberculosis samples from suspect animals at slaughter were also taken. All of this information is entered each day by the inspectors into a computer database system mandated by FSIS called the Public Health Information System (PHIS). This system tracks all aspects of the meat inspection program.

Almost 5,200 on-site food safety inspections were performed at official establishments and custom exempt facilities this past year. No food-borne illnesses were reported from any Arizona official establishment in Fiscal Year 2018.

Meat and Poultry Compliance Program

Compliance is an integral part of the MPI Program. Arizona Revised Statutes provide the authority and responsibility to protect consumers by assuring meat and poultry products are wholesome, not adulterated and properly labeled. In-commerce surveillance and reviews are conducted at distribution centers, public warehouses, retail stores, restaurants, schools, prisons and poultry exempt facilities. Surveillance reviews are conducted to ensure industry compliance and consumer safety. These surveillance reviews consist of product and facility assessments, food safety, sanitation, hazard control and labeling assessments.

Compliance also investigates food safety, misbranding and other violations of law to protect public health and to support criminal, civil and administrative action. An investigation includes: planning, decision-making, evidence collection, identification, custody, interviews, photographic evidence, reports of investigation and investigative liaison with attorneys. The program is authorized to identify, detain and control adulterated, misbranded, illegally imported and other illegal or unsafe meat and poultry products so they do not reach consumers.

If requested Compliance will assist with food safety related illness outbreaks and epidemiological investigations. This consists of conducting product trace back and trace forward. The program coordinates with USDA and various statewide health departments in conducting surveillance reviews and investigations of retail stores and restaurants to ensure that meat and poultry products are wholesome and properly labelled. Compliance will also conduct investigations of illegal slaughter and/or processing operations statewide. Compliance has a database of 117 licensees which include: warehouses, distributors, jobbers, dead stock haulers, brokers and meat storage.

Dairy & Dairy Products Inspection Program

Dairy inspection staff regulate all aspects of the dairy industry, from the dairy farm until products leave the processing plant. Beginning at the farm, inspectors review plans submitted for construction of new farms and the remodeling of existing farms. Farm inspections are conducted to check for compliance in sanitation, milking procedure, equipment condition and usage/labeling of drugs for animals, along with other requirements. Water and milk cooling systems are reviewed and sampled for compliance with public health standards.

Milk produced is sampled and tested for compliance with regulatory requirements. Bulk milk tankers, used to collect and transport milk to processors, and milk tanker drivers are inspected and licensed by the dairy inspectors.

Dairy inspectors regulate dairy processing plants ranging from small cheese makers to plants processing

millions of pounds of milk per day. At plant inspections, inspectors review plant processing records, and facilities are inspected for compliance with sanitation and maintenance requirements. Pasteurization systems are tested quarterly and the controls are sealed by the inspector. If regulatory seals are broken for maintenance or repairs, the plant must immediately notify the Dairy Program and the equipment must be retested and sealed by the inspector or certified industry sealer. Arizona milk processors use a variety of approved pasteurization processes. These processes include the relatively simple batch pasteurizer and proceed in complexity to systems called Ultra Pasteurization, which greatly extend the shelf-life of dairy products. In FY 2018, the three Dairy inspectors conducted 989 sample visits, 192 processing plant inspections, 258 tanker driver evaluations, 178 pasteurizer tests (with an additional 71 regulatory seal replacement visits), 289 dairy farm inspections and 28 milk tanker inspections.

Inspectors also check packaging/bottling facilities and processes at dairy plants. Other facilities manufacture containers and closures for dairy products. These facilities are also inspected and their products are sampled and tested.

Finished milk and milk products are collected by Dairy inspectors and submitted to the State Agricultural Laboratory for testing. In FY 2018, there were 3,423 dairy samples submitted to the lab, and 8,847 separate analyses were conducted (coliform, standard plate count, inhibitor, phosphatase, somatic cell count and beta lactam).

Universal Sampling System

Regulations require regular testing of milk produced by Grade A dairy farms. In Arizona, dairy farms are spread out over a large geographic area. Under the "Universal Sampling System," milk hauler/samplers are licensed by ADA after passing an exam. These hauler/samplers are also evaluated in the field by Dairy inspectors to assure that their procedures are correct. The samples collected by licensed hauler/samplers may be randomly tested by the State and the results used for official purposes. This system reduces the personnel and the driving time that would be required if the State had to collect the samples from each individual farm.

If milk is determined to be adulterated, it must be either removed from the human food system or destroyed. In FY 2018 five tankers of milk were disposed of due to positive antibiotic tests for a total of 260,140 pounds. No tanker loads, were found to be in violation of the aflatoxin limit for milk. The combined approximate total number of tanker loads received at Arizona Dairy plants is 108,000 loads.

Raw Milk Consumption

The majority of milk and milk products produced in Arizona are pasteurized. This means that the milk was subjected to a process of heating the milk and holding it at a specific temperature for a specified time period (161 degrees for 15 seconds, for example) in approved equipment. This process is known to kill harmful microorganisms which may be present.

A small amount of milk sold in Arizona is packaged and sold as raw milk for consumption. This milk is not subjected to the pasteurization process. Although this milk is required to meet the same standards as pasteurized milk, it can potentially contain pathogenic organisms. For this reason, raw milk for consumption is required to have a warning statement on the label so that consumers can be informed of the potential risk. It is illegal, in Arizona, to sell raw milk for consumption without a license. During FY 2018 there were six licensed facilities that sell raw milk for consumption.

Interstate Shipment of Milk

Arizona participates in the National Conference on Interstate Milk Shippers (NCIMS). This program creates uniform standards for evaluation of Grade A milk and milk products. This allows for milk to be transported between States and accepted via reciprocity. The Food and Drug Administration (FDA) certifies State personnel who conduct audits, called ratings, on producers and processors that wish to be listed as Interstate Milk Shippers (IMS). The FDA periodically conducts check ratings to assure uniformity in the system.

The NCIMS is also responsible for changes and updates to the Pasteurized Milk Ordinance (PMO), which is the main document used to regulate Grade A milk and milk products. The NCIMS convenes every two years to consider and vote on proposed changes. Arizona is a voting delegate at these conferences. The next NCIMS conference is scheduled for April 26 – May 1, 2019 in St. Louis, Missouri.

Egg & Egg Products Inspection Program

Egg Inspection Program staff provides inspection services to the public, industry and the federal government. The Egg Inspection Program is funded entirely from a “mill fee” assessment from industry on each dozen of eggs or pound of egg products sold in Arizona. The program has operated on industry assessments since 1940.

Program staff inspects shell eggs and egg products from production at laying facilities to wholesalers and retail stores. Inspectors verify that products meet the required quality standards and that they were produced in accordance to state statutes and are held at temperatures of 45° Fahrenheit for eggs and 0° Fahrenheit for frozen egg products. Inspectors also verify proper packaging, sanitary handling, dating and weighing of eggs at production facilities, warehouses or retailers for product originating out-of-state. Inspectors also check Nest Run Egg producers for proper handling, labeling and registration with the Department. Nest Run Egg producers are limited to selling a total of 750 dozen unwashed ungraded eggs annually.

In FY 2018, the Departments conducted 1,701 inspections visits at producers, dealers, wholesalers and retailers. During those inspections, 472,399 individual eggs were graded and a total of 59,619 dozen eggs were retained for noncompliance with state law.

USDA Inspection and Grading Program

The Department also maintains cooperative programs with the USDA to provide “grade labeling” services to the industry upon request. These cooperative programs also include surveillance and enforcement under the federal Egg Products and Inspection Act, which regulates the movement and processing of certain types of under-grade eggs to keep them from entering the market. In FY 2018 we conducted 23 shell egg surveillances visits. ADA also enforces the Agricultural Marketing Act of 1970.

In the past inspectors provides inspection services for USDA’s School Lunch Program for poultry purchases made on behalf of school districts statewide. Those verification inspections are no longer required under USDA rules and no longer performed.

Graders perform both temporary and resident (in-house) grading services for the egg industry in Arizona. A total of 10.5 FTE state employees and one supervisor are stationed at five egg processing plants and provide inspection / grading services 365 days a year, 7 days a week. In FY 2018 the Department provided 23,661 hours of resident grading service under this USDA program. Resident graders continually monitor plant sanitation, processing temperatures, handling and holding cooler temperatures. This USDA program is voluntary and paid by the producer requesting the service. Eggs packed under USDA program supervision are eligible to be marked with USDA shield grade mark or other USDA identification. The USDA grade mark adds value to shell eggs because it provides a high level of guarantee for quality and safety. Many retailers require the eggs to be graded by USDA to provide this additional level of service to their customers.

Emergency Preparedness and Response

State Emergency Response and Recovery Plan

The Department is the primary agency responsible for Emergency Response Function #11 of the State Emergency Response and Recovery Plan (SERRP). In this role, the Department coordinates the emergency response activities of state, federal and private resources in response to and recovery from natural and human-caused disasters as well as plant, pest and FAD incidents that can negatively impact agricultural production.

This past fiscal year, the Department was able to finalize a Memorandum of Understanding (MOU) with the Department of Emergency and Military Affairs (DEMA) and the American Society for the Prevention of Cruelty to Animals. This MOU will allow all parties to coordinate assistance and animal rescue efforts in preparing for, responding to, and recovering from disasters affecting animals.

The Department also completed the hiring of its Emergency Management team through the hires of the Emergency Preparedness Planner and Assistant State Veterinarian/Emergency Coordinator.

Palo Verde Nuclear Generating Station

The Department is an integral part of the state and county response to any emergencies related to the Palo Verde Nuclear Generating Station (PVNGS) located west of Phoenix. With three reactors, this is the largest nuclear power plant in the U.S. with the capacity to serve millions of homes. Should an incident at PVNGS result in the release of radioactive material, the Director is statutorily authorized to “abate, suppress, control, regulate, seize, quarantine or destroy any agricultural product or foodstuff that is adulterated or contaminated as the result of an accident at a commercial nuclear generating station.”

In March 2018, DEMA conducted a full-scale exercise to assess the State’s readiness to respond to a nuclear disaster at the plant. The Department was successful in completing its overall objectives for the exercise, and the areas needing improvement were identified and addressed.

Emergency Response

There were two State declared emergencies that required Department of Agriculture response during FY 2018. The first emergency was a breach of Nogales International Outfall Interceptor, a pipeline that transports sewage from Mexico into the United States, on July 25, 2017. Heavy monsoon storms caused flooding that compromised a section of the Interceptor. The raw sewage discharged into heavily flowing washes that fed all the way into the Santa Cruz River in Southern Arizona. The Department’s Emergency Preparedness Planner, Assistant State Veterinarian, State Veterinarian, and Public Information Officer worked to support the incident.

The second emergency that required Department response was the Tinder Fire, which began on April 27, 2018 in Coconino County. The fire burned 15,836 acres of forest and destroyed 32 residences. The Department sent a Livestock Inspector to assist with the evacuation of livestock if needed. A Livestock Officer also deployed to the Coconino County Emergency Operations Center to determine if there was a need for further assistance by the Department of Agriculture. The Department’s Emergency Preparedness Planner, Emergency Coordinator, State Veterinarian, and Livestock Captain supported the fire remotely.

FY 2018 Calls for Service from the Public and Livestock Inspections.

Calls for Service	
Calls for inspection (may result in multiple inspections)	
Ownership	5169
Butcher	1177
Highway and Road Kill	119
Total	6465
Welfare Calls	
Equine	678
Cattle	288
Goats	79
Sheep	18
Swine	41

Total	1104
Out of Place Call	
Loose and Stray	850
Theft	39
Total	889
Other Calls	
Dogs Chasing/Killing Livestock	23
Misc. calls	8
Total	31
Total Calls for Service	8489
Livestock Inspections	
Total inspections IT	10,844
Paper inspections	646
Total Livestock Inspections	11,490

Citrus, Fruit & Vegetable (CFV) Division Standardization

Arizona ranks third in the nation for overall production of fresh market vegetables. Arizona acreage produced over 104 million cartons of fresh produce last year. Arizona ranks second in the nation in production of iceberg lettuce, leaf lettuce, romaine lettuce, cauliflower, broccoli, spinach, cantaloupes, and honeydews.

The top ten commodities, which account for 85% of the state's total produce production, based on carton count for fiscal year 2018 (July 1, 2017-June 30, 2018) are as follows:

Iceberg lettuce	23,923,370	Broccoli	5,553,281
Romaine lettuce	21,912,452	Cauliflower	4,631,240
Cantaloupe	9,239,563	Watermelon	4,308,629
Spinach	7,427,594	Celery	4,017,663
Leaf Lettuce	6,548,719	Cabbage	3,297,703

As detailed below, the Citrus, Fruit and Vegetable Division and the Federal State Inspection Service conducted 14,240 last year. 13,242 were shipping point and 998 were market. In addition, the Citrus, Fruit and Vegetable Division issued 421 licenses to the produce industry.

Industry Funded -- Industry Supported

The Citrus, Fruit and Vegetable Division and the Federal State Inspection Service are entirely self-funded and receive no general fund allocations.

Standardization Program

Citrus, Fruit and Vegetable Standardization Funds are used for the operational costs associated with the collection of fees, licensing produce dealers and shippers and the compilation of statistical data. This includes services conducted for the Arizona Leafy Greens Food Safety Committee, the Arizona Citrus Research Council, the Arizona Lettuce Research Council, USDA Market News and the FDA Food Safety Modernization Act (FSMA) Produce Safety Rule (PSR) Implementation. These funds are reviewed quarterly and adjusted yearly by the Citrus, Fruit and Vegetable Advisory Council.

The Citrus, Fruit and Vegetable Advisory Council, by statute, is comprised of governor-appointed citrus producers from specified counties, fruit or vegetable producers from specified counties, an iceberg lettuce producer from Yuma County and an Arizona apple, grape, or tree fruit producer. From this group of leaders their respective industries meets quarterly with staff of the Citrus, Fruit and Vegetable Division to review program policy and budgetary items.

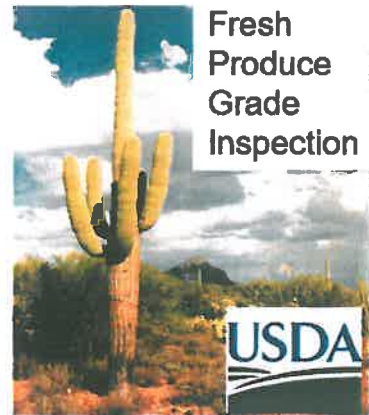
In 2018, new legislation passed that establishes the Citrus, Fruit and Vegetable Program as a division within the department. The new legislation provides the AZDA primacy for the FSMA-PSR and granting the department on-farm food safety regulatory authority over fresh produce production and harvest.

Federal-State Inspection Service- Fresh Produce Grade Inspection

This year the Citrus, Fruit and Vegetable Division successfully completed twenty-three years managing the Federal State Inspection Service, Fresh Produce Inspection, and Terminal Market Programs in Nogales, Phoenix, and Yuma

under a cooperative agreement with United States Department of Agriculture. Mandatory as well as voluntary United States Department of Agriculture inspections are performed by Arizona Department of Agriculture staff (federal state inspectors) and take place at the shipping point (point of origin), port-of-entry (Arizona-Mexico border) or the terminal market (point of destination).

This Federal State Inspection Service program is administered by CFV and enforces United States import requirements and marketing order restrictions at the international border between Arizona and Mexico. Significantly, Nogales is the second busiest port-of-entry for produce in the United States. Last year, department staff inspected a total of 22.5 million packages, with more than 330 thousand onions, 1.1 million avocados, 1.6 million packages of oranges, 1.5 million packages of field tomatoes and 16.5 million lugs of table grapes imported from Mexico and a variety of other commodities, including watermelons, peppers, cucumbers, squash, onions and citrus.



It is important to note that the Citrus, Fruit and Vegetable Division and the Shipping Point Inspection Program in Yuma and Phoenix developed cost-reduction efficiencies for Arizona's agriculture industries through the cross-training of department inspectors to handle both state and federal inspections as well as phytosanitary certifications.

Third Party Audit Program

At the request of Arizona fresh produce industry representatives, the Arizona Department of Agriculture, along with other western State Departments of Agriculture and the United States Department of Agriculture, developed a Third Party Audit program within the existing framework of USDA Agricultural Marketing Service Federal State Inspection. The resulting program is designed to audit the Good Agricultural Practices and Good Handling (GAP/GHP) Practices for the produce industry.

Federally licensed state inspectors perform these audits at industry's request. Last year state auditors performed 40 GAP/GHP audits. Again, Citrus, Fruit and Vegetable Division and Federal State Inspection Service developed cost-reduction efficiencies for Arizona's agriculture industries through the cross-training of department inspectors into auditors that provide the Leafy Greens audits for the Arizona Leafy Greens Food Safety Committee.

Arizona Leafy Green Products Shipper Marketing Agreement (Arizona LGMA)

In September 2007 Arizona farmers came together to raise the bar for food safety. The produce industry solicited the first Marketing Agreement in the history of the Arizona Department of Agriculture. As a result the Arizona Leafy Green Products Shipper Marketing Agreement (Arizona LGMA) was formed. This agreement was renewed for an additional four years in October 2015.

In 2017, the Arizona LGMA program worked to align their standards with FSMA PSR and received official recognition of this alignment. Therefore, Arizona LGMA members that are in compliance with the Arizona LGMA standards are seen as in compliance with the new federal standards under FSMA-PSR.



The general purpose of this Marketing Agreement is to enable shippers of leafy green products to engage in mutual help and continue the production of high quality leafy green products grown in the State of Arizona. The primary purpose of this Marketing Agreement is to authorize signatory shippers to certify safe handling, shipment and sale of leafy green products to consumers by adopting leafy green best practices and by using an official mark. The Marketing Agreement will permit the advertisement and promotion of the use of the official mark and the education of consumers about the meaning of the official mark.

Members of the Arizona LGMA are working collaboratively to protect public health by reducing potential sources of contamination in Arizona-grown leafy greens. Leafy green products of the Arizona LGMA include: iceberg lettuce, romaine lettuce, green leaf lettuce, red leaf lettuce, butter lettuce, baby leaf lettuce (i.e., immature lettuce or leafy greens), escarole, endive, radicchio, spring mix, spinach, cabbage, kale, arugula and chard.

Assessments on signatories to the Arizona Leafy Green Products Shipper Marketing Agreement are based on cartons or carton equivalents of affected commodities sold. A shipper is a person that engages in shipping, transporting, selling or marketing leafy green products under his or her own registered trademark or label or a person who first markets the leafy green products for the producer. It does not mean a retailer.

Currently the Arizona LGMA has 36 signatory shippers that represent 96% of the volume leafy greens grown in Arizona. Arizona LGMA membership requires verification of compliance with the accepted food safety practices through mandatory government audits. University and industry scientists, food safety experts and farmers, shippers and processors developed these food safety practices. These companies have committed to sell products grown in compliance with the Arizona LGMA Metrics, food safety practices accepted by the Arizona Leafy Greens Food Safety Committee. Last year LGMA used the Federal State Inspection Service Third Party Audit program to perform 111 audits.

In 2018, a tragic *E. coli* outbreak associated to romaine lettuce produced in Yuma, AZ pulled the leafy greens industry even closer to address the issue. The Leafy Greens Food Safety Task Force was developed, which is comprised of over 130 industry stakeholders, government entities and academics to find solutions to prevent it from happening again.

The recommendations of the Leafy Greens Food Safety Task Force were the result of five working groups who were seeking ways to improve the safety of leafy greens in light of the recent *E. coli* outbreak associated with romaine lettuce. The Technical Committees of both the California and Arizona LGMAs met to consider recommendations from the Task Force that could be implemented by changing the Food Safety Practices, or Metrics, required of all LGMA member companies. The Task Force efforts are ongoing with a long list of research and proposed standard changes for the production and harvest of lettuce and leafy greens.

Organic Certification Cost Share Reimbursement

Through a federal grant, the Citrus, Fruit and Vegetable Division oversees the Organic Certification Cost Share (OCCS) reimbursement program. The OCCS provides cost share assistance to producers and handlers who are obtaining organic certification for the first time or renewing their previous certification. Cost share assistance is provided on a first come, first served basis, as long as funds are available.

Organic operations may receive one reimbursement per certificate or scope of certification per year. The National Organic Program currently recognizes four scopes of certification: crops, wild crops, livestock, and processing/handling. This means that clients with more than one certification scope may be eligible for more than one reimbursement.

Eligible operations will be reimbursed up to 75% of their organic certification costs, not to exceed \$750, for each NOP scope of organic certification. Any operation that is located within the United States and received organic certification on or between October 1, 2016 and September 30, 2017 may apply for reimbursement.

The Citrus, Fruit and Vegetable Division has overseen this program since FY 2010 and has provided reimbursement for 332 certifications, reimbursing over \$246,000 to Arizona producers and handlers.

FDA Food Safety Modernization Act- Produce Safety Rule

In September 2016, the United States Food and Drug Administration (FDA) awarded the Arizona Department of Agriculture (AZDA) and the Citrus, Fruit and Vegetable Division a five year grant/cooperative agreement to implement the Food Safety Modernization Act (FSMA) Produce Safety Rule.



Under this Cooperative Agreement, CFV will provide statewide training/outreach for the Produce Safety Rule. FDA requires at least one person from every farms attend the Produce Safety Alliance – Produce Safety Rule Grower Training. The AZDA began this training in September of 2016 and CFV has trained over 220 participants. CFV is currently working to implement the National Association for State Departments of Agriculture (NASDA) On-Farm Readiness Review (OFRR), which provides a one-on-one farm visits to evaluate a farm’s food safety practices and provide resources and guidance for improvement prior to any regulatory inspections.

The Cooperative Agreement also covers regulatory oversight and compliance. In 2018, new legislation passed that establishes the Citrus, Fruit and Vegetable Program as a division within the department. The new legislation provides the AZDA primacy for the FSMA PSR and granting the department on-farm food safety regulatory authority over fresh produce production and harvest. FDA does not intend to begin regulatory enforcement until spring of 2019.

Environmental Services Division (ESD)

The Arizona Department of Agriculture Environmental Services Division is made up of two sections. The licensing section and the compliance section. We are responsible for serving our customers and protecting consumers and human and environmental health. The Licensing Section provides licensing services for many of the agency programs ensuring excellent customer service and appropriate cash handling. The compliance staff protects the public, agricultural workers and pesticide handlers employed in agribusiness through field inspections and complaint follow-up. They monitor proper use of crop protection products and ensure compliance with environmental laws and rules. They also inspect any place where feed, fertilizer, pesticide and seed (the non-food products) are sold reviewing labels to ensure they are in the proper format, the company whose name is on the label is properly licensed or their products are registered. In addition they take samples for analysis at the State Agricultural Laboratory to ensure consumers are receiving what is represented on the labels. Finally they provide training for maintaining pesticide related credentials and for the Worker Protection Standard Train the Trainer program.



Staff Allocations

The Environmental Services Division had 20 full-time employee positions as of June 30, 2018. Six of these positions are in the field.

Licensing

The Department of Agriculture is committed to providing quality customer service on a timely basis. This continues to be proven out by the many customer service survey cards returned to the licensing section stating how other state agencies and other states could learn from the exceptional help they received from licensing personnel. The following table represents the total number of certifications, licenses, permits, & registrations issued by the Licensing Section in FY2018:

Certifications, Licenses, Permits, & Registrations issued in FY2018*

Program	Number
<i>Pesticide Companies</i>	1,430
<i>Pesticide Products Registered</i>	14,907
<i>Fertilizer Companies</i>	571
<i>Specialty Fertilizers Registered</i>	2527
<i>Feed Companies</i>	1096
<i>Seed Licenses</i>	1644
<i>Dairy/Milk Industry Licenses</i>	402
<i>Aquaculture Licenses</i>	55
<i>Egg & Egg Products</i>	140
<i>Meat Industry Licenses</i>	255

Weights and Measures	Number
<i>Public Weighmasters</i>	2271
<i>Weights and Measures RSAs</i>	152
<i>Weights and Measures RSRs</i>	517

Program	Number
<i>Native Plant Permits Issued</i>	931
<i>Native Plant Tags</i>	39,745
<i>Equine Rescue</i>	10
<i>Equine Hauling</i>	32
<i>Feedlot Licenses</i>	24
<i>Free Sale Certificates</i>	261
<i>Free Sale Products Registered</i>	1934
<i>WPS Trainer Certificates</i>	224
<i>Livestock Brand Certificates</i>	2,111

*Some numbers derived from revenue vs database reporting

Environmental Services Division and Pest Management Credentialed Pesticide Use Licenses and Permits Issued

Environmental Services Division (Agricultural)		Pest Management Division (Non-Ag)	
Total Agricultural Licenses Issued	2295	Total Non-Ag Licenses Issued	9840

The Pest Management Division has an internet based license renewal system – RenewEZ; which processed 95.6% of all renewals received in FY2018. All Pest Management Division certifications and licenses expired on May 31st. Credentials Online is the Environmental Services Division online renewal system; which processed 32% of all renewals received in FY2018. All Environmental Services Division certifications and licenses expired on December 31st. In addition to the Credential renewals, Pesticide Product registrations can be renewed online as well. In FY2018, 41% of all Pesticide Product Registrations were renewed online.

Industry Fees Protect Consumers

The Non-Food Quality assurance program is funded with no general funds. The funding comes from monies collected from: an annual \$10 commercial feed license and a quarterly \$0.20 per ton commercial feed inspection fee; an annual \$125 fertilizer license, a \$50 per brand and grade specialty fertilizer (fertilizer for nonfarm use, including home gardens, lawns, golf courses, parks and cemeteries) registration and a quarterly \$0.25 per ton fertilizer inspection fee; a \$110 per product pesticide registration; and an annual seed license fee of \$50 for dealers and \$100 for labelers. Approximately one-half of the money collected through seed licensing is used to fund half a position at the State Agricultural Laboratory who performs the seed quality analysis.

One hundred dollars of the fee paid for each fertilizer license and \$75 of the pesticide registration fee help support the Arizona Water Quality Assurance Revolving Fund (WQARF), which is administered by the Arizona Department of Environmental Quality (ADEQ), to be used for ground water cleanup projects. In FY2018, \$1,196,427 in fees were collected for the WQARF: \$57,060 in fertilizer fees and \$1,139,367 in pesticide registration fees.

Fertilizer Tonnage FY2018 (in Tons)		
Bags	Bulk	Liquid
92,912	122,252	273,844
Total		489,008

Feed Tonnage FY2018 (in Tons)	
Pet Food – Animal Food - Supplements	
Total	1,761,150

Testing Center

Besides processing licensing applications the Environmental Services Division administers several tests that are required to obtain various credentials. The tests include milk haulers, cotton seed samplers, a myriad of Ag pesticide-use licenses, weighmasters and registered service representatives. Tests are administered Monday through Friday at Department offices in Phoenix. The pesticide credential exams are also administered in Yuma and Tucson. To schedule a testing appointment, applicants should call (602) 542-3578 (Phoenix), 928-344-7909 (Yuma) or 520-770-3035 or 520-770-3036 (Tucson).

Exams Administered in FY 2018

The following table represents the total number of certifications, licenses, permits, & registrations issued by the Licensing Section in FY2018:

<i>Environmental Services Division – Total No. of Tests Administered</i>	<i>Pass Rate</i>	<i>No. of Unique Testers</i>
601	66.22%	518

The Pest Management Division exams are administered by a third-party vendor, Metro Institute, at no cost to the State. Metro has proctor sites in Phoenix, Glendale, Tucson, Flagstaff, Prescott, Kingman, and Yuma.

<i>Pest Management Division - No. of Tests Administered</i>	<i>Pass Rate</i>	<i>No. of Unique Testers</i>
5942	56.2%	3961

Licensing Requires Continuing Education

Individuals holding commercial certification are required to earn six continuing education units each year. Those holding private certification are required to earn three units each year. Private certification enables individuals to apply restricted use pesticides on land owned or rented by their employer or themselves. Commercial certification allows application on any agricultural property. Individuals holding pest control advisor licenses (provide written pest control recommendations) are required to earn fifteen continuing education credit hours annually.

Pesticide Use & Worker Safety Field Work

Pesticide Compliance

The inspection staff conducts a number of different types of health and safety inspections. The Department inspection staff observes applications, mixing and loading, storage and empty container disposal of pesticides to ensure pesticides are being used safely. They inspect businesses that repackage, manufacture/distribute pesticides to ensure compliance with state and federal pesticide sales, manufacturing and bulk storage regulations.

<i>Total Number of Applications Observed– Storage – Mixing/Loading</i>	28
Pesticide Applications Observed	13
Experimental Use Pesticides Applications Observed	5
Mixing/Loading of Pesticide Products Observed	4
Storage of Pesticide Products and Integrity of Labels Inspected	6

Restricted Use Pesticides

Any product making a claim to control, mitigate, repel, kill etc. a pest is a considered a pesticide by Arizona and Federal law. Inspections are conducted at pesticide marketplaces to ensure that pesticides are registered with the state and the Environmental Protection Agency.

Inspections at pesticide dealers and on agricultural establishments ensure pesticides classified as restricted use are sold and used only by certified individuals. Restricted use pesticides are those that have the potential to pose a higher risk and therefore can only be used under the direction of a certified applicator. The applicators become certified through testing, which ascertains their understanding of label directions and their ability to manage the associated risks.

<i>Restricted Use Pesticide (RUP) Dealer Audits</i>	Number
<i>Pesticide Seller Permit (PSP) Audits Conducted During Year</i>	20
RUP Pesticide Seller Enforcement Action	2
Warnings Issued	1
Citations Issued	1
Penalties Assessed	\$80.00
<i>Certified Applicator License (PUP/PUC/PUG) Audits</i>	35
RUP Certified Applicator Enforcement Action	1
Failure To Maintain Records Of RUP Applications	1

Report Pesticide Use and Misuse

The Environmental Services Division (ESD) has a long standing Pesticide Emergency Hotline at 1-800-423-8876 where potential pesticide misuse can be reported. Arizona requires that this number be part of the required worker safety training elements so workers and handlers have the knowledge to make it easier to report worker protection standard (WPS) concerns. Pesticide misuse/drift complaints are also received from Arizona residents calling directly to the Department main telephone number, (602) 542- 4373. Such calls are forwarded to ESD inspectors for further investigation. This year we also received a number of referral calls from the EPA National Complaint Hotline.

Misuse is Taken Seriously

Complaints alleging pesticide misuse are promptly and thoroughly investigated. Once a complaint investigation is complete, a recommended disposition is prepared. No recommended disposition dealing with a third party complaint can take place without a review and approval by the Associate Director, the Director and by an attorney from the Office of the Arizona Attorney General. In cases where facts document a violation occurred and all reviewing parties agree a violation of the pesticide laws occurred and can be proven in court, a citation will be issued. Cited parties may request a hearing with the Office of Administrative Hearings or pay a civil penalty to the state general fund as established by law for their actions.

<i>Pesticide Use / Complaints / Referrals</i>	Number
<i>USE</i>	15
with Worker Protection Safety Violations	3
with Drift	3
<i>EPA Referrals</i>	2
<i>Other Agency Referrals</i>	3
from Third Party Referrals	13
Warnings Issued	0
Citations Issued	8
Penalties Assessed	\$3171.50
Cases dismissed	7
Pesticide Product Misuse	4
TOTAL NUMBER OF USE ENFORCEMENT ACTIONS INITIATED	
19	

<i>Pesticide Control (USE) Violations</i>	No. and Types of Violations
Drift / Overspray Causing Unreasonable Effects	5
Not Applying Pesticide According To Label Directions	1
Pesticide Labels on Temporary Containers Not Properly Labeled	1
Pesticide Label Missing Required Label Information	1
Instructing Others to Apply a Pesticide Inconsistent With Its Use	1
Operating Without A Valid License	1
Failure to provide WPS Required Information And Equipment During Application	1
Failure to obtain EPA ESTABLISHMENT NUMBER for facility	1

Agricultural Worker Safety

Farms, forests, nurseries and enclosed spaces (greenhouses) purchasing and applying agricultural use pesticides must comply with Arizona's Worker Protection Standard (WPS). Golf courses which have nursery facilities (move plant material from one location to another) are also subject to the Worker Protection Standard. The worker safety program and regulations are designed to protect agricultural workers and pesticide handlers from pesticide related injuries.

New WPS regulations have gone completely into effect now. As an agency we will continue to educate on the changed regulations. The major changes being implemented include:

- All handlers and early entry workers must be at least 18 years old.
- Workers must receive full training before they enter into any area that has had a pesticide applied within 30 days plus the restricted entry interval (REI).
- Workers and handlers must be trained annually, with an expanded list of subject matters. Records must be kept on the training for 2 years.
- Application records must not only be kept at the central posting location for 30 days plus the REI. They must be kept and available to employees for 2 years.
- Anyone who will be wearing a respirator must be evaluated and fit tested. This conforms to OSHA respirator requirements. Employers must keep records of all this.
- Specified amounts of water are now required for workers and handlers. (1 and 3 gallons respectively)
- There is now an application exclusion zone in which no one can enter. Think of it as a halo around the application equipment. Applicators must stop if someone is within the specified distance and workers must make sure they stay at least that distance from application equipment.
- The safety poster, in addition to being placed at the central location, must also be at a decontamination location where more than 11 people are working.
- The law prohibiting retaliation by an employer against an employee who is trying to be in compliance with the WPS, has also been strengthened.

<i>Worker Protection Standard (WPS) Inspections</i>	Number
<i>WPS Total Number of Inspections Conducted</i>	148
WPS ENFORCEMENT ACTION initiated	9
<i>Citations Initiated</i>	8
<i>Warnings Initiated</i>	1
<i>Dismissed</i>	1
<i>Penalties Assessed</i>	\$3056.00

Worker Safety Violations Found	Number of Violations
Training	14
Central Posting – Missing/Incomplete/Inaccessible	8
Notice of Application	3
Entry Restrictions	1
PPE	1
Mixing and Loading	0
Decontamination	3
Emergency Assistance	4
Information Exchange	1
Retaliation	0

Education and Outreach



During the state fiscal year, ESD Compliance staff, along with Agricultural Consultation and Training staff (ACT), conducted fourteen Pesticide Safety Train-The-Trainer Workshops in English and Spanish for new trainers and those with expired certificates. The worker only TTT course developed and presented in the Yuma area for labor contractors that only employ workers continues to be well received. Overall attendance neared 250 people.

PESTICIDE SAFETY TRAIN-THE-TRAINER WORKSHOPS

City/Town	Course Category	Date	Language	No of Attendees
Tucson	Full Day for Ag Teachers	July 15, 2017	English	34
Yuma	Worker Only TTT	August 2017	Spanish	22
Marana	Full Day	September 19, 2017	English	25
		September 20, 2017	Spanish	8
Yuma	½ Day Refresher Course	November 7, 2017	English / Spanish	7 / 4
	Full Day	November 15, 2017	Spanish	24
		November 16, 2017	English	17
Phoenix	Full Day	January 26, 2018	English	25
		February 2, 2018	Spanish	12
		February 1, 2018	English	21
	½ Day Refresher Course	April 2018	English	7
Mohave Valley	½ Day Refresher Course	May 2018	English	9
Yuma	Worker Only TTT	May 23, 2018	Spanish	23

Annual Recertification & Training Courses were held across the state. Pest control advisors, certified applicators and responsible parties for pesticide sellers were able to obtain three or six hours of continuing education. Three hours for attending in the morning or afternoon only and six hours for attending the full day course. Courses covered the new formulations of old products and the specific label requirements

including sprayer cleanout; Worker Protection Standard – Central Posting, Respirator Use and Decontamination; pollinator protection, Regulatory issues - 1080's, employers responsibilities, WPS Change Update: and as always ending with a game of Jeopardy to review all that was covered during the day. There were additional topics touched on that were important for the safe use of pesticides.

<i>Annual Recertification & Training Courses</i>			<i>No. of Attendees</i>
December 5, 2017	Annual Recertification & Training Courses	Maricopa	99
December 6, 2017	Annual Recertification & Training Courses	Safford	57
December 12, 2017	Annual Recertification & Training Courses	Yuma	66

Compliance Inspection Staff Events

Inspector training and development is crucial to improving knowledge for inspections conducted. For maintaining EPA, FDA and USDA credentials, ongoing or annual training is required. It is essential for new inspection staff, giving them the opportunity to learn on the job. State and Federal laws change and the need to update skills and experience helps to provide expertise in the programs ESD has been authorized to inspect. The inspection staff is responsible for multiple programs and training helps to extend or enhance their knowledge so they can competently conduct inspections and ensure everyone is up to speed with current regulations.

<i>Staff Attended Training - Conferences - TTT Courses - Monitors</i>		
Date	Course Name	Location
Quarter 1 - July - Sept 2017		
Quarter 2 - Oct - Dec 2017		
October 10, 2017	Maricopa Ag Center Field Day	Maricopa
October 26, 2017	Legislative Field Day	Ag Establishments
October 30, 2017	SECC Trap Shoot Charitable Contribution Event	Phoenix
Quarter 3 - Jan - Mar 2018		
January 1, 2018	LAW1006EMP, Preventing Inappropriate Behavior and Workplace Harassment	Online
February 27, 2018	Phosphorus Forum	ASU - Tempe
March 15, 2018	EPA Sponsored – Strategies for Managing Pesticide Spray Drift	Webinar
Quarter 4 - Apr - June 2018		
April 2, 2018	Western Plant Health – Regulatory Affairs Committee	ADA - Phoenix
May 4, 2018	WPS Video Meeting	Yuma, AZ
May 9-10, 2018	Desert Ag Conference	Fountain Hills, AZ
May 8-11, 2018	Western Region Pesticide Conference - 2018	Bismarck, ND
May 22, 2018	Unusable Pesticide Collection Event	Yuma, AZ
May 24, 2018	Unusable Pesticide Collection Event	Maricopa, AZ
May 16, 2018	2018-2019 Animal Food Safety Inspection Contract of RFP & SOW	All States Webinar
May 23, 2018	TTT Course	Yuma, AZ

May 20, 2018	FDA FSMA Chat: What is the Accredited Third-Part Certification Program	Online
June 6-11, 2018	VM101W100 - Grain and Feed Mill Operations	Online
June 11, 2018	FDA VM8000W - Regulatory Foundations of CGMPs for Food for Animals	Online
June 12, 2018	VM9000W - Regulatory Foundations of PCs for Food for Animals	Online
June 25-29, 2018	FDA - VM-102 Current Good Manufacturing Practice Course	Oakland, CA
June 27-28, 2018	Initial Certification Training - Dine College	Tsaile, AZ

Non-Food Quality Assurance



Environmental Services Division inspectors also are responsible for the Non-Food Quality Assurance program inspections (feed, fertilizer, pesticide and seed). Inspection staff collect samples of animal feed, fertilizer, pesticide and seed products in the marketplace. Marketplace inspections can be conducted at potentially any facility that sells or distributes these products. Inspection staff check product labels to ensure proper registration and proper company licensing in Arizona.

A "Cease and Desist" order and "Warning Letter" are issued if a product does not pass laboratory analysis or if found unlicensed or unregistered. They can also be issued for other label related concerns. For seed and fertilizer, there can also be penalties associated with failing products.

Consumer Protection Samples Collected in FY 2018

Sample Type	Collected	Analyzed	Failure (%)
Feed	195	223	6%
Fertilizer	142	243	10%
Water	16	64	0%
Pesticide Formulation	105	115	1%
Pesticide Residue	54	20	20%
Seed	68	192	0%

Marketplace Inspections and Sampling Enforcement Actions

QUALITY ASSURANCE FAILURES CASES	NO.	QUALITY ASSURANCE FAILURES CASES	NO.
Feed Failures	10	Pesticide Failures	1
Raw Feed Failures (<i>e-coli</i> , <i>salmonella</i> etc.)	0	All Pesticide Failures are Sent to EPA	1
Fertilizer Failures	8	Seed Failures	0
<i>Total Number of Cases Initiated</i>		19	

Marketplace Inspections (MPI) Conducted

Marketplace Inspections	NO.	Marketplace Inspections	NO.
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Enforcement Actions		Enforcement Actions	
Feed Companies Unlicensed	3	Seed Dealers Unlicensed	5
Consumer Feed Complaints	3	Seed Labelers Unlicensed	0
Complaints Dismissed	3	Seed Products w/Expired Labeling	4
Fertilizer Companies Unlicensed	5	Pesticide Companies/Products Unregistered	8
Fertilizer Specialty Products Unregistered	13		
Total			60
<i>Total Number of Cases Initiated</i>			38
Total Number of Cease & Desist Orders and Warnings Issued for Sampling Failures and Marketplace Inspection Enforcement Actions			155

Definitions:

Warning/Notice of Violation (NOV) - Warns a manufacturer or distributor of violations related to Feed, Fertilizer, Pesticide, and Seed products offered for sale or distribution in Arizona. Multiple warnings may result in products being removed from sale or distribution, as well as injunctions or seizure of violative products.

Cease and Desist (C&D) - A Cease and Desist is issued when a company fails to come into compliance and requires that the product is removed from sale and distribution in Arizona. C&D Orders remove substandard products from the marketplace for consumer protection



Pesticide Container and Containment Inspections

Since 2011 container and containment inspections are required by the Environmental Protection Agency (EPA). Working under a Program Partnership Grant with the EPA, Department staff inspect pesticide retailers that repackage pesticides, commercial applicators and custom blenders. Those retailers must comply with federal regulations if they handle agricultural pesticides and have a stationary container or pesticide dispensing area itemized in the regulations. The regulations and inspections help ensure the facilities are being maintained properly.

Pesticide Producer Establishment Inspections

The Department's Program Partnership Grant with the Environmental Protection Agency (EPA) requires Agency staff to inspect pesticide producer facilities. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requires production of pesticides and pesticidal devices that indicate they control, repel or mitigate pests, in a registered establishment. Companies that produce pesticides, pesticide active ingredients or devices, including companies that import these items into the United States, must register as a pesticide producing establishment and file production reports with the EPA. FIFRA definition of "production" includes formulation, packaging, repackaging and relabeling of any pesticide product or device. Production in an unregistered establishment is a violation of FIFRA.

Groundwater Protection

The Arizona Department of Agriculture inspection staff collected groundwater samples in Yuma, Maricopa and Graham counties in May, 2018. More than 100 AIs are looked for in the 16 samples gathered. The analyses is for the active ingredients on the state's groundwater protection list and the pesticides of interest list from the EPA. The State Agriculture Laboratory does the analysis. The funding for the analysis has been provided by the US EPA through the agency's Program Partnership Grant. Working as a team with ADEQ, all new agricultural use products are reviewed before registration to ensure the state's groundwater resources are protected.

Bovine Spongiform Encephalopathy Inspections (Mad Cow Disease)

The field staff, working under a federal contract with the Food and Drug Administration (FDA), conducted 40 inspections (5 were found to no longer be in business) of feed manufacturers, dairies, feed yards, trucking companies and dealers. Bovine Spongiform Encephalopathy (BSE) Inspections are conducted to access compliance with federal regulations regarding animal feed and their ingredients. This is to ensure the health and safety for both ruminants and human consumption.

Country of Origin Labeling (COOL)

For the eighth year, the division worked under a federal contract with USDA Agricultural Marketing Service and hired a part-time inspector to conduct inspections under the program. Inspections are conducted at assigned marketplaces, mainly grocery stores, across Arizona checking for compliance with the federal Country of Origin Labeling (COOL) requirements. The COOL regulations apply to fresh and frozen, fruits and vegetables, fish and shellfish, goat, lamb/mutton, chicken, and ginseng, peanuts, pecans and macadamia nuts. Products must bear labeling or have signs conspicuously posted, indicating the country of origin for the commodity as defined by the law. Meats must also have where they were born, raised, and processed. Fish and shellfish are also required to be labeled as to whether or not they are wild or farm-raised. A total of 15 follow-up inspections took place at businesses that previously were inspected and had some non-compliant issues and 50 initial inspections. Follow-up inspections are more involved and require the stores to provide records showing where they obtained the products and the country of origin.

Pest Management Division (PMD)

INSPECTIONS

Pesticide Use Inspections

One of the duties of PMD Compliance is to perform Pesticide Use Inspections (aka Use Inspections). These inspections involve monitoring an applicator applying, storing or disposing of a product. PMD believes that monitoring compliance protects the public by reducing the number of pesticide misuses. The number of Use Inspections performed for FY 2018 amounted to **1226**. **The categories of inspections were as follows:**

1	General Pest / Public Health	640
2	Wood Destroying	331
3	Turf and Ornamental	120
4	Antimicrobial	74
5	Right of Way / Weeds	44
6	Fumigation	7
7	Aquatic Pest	7
8	Other (or combination)	3

Non-Use Inspections

Non-use Inspections are inspections that do not involve the actual “monitoring of pesticides”. They are Inspections of pesticide treatment records at the business licensee’s office or at a food, healthcare, school or child care facility to ensure individuals servicing such accounts are licensed (as required by law). Such inspections also involve vehicle inspections (ensuring labels, safe working equipment and personal protective equipment are onboard), office records (e.g. dates employees licensed) **PMD compliance staff conducted 1157 non-use inspections. The categories of inspections were as follows:**

Office Inspections	533
Vehicle Inspections	348
Certified applicator treatment records	86
Child Care visits	98
School Visits	46
Health Care Inspections	43
Food Handling Establishments	3

Consumer Protection Monitors

Inspectors utilize Pretreat Tag Monitors, also known as “Consumer Protection Monitors (or CPMs)”, to determine if consumers received a termite pretreatment that complies with state and federal requirements. This monitoring program does not disrupt the work schedule of a business, qualifying party or applicator, because it does not involve them, unless a violation is found. The inspector visits newly constructed areas, views the pretreatment tag the applicator is required to attach to the site after pretreatment. Then, the inspector measures the site, calculates the amount of termiticide that should be applied and compares his findings with the information the applicator documents on the tag. The inspector use the pretreat tag to not only verify the proper quantity, strength and dosage of termiticide to a site, but also to determine if the business performing the treatment is reporting the treatments to the Office as required by Law. **In FY 2018, PMD inspectors performed 277 Consumer Protection Monitors.**

Investigations

The Division conducted 111 inquiry investigations in FY 2018. Inquiries, threshold investigations, are basically preliminary investigations. They take 30 to 60 calendar days and provide information for Compliance staff to determine if there is evidence of a violation. Inquiries come from consumers, licensees, agency Staff or referrals from the EPA or other State or local government agencies. If violations are found, the inquiries then become complaints. The inquiry categories were as follows in Fiscal Year 2018:

Category	Inquiries Open
Misuse	25
Unregistered applicator	1
QSD	6
Records	20
TARF	7
Unlicensed Applicator	1
Unlicensed Activity	30
WDIIR	3
No insurance	9
30 day certification violation	6
Failure to report felony	1
90 day certification violation	1
No QP	1

Complaints

PMD issues a citation only after the Associate Director, Attorney and the Agency Director have conducted a review of the investigative report and have determined that a violation meriting disciplinary action has occurred. To maintain consistency, the Associate Director utilizes Enforcement Response Protocols (ERP) located in the back of the Arizona Administrative Codes. By utilizing the ERP the Associate Director is able to recommend discipline to the Agency Director that is unbiased and uniform. Penalties may include a warning, suspension or even civil penalties of up to \$1000 for egregious violations. **In FY 2018 the PMD completed 82 complaints.**

The categories for the complaints are as follows:

Category	Complaints Completed
Misuse	11
Unregistered applicator	2
QSD	6
Records	11
TARF	4
Unlicensed Applicator	3
Unlicensed Activity	35
WDIIR	2
No insurance	2
30 day certification violation	2
Failure to report felony	1
90 day certification violation	2
No QP	1

Consumers can visit <http://www.sb.state.az.us/ComplaintSearch.php> and view the complaint history of any respondent whom the PMD has opened and resolved a complaint.

Type of Disciplinary Action	Number
Administrative Warnings	53
Civil Penalties	\$35,950.00
Number of cases that involved Civil Penalties	53
License Suspensions	0
License Revocations	0
Dismissals	11
Cease and Desist Orders	31

Continuing Education Applications

Individuals holding an applicator certification and those holding a certified qualified applicator license are required to obtain 6-hours of Continuing Education (CE) and 12 hours of CE respectively per year. While commercial CE providers offer training on new pesticide technologies, equipment, application techniques, and business practices, PMD staff offered training regarding Rules and Statutes (e.g. applicator and qualifying party responsibilities, proper record keeping). **In FY2018 compliance staff reviewed and approved 715 PMD CE applications, approving 708 and denying 7. The average amount of time it takes to approve the applications is 6.94days.**

PMD provided CE classes in Phoenix, Tucson, Yuma, Prescott and Cottonwood to 676 applicators.

Initial Licensing Training

Initial Licensing Training (ILT) helps pre-testers better understand the aspects of pesticide, the environment and pesticide labels. PMD Compliance offered **5 ILT courses** to a total of **68 attendees**.

Industry Outreach

In FY2018 PMD staff spoke to industry members or participated in CE classes, addressing the new Laws and Rules and the agency's organizational structure. **Staff provided Laws and Rules education to a total of 856 license holders and supervisory staff regarding various topics related to the agency, the PMD and rules and statutes, for which it regulates.**

School and Childcare Visits

State law requires pesticide applications in schools and child care facilities be performed only by **licensed** persons and only after the licensee provides the school or child care facility with a minimum of 72-hours advance notification (pursuant to ARS 32-2307). **This fiscal year, inspectors visited 46 schools and 98 child care facilities** to confirm that pesticides were applied by appropriately licensed persons and that employees, students and parents were provided the proper information and warnings of impending pesticide treatments.

Plant Services Division (PSD)

Safeguarding Market Access and Facilitating Commerce

- Safeguarding the State through early detection of hazardous plant pests to minimize the impact of the introduction and the cost to stakeholders to mitigate it.
- Intensive inspection and certification (federal and state) of vegetables, nuts, citrus, ornamentals and various other commodities for domestic and international export; minimization of trade barriers.
- Establishment and enforcement of quarantines to prevent introduction of hazardous plant pests from other states that threaten agriculture (i.e. exotic fruit flies), the environment (i.e. cactus moth) and the public (i.e. red imported fire ant).
- Issuance of compliance agreements and permits to facilitate commerce among businesses within and outside of the state.



Funding to Support Agri-business and Commerce

Plant Services Division received funding through General Fund (\$2.4 million) and Federal (more than \$1.4 million) sources to support the safeguarding, production, market access and domestic/international movement of numerous Arizona produced commodities.

Fiscal Year (FY) 2018 Impact

The annual value of all Arizona agricultural exports is over \$4.2 billion and some 10,600 Arizona jobs are supported by agricultural exports. Seed is the #1 commodity certified for international export from Arizona and over 130 different types of seeds are exported to over 59 countries. The Division's priorities are: 1) Safeguarding - pest detection activities for early detection/validation of pest freedom to support market access. 2) Certification and related inspection activities for international and domestic commodity export. 3) Quarantine compliance inspections.

Threats from plant pests and diseases of concern to our State are ever-present as the Division inspection staff conducted 28,909 inspections of high risk commodities resulting in 9,221 pests intercepted within the state's interior with 219 identified as serious pests of concern to Arizona's agricultural and horticultural industries. 1,853 international phytosanitary certificates were issued for the international export of vegetable and ornamental seed, produce, nursery stock, wood products and various other agricultural commodities. 2,271 Domestic Phytosanitary Export Certificates were issued for commodity movement domestically. Preclearance of nursery stock for pests before distribution within the State is a major inspection task.

Below is a summary of the activities the Division undertakes and the results of those activities. Plant agriculture and exports continues to diversify and expand:

- **Seed production acres** inspected for export certification increased 65.1% from FY17-FY18; 88.6% increase from FY13-FY18 (5 year trend).
- **International Export Inspections and Certifications:** Increased 16.8% from FY13-FY18

- **Domestic Export Inspections and Certifications:** Increased 89.5% from FY13-FY18
- **Nursery Certifications Issued** (required for domestic shipment of nursery stock): Increased 19.5% FY13 to FY18
- **Commercial Date Plantation acreage** requiring trapping to safeguard against pests and maintain market access for exports: Increased 25.7% (FY13 to FY18)
- **Commercial Pecan acreage** requiring trapping to safeguard against pests and maintain market access for exports: Increased 23.9% (FY13 to FY18)
- **Inspections** stakeholders were subjected to were **reduced by 46%** from FY13-FY18 through risk-based determinations of what to inspect....
-And, as a result, the Actionable Pest Interception Rate **increased 47.4%** over the same period.

Commitment to Service

The Plant Services Division (PSD) continues its progressive efforts to improve the timeliness, efficiency and quality of customer service delivery in order to meet the demands of an expanding agricultural industry. PSD demonstrates a commitment to service through the following:

- **ON-LINE RESOURCES** - Stakeholder access and interaction with the division is enhanced through web-based regulatory information, guidance and resources by industry grouping; fillable application forms and electronic submission to request certification services; and direct connections to local resources, including the division's regional offices, for expedited service.
- **EXPORT CERTIFICATION** - Exports contribute significantly to Arizona Agriculture's \$23.3 billion economic impact on the State. Division staff conduct numerous, intensive inspections annually as requested by various industry stakeholders to facilitate the time-critical domestic (2,271 Domestic Phytosanitary Export Certificates were issued in the state FY 2018) and international (nearly 7,000 International Phytosanitary Export Certificates were issued in Federal FY 2018 with 1,853 certificates issued by division personnel in the state FY 2018) movement of agricultural commodities.
- **VOLUNTARY NURSERY CERTIFICATION PROGRAM** - During FY 2018, 388 applications were received from Arizona nurseries requesting inspection and certification to comply with the import requirements of other states. Following inspection of each applicant's property, production practices and commodities to be exported, 261 certificates were issued.

Export Enhancement

Arizona's economy benefits greatly from the division's strict maintenance of its aggressive pest detection program. In previous years, government quarantine officials from the People's Republic of China, Chile, Argentina, Israel and Mexico reviewed the Division's pest detection efforts resulting in additional, or continued, market access for Arizona agricultural commodities and robust industry growth.

In FY2018, a delegation from Thailand met with staff and reviewed the Division's trapping program for Exotic Fruit Fly pests and were genuinely impressed with the level of safeguarding established to ensure the state remains free from these devastating pests. This assurance allowed Arizona to maintain the exportability of citrus fruit without adding costly pretreatment requirements for fruit prior to export.

Driving Efficiency and Customer Service through Technology

Digital Imaging System for Sample Identifications:

- Reduced costs to stakeholders with rapid determinations of interdicted pests
- Faster release of regulated products into the stream of commerce
- Facilitates immediate access to identification specialists around the globe

Comprehensive Database Applications:

- Real-time, results-based management data to direct priorities and safeguarding activities for cost avoidance and improved short- and long-term effectiveness
- Centralized ordering of supplies and inventory control = cost savings

GPS/GIS Systems:

- Enhanced accountability
- Improved logistics in routing inspectors through inspection/survey sites
- Ability to define situational areas for accurate cost assessments and execution of eradication/control projects

State Agricultural Laboratory

The Arizona Department of Agriculture State Agricultural Laboratory provides quality agricultural laboratory analysis, identification, certification, technical consultation and training services to various regulatory divisions of the Department and others as provided by law. To maintain the integrity of its test results, the Laboratory operates independently of the Department's regulatory divisions and operates under a stringent quality assurance program.

The Department laboratory exists in two separate, small laboratories. The table below illustrates where testing is conducted.

Service	1520 W Adams	250 N 17th Ave
Entomology – M	c (limited)	
Entomology – PCR	c	
Plant Pathology – M	c	
Plant Pathology - Elisa	c	c
Plant Pathology - PCR	C	
Seed – Export	c	
Seed – Regulatory	C	
Brucellosis – Milk		C
Meat – Food Safety		C
Food Safety	C (rtPCR methods)	C
Dairy Micro		C
Dairy Antibiotics		c
Dairy Pesticides	c	c
Dairy Aflatoxin	c	c
Feed	C	
Fertilizer	C	
Pesticide Formulations	C	
Pesticide Residue	c	C

Legend:

c = capability to perform testing under certain conditions with added/redirected resources

C = capacity to perform testing with current resources

Pink Boll Worm Eradication

The SAL worked in conjunction with the Arizona Cotton Research and Protection Council (ACRPC) and the United States Department of Agriculture (USDA) to develop a method of identifying native pink boll worms. This insect is a significant pest affecting the production of cotton in arid climates. In an effort to eradicate the pest, the USDA releases millions of sterile pink boll worm moths into the environment in areas where cotton is grown. The sterile insects compete with any remaining native insects during mating, effectively reducing the propagation of the species. This program has been very successful and the damage caused by the pest has been largely eliminated.

To monitor the success of the eradication, thousands of insect traps are placed and monitored in cotton production areas throughout the US and Mexico. Before releasing the pink boll worm moths, the USDA must "mark" them in order to delineate the sterile moths from any naturally occurring moths. In the past, the pink boll worms were fed a chemical dye which aided in the detection of the sterile moths. However, the longer the released moths were in the environment prior to being trapped, the lower the concentration of the dye that remained in the moths for detection. As the population of the native moths approaches zero, the difficulty in detecting a very low level of dye in the sterile moths has become an impediment to determining whether the eradication effort needs to continue.

SAL scientists developed a new method of determining if a trapped insect was a released sterile moth or a native moth. Utilizing advanced instrumentation, SAL scientists could detect small amounts of the element strontium when present in the body of the insects. USDA modified its rearing procedures to incorporate strontium into the diet of the sterile pink boll worms. Now moths obtained from the traps are tested by SAL scientists; moths containing significant amounts of strontium can be readily identified as sterile moths while those lacking strontium can be assumed to be native moths. The lab has processed nearly 2,000 samples for the ACRPC this year.

Homeland Security

The SAL continues to maintain its capabilities to provide assistance to the State and the Nation in the event of a homeland security emergency. Federal, State and local governments continue to work together to produce a network of laboratories capable of responding to emergencies. SAL has worked hard during the past year to secure its place within the laboratory emergency response infrastructure.

Western Plant Diagnostic Network (WPDN) – Part of the National Plant Diagnostic Network (NPDN), this network consists of laboratories performing plant pathogen, weed and insect pest identifications. Within Arizona, as an offshoot of this network all identified laboratories with plant pest detection capabilities have formed the Arizona Pest Diagnostic Network. The purpose of these groups is to form and maintain a network of diagnostic labs that will communicate information, mainly pest diagnoses and form a communication network to rapidly exchange information in the event of a significant exotic pest find.

Food Emergency Response Network (FERN) – FERN is a network of state and federal laboratories that are committed to analyzing food samples in the event of a biological, chemical, or radiological outbreak or terrorist attack in this country. SAL is a member of the FERN for both chemical and microbiological testing.

Quality Assurance Program

Quality assurance is an integral part of the Lab's analytical operations. It is the scrupulous attention to quality assurance standards that enables each of the laboratory's customers to act upon test results with utmost confidence.

Quality manuals define the laboratory policies, systems, programs, procedures and instructions to assure the quality of the test results. Standard operating procedures referenced in the quality manual detail laboratory processes, test methods, as well proper use and maintenance of equipment. These procedures ensure uniformity of work and the accuracy and reproducibility of test results.

The laboratory continues to monitor the increasing demand for ISO (International Organization for Standardization) certification for laboratories providing regulatory testing. The evolving standard for laboratories similar to SAL is ISO17025. As federal agencies complete the implementation of ISO certification within their own labs, it is anticipated that the federal agencies will require state laboratories to become similarly certified. Such certification is expensive and time intensive; therefore, SAL will continue to monitor the situation and remain a part of the conversations with regard to such certification requirements.

Laboratory Audits

The dairy microbiology lab undergoes on-site laboratory audits that are conducted every three years by the U.S. Food and Drug Administration (FDA) Laboratory Evaluation Officers. Such audits, combined with analyst participation in an annual proficiency testing program ensure the quality of the analyses conducted by the dairy microbiology laboratory.

In addition, the laboratory is audited by the United States Department of Agriculture (USDA) of the laboratory's meat pathogen testing program. Similar audits will be necessary when the laboratory becomes accredited to the ISO 17025 standard.

Reference Standards and Reference Materials

Certified reference material and internal quality control using secondary reference materials are used regularly to ensure the accuracy of test results. The Arizona Department of Agriculture Collection of Arthropods houses one of the largest and most comprehensive ant collections in Arizona. It is part of an insect collection made up of over 20,000 individual specimens, representing more than 250 families of insects. This important reference collection is used by staff in identifying samples of beneficial and harmful insects, which are introduced or established in the state.

Proficiency Test Programs (PTPs)

Analytical performance is validated by participation in several proficiency test programs. PTPs provide unknown samples for analysis by the SAL and provide feedback as to how well the lab did in detecting and/or enumerating test results. Examples include: feed sample PTP by the American Association of Feed Control Officials; fertilizer sample PTP by McGruder's Fertilizer Check Sample Data Program; PTP for meat pathogen analyses required by the USDA; dairy sample PTP by the Laboratory Proficiency and Evaluation Team of the Food and Drug Administration; seed sample PTP by the Association of Official Seed Analysts; pesticide product PTP by the American Association of Pesticide Control Officials; pesticide residue PTP by the Environmental Protection Agency and mycotoxin sample PTP by the American Oil Chemists Society.

Animal Disease Detection

The laboratory tested raw milk for the bacteria responsible for causing brucellosis, a severe reproductive disease in cattle and other animals. In humans the disease is known as undulant fever. Brucellosis may be transmitted from animals to humans through non-pasteurized milk. Since the 1940s, the USDA has sought to eradicate brucellosis from the U.S., resulting in the current Cooperative State Federal Brucellosis Eradication Program. States are designated brucellosis free when none of their cattle or bison is found to be infected for 12 consecutive months under an active surveillance program. Arizona has been brucellosis-free since 1987. The last area in the U.S. known to have an active presence of brucellosis is in and around Yellowstone National Park.

Food Safety

The laboratory participates in the Department's Food Safety and Quality Assurance Program by testing agricultural commodities for food-borne pathogens in the lab. Raw meat, ready-to-eat products, and animal carcass swab samples are tested in support of the State's Meat and Poultry Inspection Program which is a cooperative program of the U. S. Department of Agriculture Food Safety and Inspection Service program.

The U.S. Food and Drug Administration (FDA) certifies the dairy microbiology lab and individual analysts to perform testing on dairy products, dairy product containers, and environmental dairy water samples to allow export of Arizona's milk and milk products to other states. Tests conducted at SAL include bacteriological analyses, enzyme activity for proper pasteurization of dairy products, antibiotic residues, and other indicators of milk safety and quality.

Forensic Testing

The SAL scientists test samples collected during investigations of off-target application of agricultural chemicals, incorrect application of pesticides to homes for the prevention of termite infestations or insect control, illegal discharge of pesticides into the environment, or failure to take necessary actions to protect industry workers. These regulatory samples are collected by investigators and delivered to the laboratory utilizing stringent chain of custody procedures. Sample types received include water, soil, produce, foliage, animal tissues, air, clothing and surface swabs. Complicating the analytical testing process are the over 11,000 pesticide products registered for use in Arizona, any one of which could need to be detected as part of an investigation. Analysis of these forensic samples requires advanced scientific tools and experience.

Consumer Protection

The expertise of the Lab's personnel with the chemistry of pesticides is further used to protect Arizona's consumers and industry through the provision of analysis of home-use, commercial and agricultural pesticide products. The Department collects samples each year from the consumer and industrial market place. Chemists then perform analyses to determine whether the content and quality of the active ingredients are correctly displayed on the product label. This regulation not only protects the end-user from potential financial losses, but it also plays a key role in protecting pesticide applicators and farm workers against harmful exposure.

The laboratory also analyzes commercial feed and fertilizer products to determine whether the amount of ingredients guaranteed on the label are accurate. This ensures that consumers receive agricultural products that meet the label guaranteed quality. For example, a fertilizer may have a grade guarantee of 10-20-5 which indicated the product must contain 10% nitrogen, 20% phosphorous and 5% potassium and the lab would run tests for all three ingredients. Similarly, a feed product may be guaranteed for protein, calcium, phosphorous or other nutrients requiring multiple testing.

SAL analysts conduct testing of commercially available seed products for purity, germination rate, and weed seed content to benefit Arizona's farmers, landscapers, homeowners, golf courses and seed export companies. Analyses were completed on seed samples to provide assurance that the seed label matches its guaranteed performance when planted and does not contain excess harmful weeds. SAL's seed analysts are certified by the Association of Official Seed Analysts.

Weights and Measures Services Division

The Weights and Measures Services Division strives to protect the integrity of Arizona's marketplace by ensuring that equity and accuracy are preserved for consumers and sellers. The Division educates businesses about regulations and helps those businesses comply on an equitable basis.

Primary Responsibilities

- Preserve and defend the measurement standards by which all commerce is built upon in order to deliver fair competition in the Arizona marketplace.
- Ensure that commercial devices (scales, fuel meters, liquid petroleum gas, etc.) used for the sale of commodities by weight, measure or count are licensed and accurate.
- Work to prevent unfair dealing by weight, measure or count and conduct regular inspections and investigations of potential fraud in commodities.
- Maintain the state's primary standards (those measurements upon which all other measurement are based).
- Ensure accuracy and proper labeling of products sold by weight, measure or count (a gallon of gas is a gallon; your breakfast cereal weighs 20 oz. as stated on the package, etc.).
- Conduct regular inspections to ensure that prices are posted and items scan at the correct price.
- License weighmasters who are responsible for weight certification at truck stops and other locations for interstate commerce purposes.
- Manage the Arizona Cleaner Burning Gasoline and the vapor recovery air quality programs.

Major Accomplishments

Focus on Underserved Inspection Types

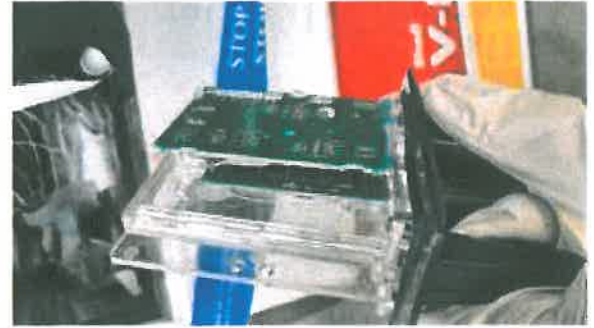
- The division has a renewed focus on conducting inspections that have not been performed on a routine schedule to better serve and protect consumers in the marketplace. These inspections include packaging, high flow diesel, propane, and large scales.
- We implemented a breakthrough project to double the number of these underserved inspection types during FY18 from 2,500 to 5,000. We exceeded our goal with the completion of 6,412 device inspections.

Continued Focus on Skimming Devices

In December 2015, there was an increase in number of credit/debit card skimming devices identified in gas dispensers. Skimmers are used by criminals to steal consumer credit/debit card information. The agency increased the number of inspections and worked with stakeholders to address this growing problem. During this fiscal year 69 skimming devices were found by or reported to the Division. This fiscal year the division:

- Passed a rule requiring reporting when skimming devices are found by licensed service personnel.

- Continued targeted surveys to inspect for skimming devices in high-risk areas.
- Continued communications between law enforcement, the banking industry, gasoline retailers and the general public when skimmers have been found.
- Presented educational information to the Arizona Bankers Association and the Arizona International Association of Financial Crimes Investigators.
- Maintain statewide information regarding skimmers identified in Arizona.



Hosted the 60th Annual Western Weights and Measures Conference

The annual Western Weights and Measures Conference was hosted by the Arizona Weights and Measures Services Division in Old Town Scottsdale September 24 through 28, 2017. The Western Region is one of four regions of the National Conference on Weights and Measures (NCWM). The 5-day conference was a great success, with over 100 attendees. These regional meetings are very important, as they are the first step for introduction of new ideas and proposed updates to the standards contained in the National Institute of Standards and Technology (NIST) Handbooks 44, 130, and 133, adopted in July of each year by NCWM. These handbooks are then incorporated by reference in whole or part by most states, including Arizona, to become law. In addition to the conference, we hosted a simultaneous 3-day training course on livestock scales taught by NIST and attended by 20 scale inspectors. This type of training is incredibly valuable to promote consistency and the highest level of technical expertise in the field.

Successful Removal of Stage II Vapor Recovery Equipment

HB 2128, passed April 2014, requires more than 1,000 gasoline stations located in the Maricopa County region to remove stage II vapor recovery control during a 2-year period starting October 1, 2016. To date we have:

- Successfully overseen the removal of stage II equipment at 89% of the sites.
- All scheduling, reporting and inspections reports conducted online which has proven to be most efficient.
- We continue to notify the remaining sites of the September 30, 2018 deadline.

Proposed Rulemaking

- Published proposed rules on March 23, 2018, to allow the use of isobutanol as an oxygenate in gasoline in accordance with House Bill 2368 and update to the latest versions of NIST Handbooks 44, 130, and 133.
- Final rulemaking is anticipated in September 2018.

Performance Numbers Fiscal Year 2018

Overview:	Detailed Highlights:
Inspections conducted: 8,829	Total Devices Tested: 36,575
Number of Devices Licensed: 123,644	Gas Pump Tests Conducted: 19,791
Consumer Complaint Inspections: 1,832	Scales Tested: 6,242
Civil Penalties Issued: 401	Price Posting/UPC Inspections: 2,259

Civil Penalty Amount Assessed: \$177,300	Fuel Quality Samples Analyzed: 535
	Dispenser checked for skimmers: 2,588
	Skimmers Reported/Found: 69
	Overall Site Compliance Rate: 91% Pass

