Mission :

To Regulate and Support Arizona Agriculture in a manner that encourages farming, ranching and agribusiness, while protecting consumers and natural resources.

ARIZONA DEPARTMENT OF AGRICULTURE ANNUAL REPORT

FY2008 – 2009

JANICE K. BREWER
Governor

DONALD BUTLER
Director

Arizona Department of Agriculture

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September 30, 2009

Honorable Janice K. Brewer
Governor, State of Arizona
1700 West Washington Street
Phoenix, Arizona 85007

Dear Governor Brewer:

I am pleased to submit to you the Arizona Department of Agriculture's Annual Report for fiscal year 2008-2009. We award grants, administer public advocacy committees to protect the general public. Inside you will find details about the many services provided by our department for the general public and the ways we regulate and support Arizona agriculture while also protecting consumers and natural resources.

In a time of decreasing resources and when people are becoming increasingly concerned and aware of their food sources, the Arizona Department of Agriculture has been working diligently with industry to develop more effective ways to ensure that foods and feeds produced in Arizona and consumed worldwide are safe and of the highest quality.

We ensure that meat, poultry, dairy, and egg products processed in Arizona and consumed globally are safe, that animal feed meets safety and label requirements, and that fruit and vegetables and plants brought into this state are not carrying harmful pests or diseases which affect everyone in Arizona.

I thank you for your continued support of agriculture. I ask for your help with two things: 1) reminding everyone it takes money to keep food safe, and; 2) encouraging others to read this report and remember how important agriculture is to the Arizona economy. We must protect our ability to continue to produce the most affordable and safest food in the world. Food production is not only a basic fact of life but it is also a critical aspect of homeland security.

Sincerely,

Donald Butler

Donald Butler
Director

JP/da

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Animal Services Division (ASD)

Food Safety, Quality Assurance

The Food Safety, Quality Assurance (FSQA) programs were established to provide consumer protection at the production, wholesale and retail levels. Though their primary function is public health, they also provide quality control of the regulated products. Many products are tested for microbiological factors, and physical properties, such as fat or water content, proper pasteurization and other properties important to consumers.

FSQA - Dairy & Dairy Products Inspection Program

From the farm until the products hit the retail store, dairy inspection staff inspect every part of the dairy industry. Starting with farm inspections, inspectors review overall farm sanitation, milking and milk handling equipment, use of animal drugs and milking procedures. Refrigeration equipment is checked for prompt cooling of milk and water supplies are sampled to ensure they are potable, as required. Water handling equipment and wells are inspected for compliance with public health standards. Water supplies are checked to ensure that potable and non-potable water supplies are not cross connected.

Cooperative industry samplers

Periodic reviews are made on both milk tankers and milk haulers who are licensed by ADA after passing a test on milk handling and sampling. ADA licensed haulers pull samples of all milk they transport for potential random sampling at destination by dairy inspectors. Samples selected for microbial or other testing are transported to the State Agricultural Laboratory for microbiological testing, freezing point, fat analysis, vitamin analysis and other public health or quality testing. Besides fluid milk, other dairy products are tested for compliance with standards.

At processing plants, dairy inspectors inspect the entire facility, starting with water supplies, sanitation of the plant inside and out and for pest control measures. Inspectors check receiving facilities for milk handling when it arrives for processing. Pipes, hoses and fittings are inspected to see that they are made of approved materials and are in a good state of repair. Inspectors also check packaging facilities inside the plant, sanitary procedures and record keeping. Periodic tests are made of pasteurization equipment, by checking welds, and overall condition of pipes that transfer milk. Pasteurizers and holding tubes are also checked for proper pasteurization temperatures and times, as well as checking for public health controls which automatically divert milk when it has not been properly heat treated.

A High Temperature Slow Time (HTST) pasteurizer, for heat treating milk

Pasteurized Milk vs. Raw Milk. What's the difference?

Nearly all milk in Arizona is sold pasteurized. This means the fluid milk is subjected to heat treatment for a specified period of time to kill microrganisms which could be in the raw product. This process has been used since the turn of the last century. Recently, industry has embraced the use of aseptic processing, a type of flash pasteurization at very brief high heat levels. This produces a shelf stable product which can be held at room temperature for weeks without being refrigerated.

A small quantity of milk sold in Arizona is processed and packaged as "raw" milk and is not heat treated to kill potentially pathogenic organisms. Although this milk must meet the same microbial standards as pasteurized milk, it could potentially contain harmful organisms. Raw milk is required to have a warning statement on the container, so that consumers understand the potential risks of consuming it.

It is illegal to sell raw milk for human consumption in Arizona without first obtaining a grade A dairy permit. An exception is milk which is sold for pet consumption. The product is blended with powdered charcoal to denature the milk and turn it gray, in order to deter consumption by humans.

COWS EATING SILAGE

Interstate shipment of milk and dairy products

Some milk produced in Arizona is shipped to other states, either as fluid milk or other dairy products, in bulk or packaged form. The state of Arizona participates in the nationwide Interstate Milk Shippers (IMS) program, which creates a seamless nationwide inspection program under the regulation of participating states. Participation in this program is voluntary, with periodic visits being made by FDA staff that assist in standardizing both inspections and laboratory testing to the same regulatory standards nationwide.

FSQA - 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, and receives no general funds from the state.

Program staff inspects shell eggs and egg products from production at laying facilities to wholesalers and retail stores. Inspectors verify that products are held at temperatures of forty-five degrees Fahrenheit for eggs and zero degrees Fahrenheit for frozen egg products. Inspectors verify proper packaging, sanitary handling, dating and weighing of eggs at production facilities, warehouses, or retailers for product originating out of state.

Eggs processed or sold in Arizona are marked with mandatory expiration dates, and has one of the toughest standards in the United States. The 24 day dating period helps to ensure that eggs continue to meet the marked grade after they are purchased by consumers.

The Department will soon begin enforcement of new poultry husbandry standards for laying hens which are producing eggs to be sold in Arizona. This law deals with living and handling conditions for caged layers, and sets baseline standards for such things as cage size, environmental conditions, feed and water and general animal husbandry. The new law will be implemented in 2009, and will affect all caged layers from flocks of more than 20,000 laying hens. The agency will apply the written standards for all flocks subject to the new law.

USDA Inspection and Grading Program

The ADA also maintains cooperative programs with the U.S. Department of Agriculture (USDA) to provide “grade labeling” services to 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. The ADA also enforces the Agricultural Marketing Act of 1970.

Inspectors provide inspection services for USDA's school lunch program for poultry purchases made on behalf of school districts statewide. Warehouses receive truckloads and rail car deliveries of poultry products that our inspectors check for proper handling in transit, including temperature checks.

Graders perform both temporary and resident (in-house) grading services to the egg industry in Arizona. Four state employees are stationed at two packing plants and provide inspection / grading services 365 days a year, 7 days a week. Under this USDA program, resident graders continually monitor plant sanitation, processing temperatures, handling and holding cooler temperatures. Eggs packed under USDA program supervision are eligible to be marked with USDA shield grademarks or other USDA identification. This USDA grade marks are valuable because many entities require it for sale, such as some grocers, commercial foodservice, foreign countries and the U.S. military.

FSQA - Meat and Poultry Inspection Program

The meat and poultry program is a federal-state cooperative program, funded 50% from the state general fund and 50% by USDA-FSIS. The program oversees slaughter of amenable meat animals and poultry which is 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.

Inspectors staff and supervise plants under official inspection which sell meat and poultry in both wholesale and retail trade. Inspectors also periodically visit other processors known as "custom exempt" processors, which are firms that process meats, game and poultry for the personal consumption of the livestock owner. These types of processors may not sell meats to the general public without obtaining an official slaughter and processing license.

ADA inspectors receive training including Hazard Analysis Critical Control Point (HACCP) inspection procedures, Sanitation Standard Operating Procedures, and animal ante and post mortem inspection procedures for disease. Before processing our inspectors review general sanitation, processing procedures and HACCP plans. Inspectors visit plants to check for compliance with state and federal regulations, and to check that the firms are in compliance with their own HACCP plans and operating procedures. Inspector ensures that microbiological samples from the facility and product are reviewed at official labs.

In order to verify compliance with label formulations, meat samples are taken to analyze fat content, water content, spices, additives and other items. Inspectors and program management staff check product formulations prior to product approval. Products that meet regulatory requirements receive a triangular "mark of inspection", which shows that it is a product approved by the agency.

FSQA - Meat and Poultry Compliance Program

An integral part of the meat and poultry program is compliance. ADA's Compliance Officers and other staff are utilized to enforce both Arizona and Federal statutes, with respect to legal

slaughtering, truck wrecks involving meat products, and meat and poultry products which have been illegally imported into Arizona and/or the United States. Compliance helps to ensure that animals are slaughtered in a humane fashion and that meats are processed in a sanitary and safe manner.

Palo Verde Nuclear Generating Station – Fixed Nuclear Facility – Emergency Response

The Arizona Department of Agriculture is an integral part of the state and county response to any emergencies related to the Palo Verde Nuclear Generating Station located West of Phoenix. With three reactors, this is the largest nuclear power plant in the United States, with the capacity to serve millions of homes.

In cooperation with state, county and federal agencies, ADA participates yearly in nuclear preparedness drills. Every other year (exposure exercise) and every sixth year (ingestion exercise), federal agencies grade the state response during drills and prepare a written evaluation. Every other year, an exposure exercise is conducted, with an "ingestion" exercise every sixth year. A passing grade from cooperating agencies is required for Palo Verde to maintain an operating license by the Nuclear Regulatory Commission.

For the 2009 exercise, the Department met all applicable standards for emergency response. The FSQA programs are integral to departmental participation in such drills, which also includes Citrus, Fruit and Vegetable staff, animal health veterinarians and livestock officers.

A NIGHT VIEW OF THE 50 MILE PALO VERDE NUCLEAR PLANT. A 10 MILE EMERGENCY PLANNING ZONE IS ESTABLISHED IN CASE OF WIND DRIFT OF RADIOACTIVE MATERIALS AWAY FROM THE PLANT. THIS WOULD BE THE MAIN FOCUS IN AN EMERGENCY SITUATION..

Service to the animal industry – with a focus on consumer protection

Working closely with county health departments, other state and federal agencies, FSQA has a long history of service to consumers. Some six years after Arizona statehood, the office of the Dairy Commissioner was established in 1918 as one of the first public health programs in the State of Arizona. It was followed by the establishment of the egg inspection program in 1939, which had a major role in not only egg inspection, but procurement of poultry products for the then War Food Administration during multiple wars. The meat and poultry program similarly has had multiple decades of service to the public and the livestock industry in Arizona.

Departmental inspectors working within the livestock and animal industries, work cooperatively to perform inspection and grading services within the industries. However, a major focus continues to be public protection, both in terms of public health and with respect to producing high quality standardized products. In order to support this goal, agency inspectors can be found working early hours, weekends and holidays, providing inspection services, in cooperation with other government inspectors. Also, the Department, post 9/11, maintains cooperative relationships with both federal and state agencies, in furthering efforts to maintain a safe food supply.

Animal Health and Welfare Program

Priorities and Oversight

The highest priority of the Animal Health and Welfare Program (AHWP) is the prevention, rapid identification of, and response to, diseases of livestock, poultry and commercial fish - some of which are transmissible to humans. In addition to diseases that are normally foreign to the United States, these diseases include many that exist in other parts of the U.S., but have never been identified in Arizona, or have been recently eliminated from Arizona.

ADA's Office of the State Veterinarian (OSV) oversees the AHWP responsible for safeguarding our livestock, poultry and commercial fish resources from devastating diseases, and protecting the public from livestock diseases transmissible to people, and from harmful livestock interactions. Additionally, the staff veterinarians in the AHWP provide veterinary expertise to the Meat and Poultry Inspection Program responsible for the oversight of livestock and poultry slaughtering as well as processing. Under authority of agricultural and criminal statutes, field staff in the AHWP is active in ensuring the humane treatment of livestock.

The State Veterinarian provides the technical expertise to the AHWP and collaborates with state and federal government agencies in the U.S. as well as Mexico - in the enforcement of laws to control livestock and poultry diseases such as Foot and Mouth Disease, Bovine Spongiform Encephalopathy (Mad Cow Disease), Tuberculosis and Brucellosis in cattle, Brucellosis and pseudorabies in feral and domestic swine, scrapie in sheep, chronic wasting disease in deer and elk, rabies in all animals, and other diseases that are foreign to the United States.

ADA's AHWP officers and inspectors provide a valuable service to the people of Arizona by protecting livestock from contagious and infectious diseases, documenting animal movement, and regulating the health of animals. Acting on behalf of the State Veterinarian, officers and inspectors may enter any premises where livestock are kept or maintained to examine for evidence of disease and ownership, and to confirm their humane care. The field component of the AHWP consists of ten officers and eight inspectors who are assisted by a force of part-time deputies who help during increased inspection demands. Two officers have received advanced training in equine welfare issues and take the lead in complicated welfare cases.

Animal Health Programs

Ongoing state / federal / industry programs for the elimination of Brucellosis and Tuberculosis in cattle; pseudorabies in swine; and equine infectious anemia in horses, continue to be the major focus of field veterinarians. Scrapie in sheep; Chronic Wasting Disease (CWD) in cervids; Johne's Disease in cattle; and West Nile Virus in horses, have taken considerable staff time this year.

Control & Eradication Program Surveillance Statistics

Bovine Brucellosis – Live Animal Blood Tests	697
Bovine Brucellosis – Blood Samples Collected at Slaughter	268,224
Swine Brucellosis – Blood Tests	408
Bovine Tuberculosis – Tuberculin Skin Tests	103,146
Equine Infectious Anemia – Blood Tests	11,229
Official Calfhood Brucellosis Vaccinations	70,997

Foreign Animal Diseases

Exotic Newcastle Disease (END) and Avian Influenza (AI)

The surveillance program for AI continues with assistance from the USDA as well as states' and industry stakeholders. As part of the surveillance program for AI, the University of Arizona Veterinary Diagnostic Laboratory continues to conduct diagnostic screening on poultry samples submitted by AHWP staff as well as on wild birds submitted by the Arizona Game and Fish Department and USDA Wildlife Services. Poultry samples are also screened for END. During FY 2007, an outreach folder containing information on AI and END, as well as information on biosecurity for poultry flocks was disseminated statewide to non-commercial poultry owners. A second outreach cycle is being planned for FY 2008. In order to support a response to either of these diseases, the effort to GIS map premises housing non-commercial poultry continues. Other outreach activities include veterinary staff presentations on AI and END throughout the state and providing training to ADA AHWP field personnel. That training included proper use of personal protective equipment and sampling procedures for poultry. In conjunction with the Arizona Department of Health Services, ADA held a table-top exercise on AI and worker protection. A follow-up exercise is planned for fall 2007. ADA anticipates ongoing funding from USDA on AI and END surveillance / response preparation activities.

Foreign Animal Disease Program Surveillance Statistics

Early recognition of Foreign Animal Disease (FAD) is paramount to reducing the impact of a devastating disease outbreak. Field investigations of possible FAD performed by Federal and ADA staff veterinarians during the past year include:

Cattle	2
Equine	13
Goat	1
Total investigations	16
Total positive diagnoses	0

All FAD investigations were conducted within 24 hours of notification and, with the exception of one case, were negative for FAD. This demonstrates ADA's commitment to rapid investigation. The one positive FAD diagnosis was a horse infected with equine piroplasmosis that had been smuggled into Arizona from Mexico. ADA and USDA initiated a rapid response to confirm the diagnosis, remove and humanely euthanize the infected horse as well as confirm that there had been no spread to other horses on the premises.

Bovine Spongiform Encephalopathy (BSE)

Although USDA's enhanced surveillance program for BSE has concluded, maintenance surveillance activities continue with ADA assisting USDA in investigating and collecting samples from on-farm mortalities succumbing to CNS disease.

Animal Movement Regulations

The AHWP is focused on protecting and regulating the livestock industry. While the primary focus is protecting livestock from animal disease and ensuring their humane care, the AHWP works

with the ADA's Central Licensing Self-Inspection Program to oversee the owner-generated documentation of the movement of Arizona livestock. The ability to trace the movement of animals through the marketing chain is the cornerstone of an effective disease control program. If a diseased animal is located, knowing where the animal has been enables identification of potentially exposed animals, and the implementation of disease mitigation strategies.

National Animal Identification Program

The voluntary National Animal Identification System (NAIS) in Arizona continues to be overseen by ADA. The focus of the program continues to be premises registration (Premises ID) for all eligible producers of beef and dairy cattle, and sheep and goat owners. Registered premises are assigned a seven digit, alpha-numeric Premises ID number. This effort continues to require a monumental outreach effort in order to educate all livestock and poultry owners. ADA continues to receive funding for this voluntary program. As the program evolves, use of NAIS compatible animal identification tags (that may or may not be electronic) will be phased in.

ADA completed three pilot projects with several different ranchers, dairymen, feedlots and two harvest houses. These projects, funded by USDA, were educational projects allowing us to learn and recognize the best methods of tagging and tracking cattle. The projects helped identify problems in tagging and tracking cattle that can be improved before the program moves to wider use of identification tags and tracking systems.

Both the Hopi Tribe and Navajo Nation have implemented premises identification and are now applying electronic identification tags (EID's) to their cattle. This will enable the cattle to be tracked as they are moved through Sun Valley Livestock Auction in Holbrook, Arizona. The Sun Valley Livestock Auction was part of one of the pilot projects and was set-up to read the EID tagged cattle as they come into the auction. The Tohono O'odham Nation has started the process of getting premises identification numbers for their members.

ADA continues to work with county Cattlemens' Associations by conducting outreach to educate cattle owners on the merits of the NAIS program. ADA assists those that are willing to use NAIS compatible animal identification tags and track them through auction markets. Success stories have helped to educate other producers and motivate some to participate in the program.

Annual Licenses

Aquaculture

The aquaculture program regulates commercial operations that grow, transport and process fish and shrimp. Numbers of licenses issued: transporters (18), processors of fish and shrimp for human consumption (7), growing facilities (17), research and educational facilities (5), and operations that charge a fee for fishing (6).

Feedlots

Twenty-seven licenses for feedlots (required by those with capacity of greater than 500 head) were issued.

Inspection Data Tracking

The Livestock Inspection Program tracks field activities with the dispatch Radio Log Identification System. Since 2002, a number of activities have been closely monitored and include such items as the number of inspections for health, the movement of range cattle, cattle for processing, the number of investigations for animal care issues, stray animals / animals-at-large, and livestock theft.

Surveillance Statistics

Currently, over 2,600 producers are approved to use self-inspection. Livestock owners understand the value of documenting animal movement and have accepted responsibility for intrastate documentation through self-inspection. AHWP officers, inspectors and deputies document sales and interstate movement of range cattle, and movement of cattle to custom exempt slaughter plants. The sheep, goat and swine industries continue to support the inspection statute and rules governing their respective species. Exhibitions, fairs and shows have also been supportive of the "seasonal exhibition pass" implemented by 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.

Livestock Import Summary

CLASS OF LIVESTOCK	NUMBER OF IN SHIPMENTS	TOTAL ANIMALS
Dairy Cattle Replacements	317	22,203
Beef Cattle	2,634	346,082
Swine	269	6,941
Sheep and Goat	419	49,154
Horses	5,649	14,347
Fish and Shrimp	134	unavailable

Field Investigations and Inspections Summary

Category Name	Total number
Health and Movement Inspections	3,809
Butcher Inspections	1,528
Animal Care Investigations	2,072
Animals-at-Large Investigations	1,691
Self-inspection certificates issued	28,165
Theft Investigations	42

Arizona Livestock Incident Response Team Program

The Arizona Livestock Incident Response Team (ALIRT) program was implemented through legislative authorization in FY 2005. Annual funding secured by the efforts of the Arizona Cattle

Growers' Association 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. 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 Department of Animal Science, and the Department of Veterinary Science Veterinary Diagnostic Laboratory. USDA Wildlife Service and Veterinary Service actively participate in a program designed to facilitate the potential diagnosis of unexplained cattle losses. Once a problem has been discovered, various levels of response may be indicated. 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, additional actions are necessary. The cost of case work-up is covered by ALIRT program funding, and includes expenses for the ALIRT private veterinarian, 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 roll 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 only 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 or 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 Hotline at 888-745-5334 or the University of Arizona Veterinary Diagnostic Laboratory at 520-621-2356.

Citrus, Fruit & Vegetable (CFV)

Standardization and Federal State Inspection

Arizona ranks third in the nation for overall production of fresh market vegetables. Arizona acreage produced over 91 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, honeydews, and lemons.

The top ten commodities, which account for 85% of the states total produce production, based on carton count for fiscal year 2009 are as follows:

Iceberg lettuce	21,365,849	Leaf lettuce	4,617,111
Romaine lettuce	13,650,330	Broccoli	4,608,904
Cantaloupe	12,365,239	Spinach	4,582,172
Spring Mix	5,359,620	Watermelon	4,378,706
Tomatoes	4,749,740	Honeydew	2,629,680

As detailed below, the Citrus, Fruit and Vegetable Standardization Program and the Federal State Inspection Program conducted 49,320 inspections last year. In addition, the Citrus, Fruit and Vegetable Standardization Program issued 525 licenses to the produce industry.

Industry Funded -- Industry Supported

Both of these programs are entirely self-funded and receive no general fund allocations. Industry supports the Citrus, Fruit and Vegetable Standardization Program through license fees and carton assessments, which are reviewed monthly and adjusted yearly. The Federal State Inspection Program is entirely funded on a fee-for-service basis.

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. This group of leaders of their respective industries meets quarterly with staff of the Citrus, Fruit and Vegetable Program to review program policy and budgetary items.

Standardization Program

Arizona citrus, fruit and vegetable producers rely on the Arizona Department of Agriculture for increasing the potential for domestic and international marketing, protecting against exporting, importing, selling of substandard produce by development, and enforcement of uniform standards. It is the Citrus, Fruit and Vegetable Standardization Program (CFV) that assists the Arizona produce industry, including growers, shippers, contract packers, dealers and commission merchants in complying with product quality standards.

The Citrus, Fruit and Vegetable Standardization Program maintains the product quality standards established for each commodity produced or marketed in Arizona. Program inspections are conducted to verify quality (such as color, shape, bruising and decay, size, maturity, processing and labeling). These inspections take place in fields, packinghouses, coolers and warehouses.

Because of the CF&V Program, the Arizona produce industry has the quality control necessary for the marketing of their products.

Arizona industry produces an immense variety of citrus, fruits and vegetables available to consumers throughout the year. Citrus, Fruit and Vegetable Program inspectors check for various factors. In citrus, for example, they test for maturity and size, which is important to shippers. Melons are tested for ripeness and sugar content. All vegetables and fruits are inspected for defects, such as scars or irregularities of shape, which is important for customer appeal.

Federal-State Inspection Program

This year the Citrus, Fruit and Vegetable Standardization Program successfully completed its eleventh year 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 primarily at the shipping point (point of origin), port-of-entry (Arizona-Mexico border) or the terminal market (point of destination).

This federal program administered by the department also 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 more than 8.3 million packages of tomatoes and 12.9 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 Program 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, 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 Practices for the produce industry. Federally licensed state inspectors perform these audits at industry's request.

Arizona Leafy Green Products Shipper Marketing Agreement (AZ LGMA)

In September 2007 Arizona farmers came together to raise the bar for food safety. The produce industry solicited for the first Marketing Agreement in the history of the Arizona Department of Agriculture. As a result the Arizona Leafy Green Products Shipper Marketing Agreement (AZ LGMA) was formed.

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 this State. 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 AZ LGMA are working collaboratively to protect public health by reducing potential sources of contamination in Arizona-grown leafy greens. Leafy green products of the AZ 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, spring mix, spinach, cabbage, kale, arugula or chard.

Assessments on signatories to the Arizona Leafy Green Products Shipper Marketing Agreement are based on cartons or carton equivalents of affected commodities sold. Shipper means 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 AZ LGMA has 36 signatory shippers that represent 86% of the volume leafy greens grown in Arizona. AZ 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 themselves to sell products grown in compliance with the Arizona Metrics, food safety practices accepted by the AZ LGMA Marketing Committee.

Department Pride in the Statewide Gleaning Project

Governor Janet Napolitano has issued an Executive Order extending the Arizona Statewide Gleaning Project. Gleaning is the harvesting of surplus crops, and the governor's project distributes these gleaned crops to those in need. The Arizona Department of Agriculture plays an integral role in the statewide gleaning effort in that Citrus, Fruit and Vegetable Standardization Program inspectors notify key food bank officials of upcoming seasons, and identify potential crop donations. Participating producers are then able to donate surplus crops, instead of discarding them, by allowing volunteers, inmate labor and food bank staff to glean their fields. Several state agencies support other portions of the program and this combined effort resulted in over 20 million pounds of produce collected and distributed to food banks and other organizations serving those in need during this past year.

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 (ADA) 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 ADA'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 voluntary compliance and awareness of regulatory requirements and providing agricultural conservation education through the following compliance assistance and education programs:

- Pesticide Safety
- Air Quality
- Agricultural Conservation Education

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

- 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
- Arizona Agricultural Protection Commission

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, agricultural workers and the environment. 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. Staff of the Agricultural Consultation and Training (ACT) program assist growers 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.

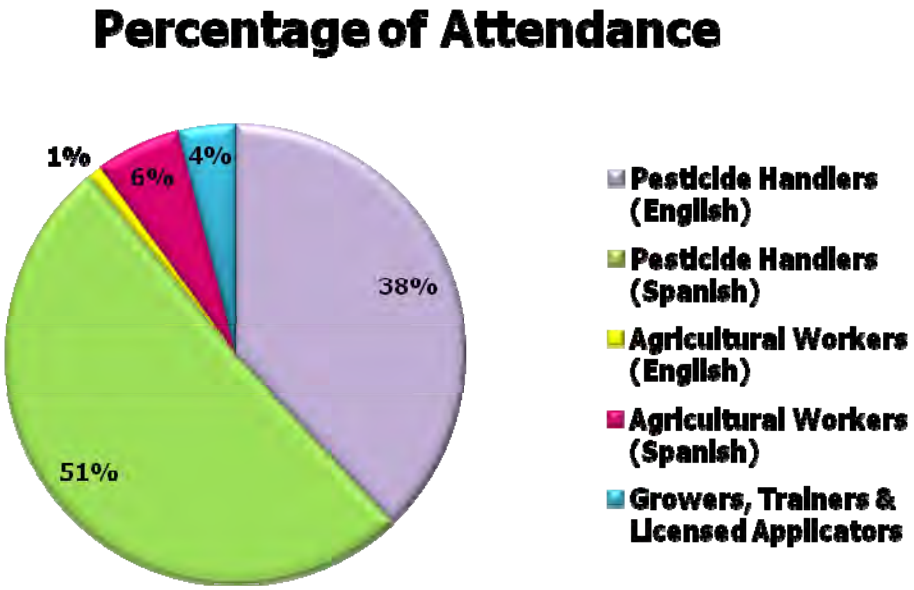
Pesticide Safety Training

Among the popular services provided by ACT staff are the pesticide safety training courses for pesticide handlers who work directly with pesticides while mixing, loading, and applying agrichemicals, and agricultural workers who perform tasks such as pruning, harvesting and irrigating crops.

Pesticide safety training 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. Agricultural employees who posses this knowledge can reduce their risk of pesticide-related illnesses and injuries at the worksite.

The training courses are provided in English and Spanish and are open to anyone who would like to attend. In FY 2009, ACT staff promoted the courses to safety trainers who wanted to observe a training to gather ideas for their own sessions and growers who were interested in learning more about state and federal laws pertaining to pesticide safety. Pesticide applicators that are already licensed or certified by the state of Arizona may also attend to receive two hours of continuing education, which they can apply toward the renewal of their license.

During FY 2009, ACT staff presented pesticide safety training to 483 people who were employed at 106 businesses and agencies throughout Arizona. As is noted in the following chart, 89% of the people who received training were pesticide handlers who work directly with pesticides. Of the pesticide handlers, 185 attended a two-hour pesticide safety course in English and 246 attended the same course in Spanish. Nineteen growers, trainers, and licensed applicators participated in the two-hour course and 37 people attended a one-hour pesticide safety course designed for agricultural workers. Agricultural workers perform tasks such as weeding, irrigating, and harvesting crops in areas where pesticides have been applied in the previous 30 days. Seven of the 36 agricultural workers who attended this training received the information in English and 29 received the information in Spanish. The following chart shows the percentage of attendance in each type of training.



Joint Pesticide Safety Train-the-Trainer Workshops

The Arizona Department of Agriculture's (ADA) Agricultural Consultation and Training Program continued their partnership with pesticide safety instructors from ADA's Environmental Services Division, the Environmental Protection Agency in Region 9, the California Department of Pesticide Regulation, the Colorado River Indian Tribes, the Fort Yuma Quechan Indian Tribe and the State Plant Health Committees of Guanajuato and Sonora, Mexico (CESAVEG), to present multi-jurisdictional pesticide safety train-the-trainer workshops. As a result of this collaboration, the "Joint Train-the-

A workshop attendee puts on the personal protective equipment listed on a samples pesticide label during a workshop session activity.

Trainer Workshop for Pesticide Safety Educators in Arizona, California, Mexico and Tribal Communities" was presented in San Luis, Sonora, Mexico in October 2008 and Chula Vista, California in April 2009.

A total of 101 people representing farms, nurseries, farm worker outreach projects, health clinics, tribal pesticide programs, insurance companies, universities, food safety programs, and regulatory agencies became qualified to train agricultural field workers and pesticide handlers through the FY 2009 workshop series.

The two-day workshops were designed to increase knowledge on human and environmental health issues when working with pesticides and steps to reduce exposure to agrichemicals. Important pesticide safety and health information such as pesticide label comprehension, personal protective equipment, environmental protection, health issues and pesticide emergency response were included.

A variety of hands-on training techniques and group activities were used throughout the courses to demonstrate ways to extend pesticide safety information to pesticide handlers and agricultural fieldworkers. Participants also received an overview of the Workers Protection Standard and learned about pesticide laws and regulations that are unique to Arizona, California, Mexico and local tribal communities.

The workshops have served the informational and resource needs of pesticide safety educators who work in the border regions of California/Baja and Arizona/Sonora, Mexico, as well as those who travel with their companies and are responsible for training agricultural employees in multiple jurisdictions. Project team members will continue this collaborative project by offering the course in Baja California in fall 2009 and in Yuma, Arizona in spring 2010. Funding for the workshop series has been provided to ACT through a technical assistance agreement with the Environmental Protection Agency, Region IX, Borders 2012 Program.

Pesticide Safety Teaching Tools, Informational Resources, and Training Modules

ACT staff develops new and adapts existing teaching tools, informational resources, and training modules for use during safety events and for distribution to agricultural employers, employees, health care professionals, and people who are responsible for extending pesticide safety information.

In fiscal year 2009, ACT staff developed a training module on the proper calibration of pesticide application equipment. Pesticide labels carry instructions on how to properly mix pesticides, however calibrating pesticide application equipment is equally important as it ensures that the correct amount of pesticide is applied to the area. Following label instructions and calibrating equipment results in more effective pest control and more efficient use of the chemical, time, and money.

A grower sprays a parking lot with water during an application equipment calibration exercise.

The calibration training module was pilot tested in Seattle, Washington during an Integrated Pest Management short course for Spanish-speaking landscapers. It was revised and presented to 179 licensed pesticide applicators in four Arizona towns during ADA's pesticide applicator's recertification course. It was later presented to 60 pesticide handlers during a safety and education event sponsored by the Arizona Landscape Contractor's Association.

In addition to developing training modules, ACT staff continued to serve on national and regional pesticide safety resource review teams. This

year, the U.S. Environmental Protection Agency's Office of Pesticide Programs asked ACT pesticide program staff to assist in reviewing and editing the Spanish language version of the *National Worker Safety Trainer Handbook: Pesticide Safety for Agricultural Workers.* ACT staff assisted with the development of the handbook that was originally published in 2007 and was honored by the invitation to serve on the review committee for the Spanish language translation of the handbook. The National Worker Safety Trainer Handbook details basic pesticide information and regulations and provides readers with tips for presenting effective pesticide safety training programs. The publication will be distributed to state departments of agriculture, tribal pesticide programs, cooperative extension service offices, worker safety organizations, and farm worker advocacy groups.

Air Quality Compliance Assistance

Regulated Agricultural Best Management Practices

The Regulated Agricultural Best Management Practices (RABMP) program has completed its sixth year of providing air quality compliance assistance to Arizona's agricultural community. The RABMP program provides a means by which Arizona's agricultural community can request compliance assistance without imposing regulatory intervention for applicable federal, state and local regulation.

The RABMP program's goal is to provide the regulated agricultural community with the necessary resources to achieve compliance with applicable air quality standards. Through innovation and enhanced outreach and education, the program is projecting increases in the number of individuals reached. This growth is due to joint on-site visits with ACT's Pesticide and Worker Protection program and outreach to Yuma and Pinal counties.

The air quality program has been actively participating in local air quality stakeholder's meetings such as:

- EPA Region IX Best Achievable Control Measures (BACM)
- ADEQ's Regional Haze and Natural Events meetings
- Maricopa County rule 310 and 310.01 public process
- Maricopa County Association of Governments (MAG) Air Quality Technical Committee Meetings for the EPA 5% reduction of particulate matter (PM10) plan
- Pinal County PM10 reduction stakeholder group
- Yuma County stakeholder groups for the Ag BMP program

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 and nurserymen 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 and likelihood for implementation, and adopted into state regulation. Examples of such BMPs are:

- Limiting farming activities during high-wind events thereby reducing the transport

Tree, shrub or windbreak planting is in both the non-cropland and cropland categories. Windbreak planting is providing a woody vegetative barrier to the wind to reduce wind speeds by changing the pattern of airflow over the land surface.

of PM10.

- Using an irrigation management system that conserves water, reduces weeds and results in less soil compaction and need for tillage.
- Combining tractor operations that reduce the number of passes on a field and the amount of soil disturbed.
- Using integrated pest management to reduce the number of passes for spraying and need for additional tillage.
- Harvesting a forage crop without allowing it to dry in the field.
- Restricting or eliminating public access to non-cropland with signs or physical obstructions.

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

- On-site visits to farms and nurseries to make site specific assessments and recommendations that can ensure compliance with air quality regulations. These visits include discussions of the Ag BMP program and the BMPs available for tillage and harvest, non-cropland, and cropland categories. For FY09 there were 319 visits made to producers to promote the program.
- Training for farm workers on agricultural BMPs, what employers are doing to comply with laws and ways workers can get involved in reducing agricultural air pollution. A video is provided during training, in both Spanish and English, which explains how dust affects our health, where agricultural dust can come from and what to do if excessive dust is reported to a regulatory agency. For FY09 there were 23 trainings, presentations, and promotions of the program to agricultural workers and representatives. The outreach and trainings reached 2,946 participants.
- Faxing high wind advisories to the regulated agricultural communities of Maricopa and Yuma counties. This type of notification system alerts the producer of possible PM10 exceedances and stagnant air conditions. During these forecasted conditions, producers are encouraged to implement their dust control action plans. For FY09 there were 12 forecasts in Maricopa and Yuma Counties to 190 producers.
- Providing "Fly in the Eye – Air Quality in Action", a quarterly air quality newsletter to the agricultural community. This newsletter features columns on air quality issues impacting all areas of agriculture in all parts of the state, a "Featured BMP" column and contact information to obtain agricultural air quality information or to schedule an on-site visit. In FY09 newsletters were sent to 643 stakeholders.
- Various articles published in industry periodicals with information on updates in air quality regulations, agricultural dust during high wind events and changes in the RABMP program. For FY09 there were 12 articles published that reached 13,774 people.
- The air quality program worked with other agencies such as Arizona Department of Environmental Quality (ADEQ) and county farm bureaus to address compliance issues that needed to be corrected. These include public complaints, track-out issues, and violations. For FY09 there were 24 issues corrected.

Cross-wind Ridges is a BMP used by this Yuma Farmer to protect the soil from wind erosion prior to planting.

In 2005 the Yuma Ag BMP program was implemented, without any outreach materials, to address the PM10 problem in Yuma County. In FY09, due to an increase in requests for materials on the Yuma Ag BMP program, outreach materials such as *The Guide to Agricultural PM10 Best Management*

Practices, the pocket guide to Yuma's Ag BMP program, and a revamped Record Sheet to record the BMPs were created for producers in the Yuma County Non-attainment Area. Meetings with stakeholder groups such as the county farm bureau, local irrigation districts, and the NRCD districts were held to discuss and promote the program. Visits were made to growers to discuss the Ag BMP program. Outreach to the community was started to promote agriculture as being proactive in solving the PM10 problem in Yuma County.

Agricultural Conservation Education Program

In September 2002, the Arizona Department of Agriculture's (ADA) Agricultural Consultation and Training Program (ACT) began assisting the agricultural community through a partnership with the United States Department of Agriculture's, Natural Resource Conservation Service (NRCS). Since its inception this partnership has evolved into the Agricultural Conservation Education Program (ACEP). The ACEP coordinator assists agricultural producers to protect the environment through compliance assistance outreach and education, to conserve the State's natural resources through Conservation Technical Assistance (CTA), and assists them with designing and implementing conservation practices with cost share assistance from Farm Bill Programs through NRCS.

The conservation of natural resources is achieved through CTA. CTA provides the technical capability, including direct conservation planning, design, and implementation assistance, that helps farmers plan and apply conservation practices on the land. This assistance is provided to agricultural producers as well as individuals, groups, and communities who make natural resource management decisions on private, tribal, and other non-federal lands.

The NRCS assists the Natural Resource Conservation Districts (NRCD) with meeting their conservation goals. The ACEP coordinator is primarily assigned to the NRCS Avondale Field Office which supports the majority of Maricopa County and four NRCD offices, Agua Fria/New River, Buckeye Valley, Gila Bend, and Wickenburg. The resource concerns addressed with the 2009 EQIP applications include Air Quality, Domestic Animals and Wildlife, Plant Condition, Soil Condition and/or Erosion and Water Quality and Quantity. The ACEP coordinator works directly with the NRCS Environmental Quality Incentives Program (EQIP) which provides voluntary conservation programs for farmers and ranchers that promotes agricultural production and environmental quality. EQIP offers financial and technical help to assist participants to install and implement structural and management practices on eligible agricultural land. Currently, the ACEP coordinator is assisting NRCS with many EQIP plans including 23 contracts for federal fiscal year 2007 totaling 4,302.70 acres, and 10 contracts for 2008 totaling 11,228.08 acres. Of the Avondale Field Office's 22 applications for federal fiscal Year 2009 the ACEP coordinator is directly responsible for the management of five contracts totaling 3549 acres of cropland. Each of those contracts is being implemented to improve air quality.

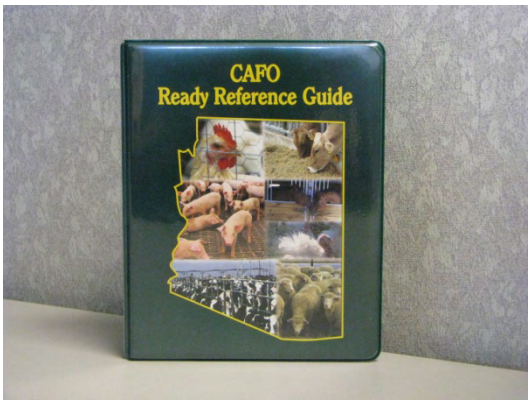
The ACEP Coordinator continues to assist the NRCS Avondale Field Office with project and status reviews, soil loss evaluations and administrative management of EQIP contracts for federal fiscal year 2003, 2004, 2005, and 2006 totaling 60,462.3 acres.

The ACEP coordinator also directly assists CAFO owner/operators with meeting state and federal water quality regulations. Utilizing the resources through NRCS the ACEP Coordinator can further help CAFO producers by developing Comprehensive Nutrient Management Plans, completing soil tests for compaction and permeability, and assisting with the development of structural practices for waste water utilization.

Educational Outreach through the Multi-Agency CAFO Education Group

ACEP coordinator also meets compliance assistance goals through outreach opportunities which include the CAFO Education Group. The CAFO Education Group is a project between producer organizations and state and federal agencies committed to providing education and compliance assistance to Arizona's Concentrated Animal Feeding Operations (CAFO). Members include representatives from the Arizona Cattle Growers Association, United Dairymen of Arizona (UDA), Arizona and Maricopa County Farm Bureaus, USDA - NRCS, EPA Region 9, several Natural Resource Conservation Districts, The University of Arizona Cooperative Extension, ADEQ and ADA. ACEP chairs the CAFO Education Group and facilitates quarterly meetings.

During fiscal year 2009, the ACEP Coordinator, with the assistance of the CAFO Education Group, completed the development of The CAFO Ready Reference Guide. This concise guide is a collection of the various county, state, and federal agencies that regulate and/or offer compliance programs for Arizona's CAFOs. Currently, the guide contains 11 agency sections and three appendixes with reference materials. Most agency sections include an overview of the agency, the regulations they are charged with enforcing, and the department contact information, including links to specific internet resources that are also available. The guide is meant to further assist CAFO owners/operators by addressing regulatory and compliance needs that they must meet in the opening of new facilities, closing of existing facilities and also in their daily operation. Once completed the guide was distributed to all Arizona CAFO owner/operators and stakeholders. A web based version of the guide is available on the ADA website. The CAFO Ready Reference Guide is intended to be a continually changing document that is managed by ACEP and is updated as changes are made public and hard copies of the guide are to be updated on a yearly basis.



Other educational outreach provided by ACEP includes answering producer and consumer questions and providing information through letters, emails, faxes and phone calls.

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 is 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 that desire 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. Currently, the grant program is run on a biennial grant cycle.

During the two-year cycle, the LCCGP grant manual, grant guidelines, and rating criteria are subject to review and response by an advisory committee, and a public comment period. The third grant cycle was completed in fiscal year 2009.

During fiscal year 2009, public comment was solicited on the proposed grant program guidelines and criteria. As a result, the following types of projects were considered for funding during the fiscal year 2009 grant cycle:

- 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 NRCS EQIP grant which typically requires that the applicant provide 10 - 50% 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.

During the fiscal year 2009 grant cycle, ACT personnel conducted seven informational workshops around the state to provide potential applicants with a general grant program overview and information on the application process. Workshops were held in Benson, Safford, Globe, Phoenix, Chino Valley, Snowflake and Kingman. Approximately 100 people attended the workshops.

Due to the program's biennial grant cycle, the ADA had approximately $4 million available in grant funds for the fiscal year 2009 grant cycle. The 2009 funding cycle application deadline was January 30, 2009. The ADA received 116 applications totaling $11.8 million in requested funding. Sixty-three grants were approved totaling approximately $4.1 million. ACT personnel are currently developing grant contracts with the applicants who received funding.

The LCCGP coordinators have continued to promote the program, as well as administer the existing grant contracts from the fiscal year 2005 and 2007 grant cycles. Throughout the duration of the grant project, the LCCGP Coordinators provide administrative support and information, answer questions and concerns and assist the grantee with reimbursement and funding advance requests. At the close of fiscal year 2009, forty-one of the fifty-six grantees from the fiscal year 2005 cycle and thirty-three of the seventy grantees from the fiscal year 2007 cycle have completed their proposed grant projects.

Throughout fiscal year 2009, ACT personnel have participated in various stakeholder meetings and conferences to promote the grant program. Meetings include the United States Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS) State Technical Advisory Committee meetings, the National Cattlemen's Beef Association annual convention, the Arizona Cattlemen's Association annual meeting, the Gila County and Greenlee County Cattle Grower's Association annual meetings and the Arizona Farm Bureau annual meeting. Additionally, ACT personnel have met with personnel from various state and federal agencies about the LCCGP.

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

An LCCGP grantee near Payson addressed water needs by installing additional water troughs to provide a water source for wildlife, as well as livestock. The rocks piled by the trough and the metal grate in the trough allow small wildlife to access the water without the risk of falling in and drowning.

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. 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. Due to the addition of a grant cycle by the Farm Bill, grants were received and distributed twice in FY2009. The 2008 Arizona Specialty Crop Block Grant Program – Farm Bill State Plan included three research projects from outside entities. In FY2009, Arizona's State Plan was approved by the U.S. Department of Agriculture's Agricultural Marketing Service (AMS), and a cooperative agreement was executed on September 22, 2008 between AMS and ADA. ACT personnel worked with subcontractors to execute contracts, and provide guidance and assistance with quarterly reports and quarterly reimbursements. The 2008 Arizona Specialty Crop Block Grant Program State Plan included five research, marketing and education projects, also from outside entities. Arizona's State Plan was approved by AMS and a cooperative agreement was executed on April 2, 2009.

On May 22, 2009 AMS announced the availability of approximately $49 million in federal fiscal year 2009 funding. Each state department of agriculture is eligible to receive a base grant of $160,000. In addition, AMS allocated the remainder of the grant funds based on the proportion of the value of specialty crop production in the state. The 2009 base grant amount plus the value of production for Arizona is $1,106,440.85. ACT staff is currently working on a state plan for submission to AMS by the August 26, 2009 deadline.

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 more than 2.8 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 producers from district two (Maricopa, Pima and Pinal Counties)
- Two producers at large

In fiscal year 2009, the Council continued its work with research institutions to coordinate industry research needs. Due to a pending lawsuit against the State regarding the FY 2008 fund sweeps, the Council approved a decrease in their FY 2010 assessment to zero beginning July 1, 2009.

Fiscal Year 2009 Financial Status - Arizona Citrus Research Council

Revenue	$40,621.45
Expenses	$49,472.93

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 produces more than 21 million cartons of iceberg lettuce annually. The Council is funded by a per carton (.002 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 2009, the Council did not approve any new funding, but continued to support research projects already funded. Some examples of research grant projects include the development of effective management tools for lettuce disease, insect management for desert lettuce, a preliminary assessment of microbial risk to lettuce from canine waste on canal banks, improved phosphorus fertilization practices of desert lettuce, and a survey of coliform and fecal bacteria in irrigation canal waters.

Fiscal Year 2009 Financial Status-Arizona Iceberg Lettuce Research Council

Revenue	$51,576.95
Expenses	$99,770.64

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 to 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 focus on the improvement of phosphorus fertilization in Desert Durum®, responses of other wheat and barley varieties to phosphorus fertilizer, low-cadmium durum wheat varieties, as well as, labor assistance for the Arizona Meteorology Network. Annually, the council funds the small grain variety test trials used by producers to evaluate the varieties available. More than $57,000 was spent on research projects during fiscal year 2009.

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 2009 Financial Status - Arizona Grain Research and Promotion Council

Revenue	$213,265.78
Expenses	$196,380.04

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 that are 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.

The Board meets at least once per year or as necessary. The Board met three times in FY 2009. In March of 2009, a mock labor election was held as a training exercise for Board members and staff.

Arizona Agricultural Protection Commission

The Arizona Agricultural Protection Commission was established by the Arizona Agricultural Protection Act (AAPA), A.R.S. §3-3303, effective August 22, 2002. The commission's purpose is as follows: make recommendations to the director of the Department of Agriculture for the adoption of rules necessary for the commission to perform its duties, advise the department with respect to grants awarded and contracts entered into pursuant to the Arizona Agricultural Protection Act, solicit and accept donations including donations for the sole purpose of administering the Arizona Agricultural Protection Program, annually elect a Chair and Vice-Chair from among its members, advise the director and submit recommendations relating to the monitoring of agricultural easements established pursuant to the AAPA, and prepare an annual report of its activities.

The Arizona Agricultural Protection Act did not provide funding for the Commission. From October of 2003 to September of 2006, the ADA entered into annual agreements with the United States Department of Agriculture Natural Resources Conservation Service (USDA/NRCS) to provide funding for the administrative support to the Commission. In FY07 and FY08, administrative costs were covered by a combination of industry donations and ADA non-appropriated funds. In FY 2009, Arizona State Parks contributed $15,000 to the Ag Protection Fund to help defray administrative costs. The Commission met only once in FY 2009.

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.

Summary of Laboratory Testing Functions

Biology

Entomology	Provides insect and other arthropod identifications to assist in preventing harmful pests from becoming established in Arizona and assists in certification of Arizona products.
Plant Pathology	Provides plant pathogen identifications to assist in preventing harmful disease organisms from becoming established in Arizona and assists in certification of Arizona products.
Botany	Provides plant identifications to assist in preventing harmful weeds from becoming established and/or spreading in Arizona.
Nematology	Provides nematode identifications to assist in preventing harmful pests from becoming established in Arizona and assists in product certification.
Seed Quality	Analyzes seeds sold in Arizona to assure consumers are getting label guaranteed quality.
Animal Disease	Analyzes animal blood and milk samples for the presence of the organism responsible for causing the disease brucellosis.
Dairy Product Quality	Analyzes dairy products from Arizona for presence of human disease causing organisms, drug residues and other milk quality factors in order to assist regulators in enforcing quality standards.
Food Safety & Meat Microbiology	Analyzes meat, ready to eat products and other commodities for presence of human disease causing organisms in order to assist regulators in enforcing quality standards for safe food.

Chemistry

Dairy Residue	Analyzes milk and other dairy products for the presence of pesticides and other harmful chemicals.
Pesticide Residue	Assists pesticide law enforcement officials through the forensic analysis of samples resulting from an investigation of alleged pesticide misuse.
Natural Toxin Residue	Tests human and animal feed products for the presence of naturally occurring chemicals capable of causing illness.
Pesticide Formulations	Provides analysis of commercially available pesticides to assure consumers are provided quality pesticide products.
Feed and Fertilizer Formulations	Performs testing of commercial feed and fertilizer product ingredients to determine compliance with label guarantees.
Food Allergens	Tests meat and ready to eat products for the presence of food allergens.
Prohibited Materials in Feeds	Tests feed products for materials banned from use in ruminant animal feed for the prevention of BSE.
Meat Quality	Tests meat and meat product samples to assist regulators in assuring proper economic labeling of products.

Homeland Security

The SAL continues to improve its capabilities to provide assistance to the State and the Nation in the event of a homeland security emergency. During the past year, with help from the Arizona Department of Emergency Management, the laboratory has continued upgrading its analytical capacity by replacing nonfunctioning equipment and adding new analytical instrumentation. Federal, State and local governments are working 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. The biology and chemistry sections of the laboratory are both involved.

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 applied and was accepted into the FERN for both chemical and microbiological testing. Managers of both sections attended a regional planning meeting for laboratories within the western states.

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.

Laboratory Audits

Internal laboratory audits are conducted to verify that the laboratory operations comply with the requirements of the quality system.

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. These audits, combined with analyst participation in an annual proficiency sample program ensure the quality of the analyses conducted by the dairy microbiology laboratory.

USDA, Food Safety Inspection Service performs onsite audits of the meat chemistry laboratory activities every three years. These audits, combined with analyst participation in the required bimonthly proficiency sample testing program help ensure the quality of the analyses conducted at the SAL.

Personnel Requirements

The laboratory ensures the competence of all who operate specific equipment, perform tests, evaluate results, and sign test reports. Personnel performing specific tasks are qualified on the basis of appropriate education, training, experience, demonstrated skills, and/or certifications.

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 (AAFCO); fertilizer sample PTP by McGruder's Fertilizer Check Sample Data Program; PTP for meat analyses by the USDA; dairy sample PTP by the Laboratory Proficiency and Evaluation Team of the Food and Drug Administration; brucellosis sera testing by the USDA; seed sample PTP by the Association of Official Seed Analysts; and mycotoxin sample PTP by the American Oil Chemists Society.

Biology

Biological Identification

The Biological Identification laboratory provides a number of services, including the identification of insects, other arthropods, nematodes, mollusks, plant pathogens and weeds, seed quality analyses and technical information about pests that allow the regulatory divisions to make informed decisions about permits, phytosanitary certification, quarantines and pest detection, eradication and exclusion measures.

Digital Imaging

The State Agricultural Laboratory was the first state department of agriculture to establish and develop a digital imaging system for remote identification of potential pests as part of a pest exclusion program. This was accomplished in partnership with the Plant Services Division and the Department's MIS group. With Digital Imaging (DI) systems in place at the State's ports of entry, high quality images of insects, seeds, diseased plants and other potential pests can be sent electronically for rapid analysis. In most cases a determination can be made in less than an hour. This shorter time span reduces the holdup of a commercial load from days to hours.

The Lab's DI system also has been used for preparing training materials for the Department's inspectors. In addition it has been used to send images to experts around the world, thus expanding the analytical ability of the Laboratory's Biological Identification staff.

Seed Analysis Benefits Arizona's Farmers and Others

Seed analysts in the Biology Section conduct analysis of seed 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. Seed analysts are certified by the Association of Official Seed Analysts.

Identifications

For FY2008 the Biology Section of the lab provided identifications on specimen submissions.

Technical Assistance

The lab provides technical assistance to Department personnel and others in Phytosanitary Certifications, Pest Importation Permits, and hands-on training in sampling technique, sample submission and field recognition of pests and plant diseases.

Export

To facilitate exports of various agricultural commodities, laboratory staff trains Department personnel in field inspection, collection and detection of plant pests. Export requirements require certificates that indicate plant health. The list of target diseases is dynamic and fluctuates in response to biological, economic and political factors abroad. Tests performed and information provided by plant pathology and entomology staff is vital in certifying Arizona-produced commodities for domestic and foreign markets.

Dairy Product Quality

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. On-site laboratory surveys, conducted every three years by FDA personnel as well as analyst participation in an annual proficiency sample program, ensure the quality of the analyses conducted by the dairy microbiology laboratory. Tests conducted include bacteriological analyses, enzyme activity for proper pasteurization of dairy products, antibiotic residues, and other indicators of milk safety and quality. The samples are analyzed for the Department's Animal Services Division.

Food Safety

The laboratory participates in the Department's development of a Food Safety and Quality Assurance Program by testing agricultural commodities for food-borne pathogens in the Food Safety 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.

Animal Disease Detection

The Animal Disease laboratory tests animal blood and 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 or milk products.
Brucellosis is a disease that decreases reproductive efficiency, and if present, can seriously affect the profitability of domestic livestock producers and exotic zoo animal producers. Since the 1940s, the USDA has sought to eradicate brucellosis, 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. At slaughter, all potentially reproductive cattle and bison two years of age or older are tested.

Laboratory analysts are certified by the United States Department of Agriculture National Veterinary Services Laboratory. In addition, laboratory technicians perform blood sample

collection from cattle at an Arizona slaughter facility. These samples are shipped to a State-Federal laboratory in Lubbock, Texas for analysis.

Chemistry

Our Customers

During FY2008, the Lab's Chemistry Section continued providing regulatory pesticide residue analyses to Arizona's pesticide law enforcement agencies including:

- Department's Pesticide Compliance and Worker Safety Program
- Department's Animal Products Food Safety and Quality Inspection Program
- Department's Non-Food Product Quality Assurance Program
- Office of Pest Management
- Salt River Pima Maricopa Indian Community
- Gila River Indian Community
- Colorado River Indian Tribe
- Navajo Nation

In addition, technical and training support for tasks such as sample collection and preservation, chain-of-custody use and documentation; test selection; results interpretation; sampling plan development and chemical safety also are services provided to our customers.

Natural Toxins

Cottonseed - A Valuable Feed Commodity

The Natural Toxins laboratory plays a major role in the certification of three private laboratories to provide the industry with lab services, allowing for the safe use of cottonseed and cottonseed products as a feed substance. Cottonseed is commonly fed to Arizona's dairy cows. A natural toxin called aflatoxin can contaminate cottonseed. Arizona's dairy producers do not want to buy contaminated seed or feed it to their dairy herds.

Protection for Milk

To protect Arizona's milk drinkers, a comprehensive system was developed to detect and prevent contaminated milk from reaching the market place. The laboratory certifications are an integral part of this protection. Cottonseed products must be stored, sampled by a certified sampler and tested by a certified laboratory in strict accordance with Arizona Statute to protect the dairy producers from obtaining contaminated feeds. To further protect Arizona's consumers, milk products also are tested both by industry and SAL.

Animal Feed Protection

The laboratory also performs analyses for the presence of natural toxin residues in human food, animal feeds and pet food products. This includes chemicals such as aflatoxin (potent cancer-

causing agent in humans and animals), fumonisin (causes death and illness in horses and hogs), and vomitoxin (causes serious illness in dogs). As these compounds are naturally produced through fungal activity, the regulatory focus is shifted into the detection and prevention of contaminated products entering into the human and animal food chain. This testing is completed for the Department's regulatory programs.

Threat of DDT Residues in Milk

Pesticide residue testing also is conducted for the Department's Food Safety and Quality Assurance program. The primary pesticide of concern in milk products continues to be dichlorodiphenyltrichloroethane or DDT. The use of DDT was banned in 1971 due to environmental and possible health concerns. Despite 38 years of nonuse, DDT continues to have a presence in Arizona's environment. Testing for this pesticide supports the Department's regulatory role in the preventing significant levels of contamination from reaching Arizona's dairy product consumers.

Forensic Testing

The Chemistry Section also tests samples collected during investigations of off-target spraying of pesticides during agricultural use, 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.
Sample types received include water, soil, produce, foliage, animal tissues, air, clothing and surface swabs. Complicating the variety of samples are the over 11,000 pesticide products registered for use in Arizona. 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.

Traditional Chemistry

Feed and Fertilizer Quality

This portion of the chemistry laboratory 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 and phosphorous, requiring multiple testing as well.

Meat Product Quality

Department Meat and Poultry Inspectors collect samples of raw and processed meat and submit them to the laboratory for analysis of their key economic ingredients: protein, fat, moisture, added water, and salt. The laboratory assisted the Department in ensuring the public is receiving meat products of stated economic value.

Environmental Services Division (ESD)

The Arizona Department of Agriculture Environmental Services Division is responsible for protecting public health, agricultural workers, consumers and the environment. The Environmental Services Division is made up of three sections. The Licensing section provides licensing for much of the agency ensuring quality customer service and appropriate cash handling. The Compliance section protects the public, agricultural workers and pesticide handlers employed in agribusiness through field inspections and complaint follow-up to monitor proper use of crop protection products and enforcing compliance with environmental laws and rules. They also review labels and inspect marketplaces, as well as take samples of feed, fertilizer, pesticide and seed for analysis at the State Agricultural Laboratory to ensure product quality for consumers. The Office of Special Investigation ensures effective investigation of agricultural crimes relating to department statutory authorities.

Staff Allocations

The Environmental Services Division had 20 full-time employee positions as of June 30, 2009. Of this number seven field inspectors are responsible for sampling various nonfood products, ensuring compliance with pesticide, feed, fertilizer, seed and worker protection statutes and rules, and conducting criminal investigations dealing mostly with native plant and livestock.

Centralized Licensing and Registration

The Licensing Section is open from 8:00 a.m. to 5:00 p.m, Monday - Friday. After 4:30 p.m., paperwork is accepted but the issuance of the corresponding license may not occur until the following day. The best way to get needed forms for licensure application is to access our home page at www.azda.gov.

The Department of Agriculture is committed to providing excellent customer service on a timely basis. This is proven out by the many customer service survey cards stating what a pleasant experience it was and how great the employees were in treating them so professionally.

Industry Fees Protecting Consumers

The Non-Food Quality protection program is funded with no general funds. The funding comes from legislative appropriation of monies collected from: an annual $10 commercial feed license fee and the $0.20 per ton commercial feed inspection fee; an annual $125 fertilizer license fee, a $50 per brand and grade specialty fertilizer registration fee and a $0.25 per ton fertilizer inspection fee; a $100 per product pesticide registration fee; and, an annual seed license fee of $50 for dealers and $100 for labelers. Approximately one-half of the seed fees collected are used to fund half a position at the State Agricultural Laboratory to perform 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 2009, $1,073,700 in fees was collected for the WQARF: $41,700 in fertilizer fees and $1,032,000 in pesticide registration fees.

Competency and Continuing Education Required for Farm Application

The department's continuing education efforts keep users of restricted use pesticides aware of current laws, rules and the latest integrated pest management techniques to help protect the environment through efficient utilization of pesticides.

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 are required to earn fifteen continuing education credit hours annually.

During FY 2009 many training sessions were held that provided credential holders the opportunity to earn credits. Total credit hours granted to educational programs for continuing education totaled 1,362. The number of training sessions which were approved for the year was 451. The University of Arizona Cooperative Extension Service sponsored 32 of these training sessions and 366 were sponsored by companies in the private sector.

Testing Center

Tests administered by the Environmental Services Division include milk haulers, and a myriad of pesticide-use licenses. Tests are administered in Phoenix between 8:00 a.m. - 4:00 p.m., Monday through Friday at 1688 West Adams Street, to schedule an appointment call (602) 542-3578. For people outside the Phoenix-metro area, contact should be made with the local inspector to arrange testing. *(The Tucson contact is with the OSI Investigator to schedule exams. 520-628-6317)*

Exams Administered in FY 2009

TYPE OF EXAM	Total Exams	Number Passed	Number Failed	Passing Rate
Aerial Applicator (AAP)	4	4	0	100%
Commercial Applicator (PUC)	152	143	9	94%
Custom Applicator (CAA)	2	2	0	N/A
Pest Control Advisor (PCA)	36	29	7	80%
Private Applicator (PUP)	83	78	5	94%
Fumigant Endorsement	4	3	1	75%
Milk Sampler & Hauler	112	109	3	97
Cottonseed Sampler	0	0	0	N/A
TOTALS	**393**	**368**	**25**	**94%**

The following chart represents the total number of licenses, permits and certificates issued by the Licensing Section during FY 2009:

Licenses and Registrations Issued in FY 2008	
Pesticide - Total Pesticides Registered	12,008
Agriculture Use Pesticides	2,411
Non-Agricultural Use Pesticides	9,597

Fertilizer - Licensed Fertilizer Companies	443
Specialty Fertilizers	3,900
Feed - Licensed Feed Companies	850
Seed Dealers	1,141
Seed Labelers	187
Dairy/Milk Industry Licenses	423
Aquaculture Licenses	56
Egg & Egg Products	82
Meat Industry Licenses	236
Livestock Brand Certificates	1,713
Equine Certificates Issued	184
Certificates of Free Sale	63
Products Certified for Free Sale	1,330
Native Plant Permits Issued	913
Number of Native Plants Permitted	70,647

The following chart represents the total number of pesticide use related licenses issued during the 2009 fiscal year. Other licenses set to expire on December 31 are aquaculture, meat, dairy and pesticides. This brings an additional 12,000 licenses up for renewal during the same time of the year. Additionally, feed and fertilizer tonnage reports will also be due for the fourth quarter of 2009.

Pesticide Use Related Credential Summary FY 2009	
Grower Permits (PGP)	1,143
Pesticide Sellers (PSP)	121
Ag Aircraft Pilots (AAP)	43
Custom Applicators (CAA)	54
Equipment Tags	527
Pest Control Advisors (PCA)	220
Private Applicators (PUP)	451
Commercial Applicators (PUC)	354
Pesticide Responsible Individual (PRI)	3

Fertilizer Tonnage FY 2008 (in Tons)

Dry	Bulk	Liquid	Total
187,384	26,367	233,880	447,631

Fertilizer Tonnage FY 2009 (in Tons)

Dry	Bulk	Liquid	Total
94,706	121,944	343,618	560,268

Feed Tonnage FY 2008 (in Tons)

Total 1,205,044

Fert Tonnage FY 2009

Total 1,596,533

Pesticide Compliance and Worker Safety

The Compliance Section at the beginning of the state fiscal year had 10 inspector positions, five Industrial Hygienists and five Pesticide Control Inspectors. During the year several of the inspector positions were vacated and two individuals were laid off to prepare for state budget cuts leaving only four inspector positions (two Industrial Hygienists and two Pesticide Control Inspectors) filled and working full time. These positions conduct a number of different types of health and safety inspections at commercial and private businesses that apply pesticides in agricultural settings. This includes pesticide dealers and pesticide production establishments to ensure compliance with state and federal agricultural worker safety laws and pesticide use regulations. Inspectors enforce agricultural safety and pesticide use laws and make recommendations of corrective procedures when appropriate. During inspections and through outreach, inspectors provide consultation to agricultural employees and pesticide handlers to increase their knowledge and understanding of pesticide safety and agricultural safety laws.

Misuse is taken seriously

The Department observes pesticide applications and activities related to mixing and loading pesticides, storage and disposal of pesticides and empty pesticide container disposal to ensure safe pesticide use. Complaints alleging pesticide misuse are promptly and thoroughly investigated. Once an investigation is complete, a recommended disposition is prepared. No recommended disposition can take place for a third party complaint cases without a review and approval by the Associate Director, the Director and an attorney from the Office of the Arizona Attorney General. If all reviewing parties agree a violation of the pesticide laws occurred, a citation can be issued. Negligent parties may request a hearing with the Office of Administrative Hearings or pay a penalty established by law for their actions.

Report pesticide misuse

The ESD has a long standing Pesticide Emergency Hotline at 1-800-423-8876 where pesticide misuse can be reported. Part of the required worker safety training requirements is to provide this number so workers and handlers have access to easily report worker protection standard (WPS) violations. This number is monitored regularly, including weekends and holidays during the summer months. This line is also used by pesticide applicators to request an inspector to monitor an application when spraying in sensitive areas where agricultural and urban areas interface. This is the second year in which no formally designated Pesticide Management Areas occur. These areas historically occur where numerous complaints are filed – normally in new ag/urban interface locations. Complaints may also be reported by calling offices located in Phoenix and Yuma/Somerton. (The Tucson office no longer has an inspector.)

Restricted Use Pesticides

Inspections are conducted at pesticide marketplaces to ensure that pesticides are registered with the state and the Environmental Protection Agency. Pesticides that have been manufactured in other countries and illegally brought into Arizona are not subject to the same strict quality control or child-safe packaging measures as pesticides manufactured in the United States and may pose health risks to people, animals, and the environment. Inspections at pesticide dealers and on

agricultural establishments ensure that pesticides classified as *restricted use* are sold and used only by persons who have proven their competency through certification to handle the associated risks. This also ensures that agricultural insecticides do not find their way into urban settings for residential use, which can be deadly.

Agricultural Worker Safety

The worker safety program and regulations are designed to protect agricultural workers and pesticide handlers employed on agricultural establishments, which include farms, forests, nurseries, greenhouses and pesticide handling establishments. Establishments applying and using agricultural use pesticides must comply with the Arizona's Worker Protection Standard (WPS).

If agricultural-use pesticides are applied on an agricultural establishment, under the WPS the establishment must train workers and handlers of agriculture pesticides, provide notification of pesticide applications, provide required personal protective equipment and decontamination supplies, take the employee to the doctor if they claim illness due to pesticides and provide a central location where information on pesticides used can be obtained.

The Department's worker safety efforts predate federal standards and continue to be a benchmark for other states. The Department compliments WPS inspections by remaining in contact with the agricultural worker community, to maintain a level of trust and credibility.

Country of Origin Labeling (COOL)

The division signed a federal cooperative agreement with USDA Agricultural Marketing Service late in the state fiscal year and hired back one inspector part-time to conduct inspections under the program. Inspections are conducted at marketplaces, mainly grocery stores, across Arizona checking for compliance with the new federal Country of Origin Labeling (COOL) requirements. The new COOL regulations apply to fresh and frozen fruits and vegetables; fish and shellfish; meats; poultry; ginseng and some varieties of nuts. Products must bear labeling indicating the country of origin for the commodity. Fish and shellfish are also required to be labeled as to whether or not they are wild or farm-raised. USDA AMS provided training which included an overview of the regulations and covered commodities as well as how to fill out inspection forms and reporting.

Train The Trainer [TTT] Workshops

During the state financial year, ESD Compliance conducted a total of five English / Spanish Train the Trainer Workshops in Phoenix, Yuma, Avondale, and Prescott. ESD Compliance Industrial Hygienist also participated in Spanish / English language Joint Arizona / California / Tribal / Mexico Workshops in Chula Vista, California.

COMMUNITY / INDUSTRY TRAINING / OUTREACH

Each year inspection staff communicates the Worker Safety message by participating in local events attended by citizens, agriculture management, farm workers, and their families. An assortment of publications in both Spanish and English are made readily available without cost.

Dia Del Campesino Health and Informational Fair.
San Luis, AZ - December 6, 2008

Grand opening of Centro Independiente para Trabajadores Agricolas (CITA)- Independent Center for Farm Workers.
San Luis, AZ - March 11, 2009

Farm Worker Services Coalition of Imperial County Meeting.
Calexico, CA - April 1, 2009

2009 Foothill Packing Foremen / Supervisor Meeting.
Somerton, AZ - May 5, 2009.

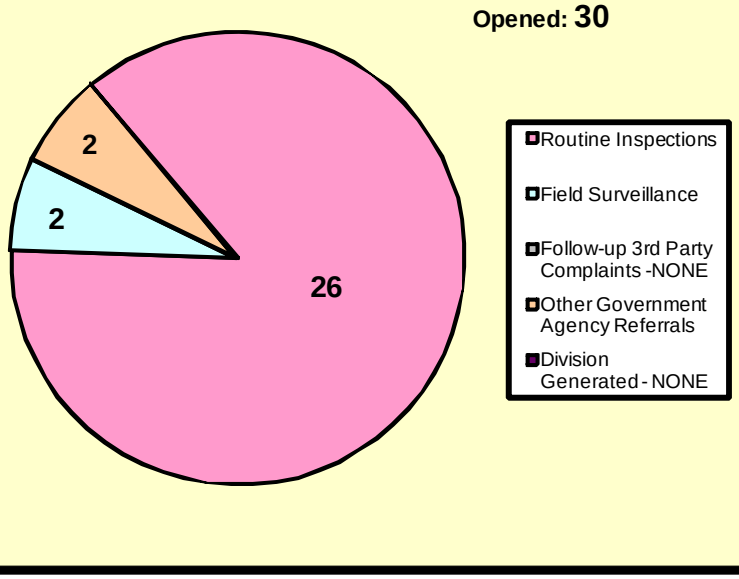
General Training Programs & Workshops

Management and inspection staff from the Environmental Services Division conduct a wide spectrum of training programs throughout the year. Many are conducted with Agricultural Consultation & Training.

Recertification & Training Courses - Annual Recertification & Training Courses were held across the state. Pest Control Advisors, Certified Applicators and Responsible Parties for Pesticide Sellers were able to obtain six hours Continuing Education Units for attending the full day course. December 15, 16, 18 & 19, 2008.

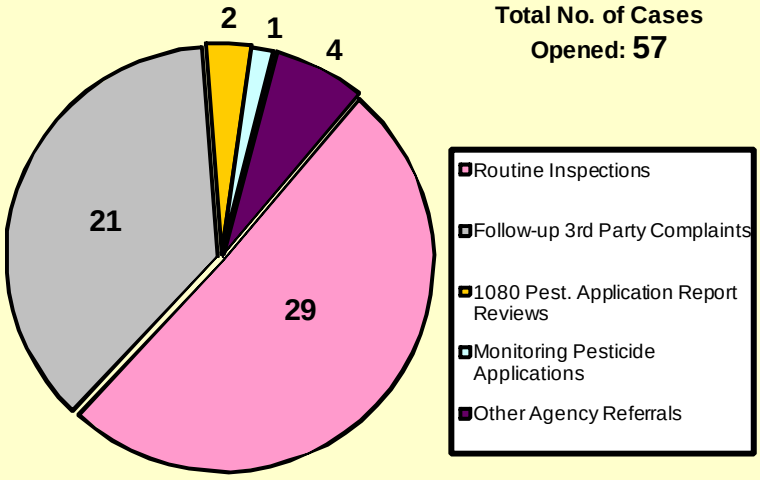
Worker Protection & Safety
Origin of Investigation Cases

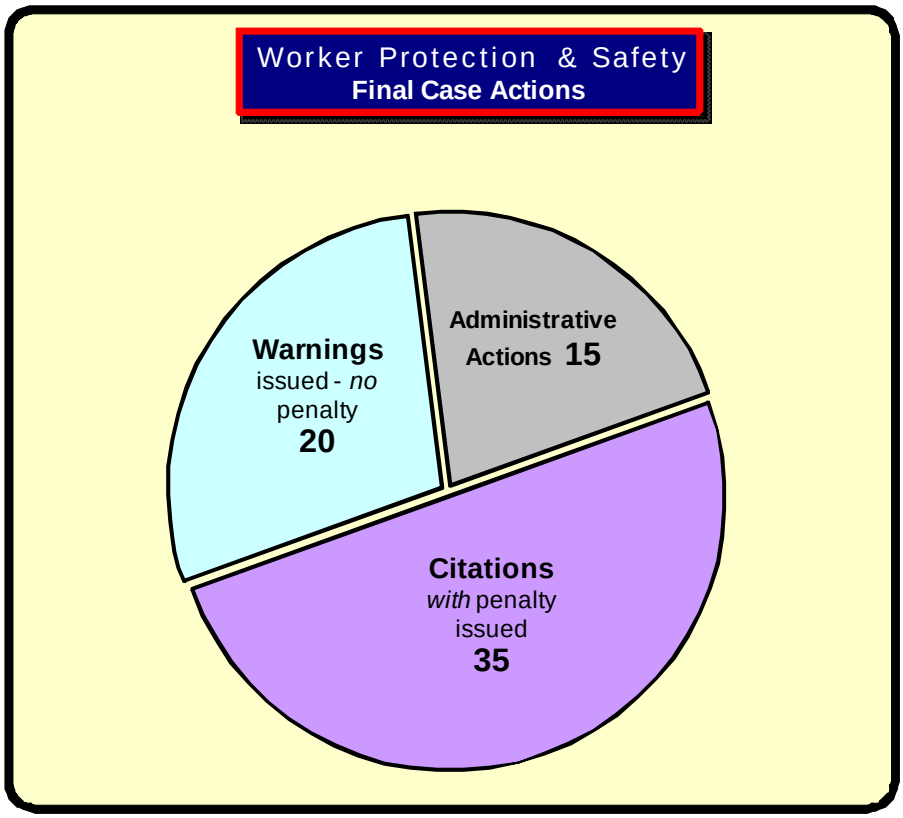
Total No. of Cases Opened: 30

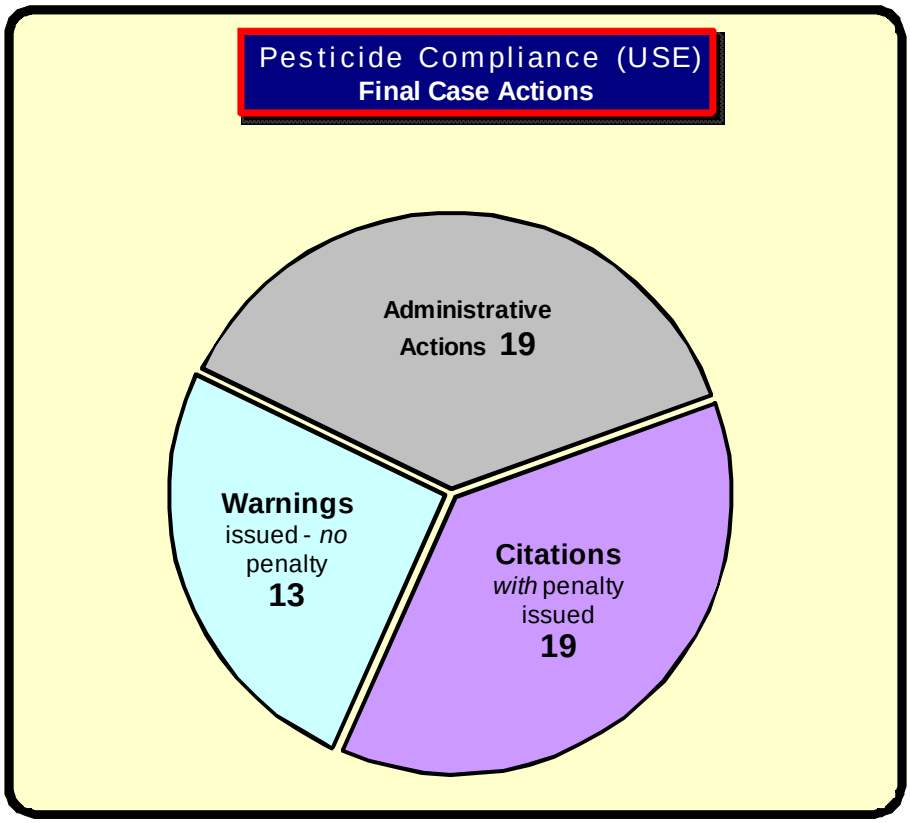


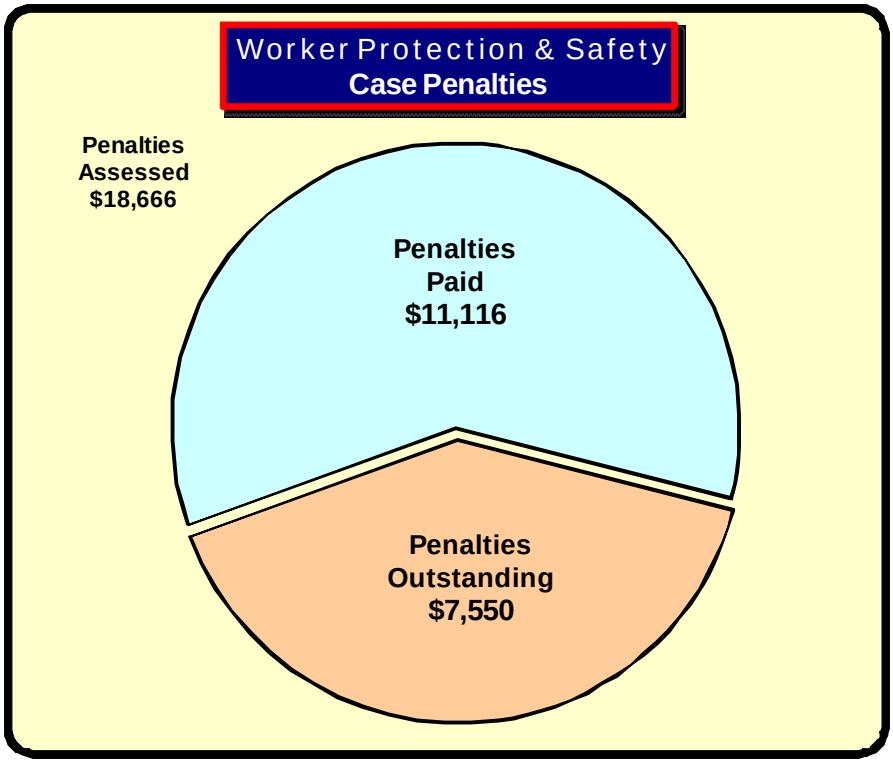
Pesticide Control (USE)
Origin of Investigation Cases

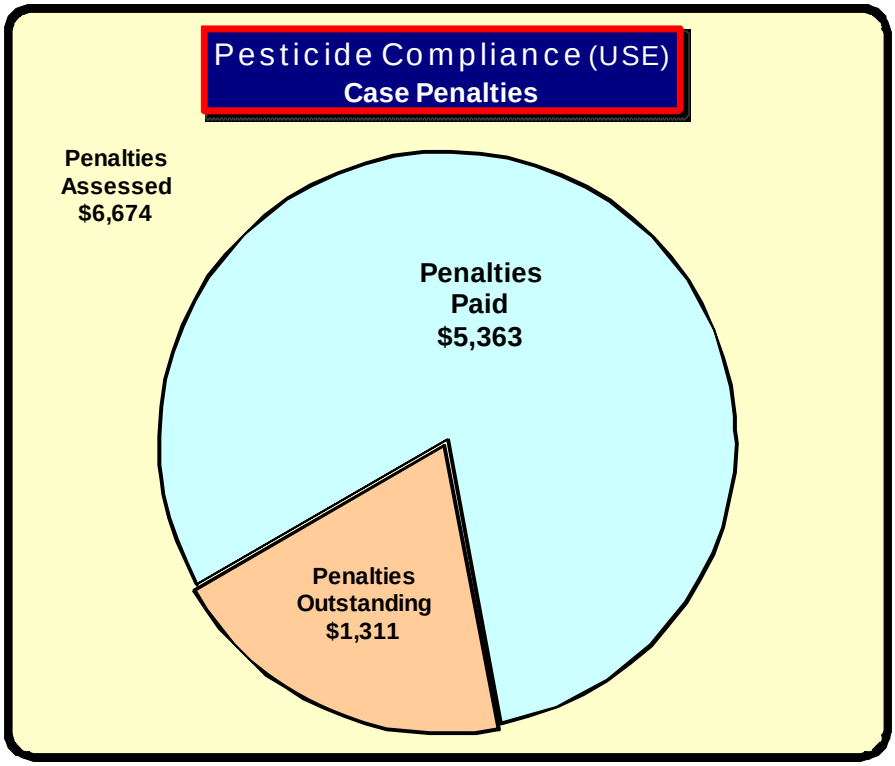
Total No. of Cases Opened: 57




Worker Protection & Safety
Final Case Actions
Warnings
issued - no
penalty
20
Administrative
Actions 15
Citations
with penalty
issued
35


Pesticide Compliance (USE)
Final Case Actions
Administrative
Actions 19
Warnings
issued - no
penalty
13
Citations
with penalty
issued
19


Worker Protection & Safety
Case Penalties
Penalties Assessed $18,666
Penalties Paid $11,116
Penalties Outstanding $7,550


Pesticide Compliance (USE)
Case Penalties
Penalties Assessed $6,674
Penalties Paid $5,363
Penalties Outstanding $1,311

Pesticide Use & Worker Safety
Complaints Received or Violations Observed

Pesticide Control (USE) Complaints / Violations	Number of Cases
Restricted use Pesticide Recordkeeping	1
Operating without a Regulated Grower Permit (PGP)	3
Pesticide Misuse	1
Pesticide Storage	7
Pesticide Exposure resulting from drift / overspray	4
Pesticide Bulk Release	1
Drift / Overspray	4
Pesticide Disposal / Dumping	2
Use of Fumigant without certification	1
Crop Damage / Residential Damage	3
Pesticide Sales Record Keeping	7
Animal / Bird Kill	1
Use of Unregistered Pesticide	1
Restricted Use Pesticide Use Without Certification	3
1080 Pesticide Application Reports	3
Pesticide Concerns / Odor	3
Water Contamination	1
Continuing Education Course Discrepancy	1
Illegal Tolerance	2

Worker Safety Complaints / Violations	Number of Cases
Multiple WPS Violations	7
Pesticide Safety Training	2
Central Posting & Pesticide Safety Training	18
Pesticide Application List	1
Personal Protective Equipment & Training	1
Health Effects / Exposure	2

Complaint and Inspection Violation Categories

Worker Safety & Pesticide USE

Incidents – Worker Safety	Number of Incidents
Failure to Verify Training	36
Application List not Provided / Posted / Incomplete	33
Medical Emergency Information not Posted / Missing / Incomplete	26
Failure to Train	23
Safety Poster not Posted / Illegible / Inaccessible	20
Central Posting – Missing / Incomplete / Inaccessible	16
Decontamination Site not provided	11
Label Violation – Storage / Disposal / Transportation / General Misuse	9
Operating without a Valid License	8
Safety Equipment not Provided	6
Violation of Restricted Entry Interval	6
Unsafe Environment	4
Employee Retaliation	1
Failure to wear required PPE (Personal Protective Equipment) Safety Equipment	2

Incidents – Pesticide USE	Number of Incidents
Label Violation	22
Record Keeping	14
Drift / Overspray	9
Operating without a Valid License	4
Container Disposal / Storage	4
Bulk Release / Spill	2
Illegal Application	1
Miscellaneous	1

Non-Food Quality Enforcement Actions

FERTILIZER	Number
TOTAL NUMBER OF CASES OPENED	86
Follow-up third-party complaints	6
Routine Inspections	80
NUMBER OF FERTILIZER PENALTIES ISSUED	17
Total amount of penalties issued	$51,627
Total amount of penalties paid to date	$9,580
CEASE & DESIST ORDERS ISSUED	152
Quality Assurance Analysis Failures	49
Unlicensed Commercial Fertilizer Company	27
Unregistered Specialty Fertilizer	74
False / Misleading Statements	2
WARNINGS / NOTICE OF VIOLATIONS ISSUED	110
Quality Assurance Analysis Failures	35
Unlicensed Commercial Fertilizer Company	25
Unregistered Specialty Fertilizer	50

COMMERCIAL FEED	Number
TOTAL NUMBER OF CASES OPENED	142
Follow-up third-party complaints	7
Routine Inspections	134
Referrals	1
CEASE & DESIST ORDERS ISSUED	127
Quality Assurance analysis Failures	18
Unlicensed Commercial Feed Company	106
Misbranding / Mislabeling	3
Adulterated Product	0
Failure to submit tonnage	0
WARNINGS / NOTICE OF VIOLATIONS ISSUED	167
Quality Assurance Analysis Failures	15
Unlicensed Commercial Feed Company	149
Misbranding / Mislabeling	3
Adulterated Product	0
Failure to submit tonnage	0

Non-Food Quality Enforcement Actions

SEED	Number
TOTAL NUMBER OF CASES OPENED	73
Follow-up third-party complaints	2
Routine Inspections	68
Referrals	3
CEASE & DESIST ORDERS ISSUED	57
Both Germination & Purity Failures	3
Germination Failures	5
Purity Failures	16
Unlicensed Seed Dealer	8
Unlicensed Seed Labeler	11
Noxious Weed Seed	1
Expired Test Date	12
Labeling	1
WARNINGS / NOTICE OF VIOLATIONS ISSUED	64
Both Germination & Purity Failures	3
Germination Failures	5
Purity Failures	13
Unlicensed Seed Dealer	13
Unlicensed Seed Labeler	17
Noxious Weed Seed	0
Expired Test Date	12
Labeling	1

Non-Food Quality Enforcement Actions

PESTICIDE	Number
TOTAL NUMBER OF CASES OPENED	66
Follow-up third-party complaints	3
Routine Inspections	60
Referrals from other Government Agencies	1
Label Review	0
1080 Pesticide Application Report Reviews	1
EPA Referral	1
CEASE & DESIST ORDERS ISSUED	64
Quality Assurance Analysis Failures	7
State Unregistered Pesticides	45
Federal Unregistered Pesticides	2
Misbranding	6
Mislabeled 25(b) exempt	4
WARNINGS / NOTICE OF VIOLATIONS ISSUED	62
Quality Assurance Analysis Failures	7
State Unregistered Pesticides	46
Federal Unregistered Pesticides	1
Misbranding	4
Mislabeled 25(b) exempt	4

Non-Food Quality Enforcement Actions

Fertilizer / Commercial Feed / Seed / Pesticide

Total number of Warnings / Notice of Violations: 402

Total number of Cease & Desist Orders: 400

DEFINITIONS

Warning / Notice of Violation (NOV):

Warns a manufacturer or distributer 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 & Desist Order (C&D):

A C&D 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.

Office of Special Investigations

The Office of Special Investigations (OSI) is primarily responsible for the investigation of criminal activities involving agricultural laws and provides law enforcement support to the other divisions and programs within the department. The office is comprised of individuals specially trained to investigate criminal misconduct regarding native plants theft and destruction, theft, wanton killing of livestock, cruelty of livestock, food safety and cultural resource protection. Approximately 3,362 telephone calls, emails and visitors were received by OSI personnel: 1,365 dealt with native plant issues, 1,052 were livestock related and the remaining 945 calls related to other issues.

Officer Certification, Training & Meetings

OSI investigators are certified peace officers that are qualified and proficient in their field of expertise. The investigators maintain training standards in firearms and various other proficiency requirements in enforcement disciplines. OSI also has the responsibility for maintaining training records for all departmental certified peace officers. Arizona Peace Officers Standards and Training audits departmental records to ensure all certified officers complied with state standards. Compliance results this fiscal year were commendable.

One of the requirements to maintain officer certification is obtaining CEU's. Highlights of some of this training includes the 21st Annual Conservation Law Enforcement Association Conference held in Prescott, Arizona. The first day of the conference focused on law enforcement officers being prepared for any situations. The presenter, Lt. Col. (ret.) Dave Grossman of Killology Research Group, included information on the latest and deadliest attacks on civilians by terrorists and what was learned from this.

The second day speaker was Jeffrey Baile of Jeffrey Baile and Associates. Baile is a retired Game Warden from Illinois. He is an expert at Interview and Interrogation techniques and offers his training all across the US and other countries. His techniques are easily understood, resulting in positive confessions in a short period of time.

Zeke Austin, Special Investigator, attended the 35th Annual Western State's Livestock Investigators Association (WSLIA) conference. Zeke was elected president for 2008 and is now the immediate past president.

An OSI investigator is still actively involved in the Arizona Homeland Security Fraudulent Identification Task Force (AFIT). Last year the Governor implemented "Operation Strong Border" to identify, investigate and prosecute the manufacturers and sellers of all fraudulent identification in the State of Arizona.

Enforcement Activity

During the fiscal year, OSI investigated 67 cases of alleged civil and criminal misconduct involving native plants and livestock. A total of fifteen cases were filed with county attorney offices and the Attorney General's Office.

PERFORMANCE MEASURES:	FY 2009 Actual
Number of criminal referrals received	15
Number of civil referrals received	7
Number of investigations opened	67
Percent of investigations completed	84
Number of cases with successful compliance	56

Program Mission:

To protect and conserve Arizona's native plants, historical sites, and other natural resources for present and future generations to enjoy and appreciate. To provide professional law enforcement investigation services to protect agricultural products, livestock and native plants for the public, farming/ranching community, and the environment.

Permitting Needed for Native Plants

The Arizona Native Plant Law was established to protect wild-growing plants. The law requires a person to have a State permit to take or possess any protected native plant taken from its habitat. Moreover, it is unlawful to destroy or mutilate any protected plant without the consent of the landowner. To regulate the collection of protected native plants, the department enforces the law through investigations, legal action against violators, public awareness through the media, one on one education, and permit issuance.

During the fiscal year, OSI staff members issued fifty-two interstate shipping certificates on protected plants being shipped out of state. In addition, a total of seven Scientific Permits were issued to collect protected native plants for research projects. Forty-three permitted properties were checked for compliance. Of those, two properties were found in violation of state law.

Harming and Stealing Livestock is a Crime

Every year OSI investigates the killing and theft of livestock and enforces the laws and regulations associated with livestock inspection. Livestock kept on open range must have a registered brand to confirm ownership. Why anyone would choose to kill, mistreat, take, or sell livestock of another is beyond comprehension. It is a criminal act like any other theft or property damage. It's also illegal to slaughter animals, or sell, or expose for sale the meat without a license.

Food Safety Investigations

OSI investigation responsibilities include assistance in illegal animal slaughtering operation violations for food safety reasons. Federal and state laws require specific sanitary standards to assure that Arizona consumers have a safe supply of wholesome meat and meat products.

While no legal action was taken during the fiscal year, OSI works closely with the Animal Services Division to reduce the threat of illegal meat products entering the market place.

Cultural Resource Investigations

Material evidence of past cultural and natural heritage is found in many areas in Arizona. This includes archaeological, paleontological and historical sites, none of which can be renewed, and when destroyed, are gone forever. The department has the authority to assist in the enforcement of the Antiquities Act to protect and preserve evidence of Arizona's richest legacies.

While no enforcement action was taken during the fiscal year, the OSI works closely with other agencies to reduce the threat of losing one of Arizona's richest cultural legacies.

OSI Administrative Statistics

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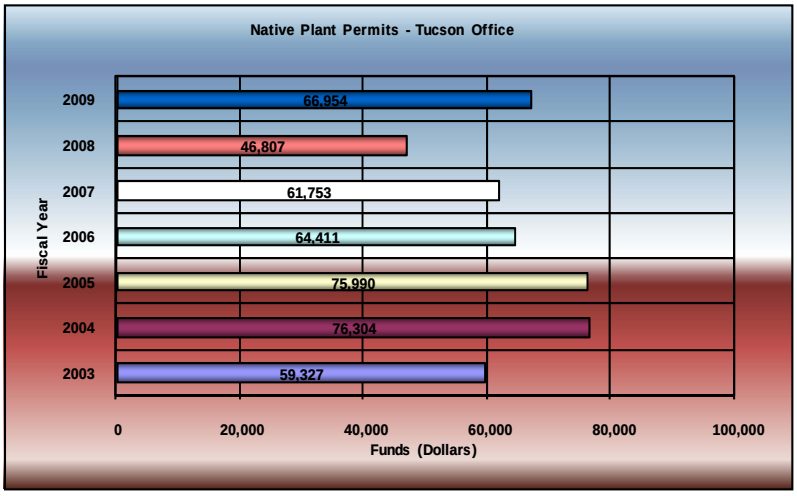
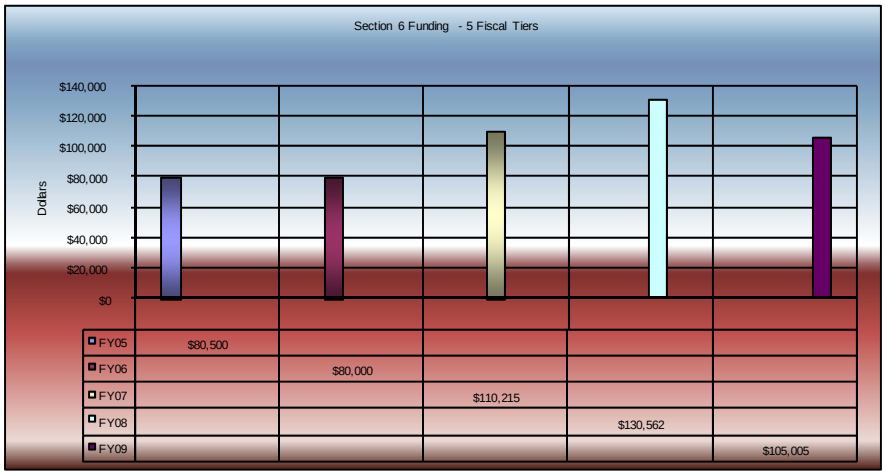
NATIVE PLANT PERMITS & TAGS FY09 QUARTERLY REPORT ~ TUCSON OFFICE					
Month	No. of Permits	Saguaro Tags	Regular Tags	Green Seals	Total Fees
JUL	22	106	276	1,905	$2,530
AUG	20	287	1,555	1,287	$6,598
SEPT	26	134	60	2,666	$2,054
OCT	39	292	563	3,010	$4,586
NOV	29	356	633	2,514	$5,617
DEC	19	252	275	1,672	$3,557
JAN	27	389	904	2,483	$6,884
FEB	35	568	1,026	4,097	$9,145
MAR	42	740	328	4,196	$7,626
APR	31	266	334	3,117	$4,224
MAY	31	513	2,003	1,846	$12,138
JUN	27	125	84	1,145	$1,995
TOTAL	348	4,028	8,041	29,938	$ 66,954.00

Number of permits, tags and seals issued from the Tucson Office during the fiscal year



Fees collected for permits, tags and seals issued from the Tucson Office over seven fiscal years.

A Memorandum of Understanding between the department and the University of Arizona (UofA) continues for the 12th year. The funding is to be used to study threatened and endangered plants species under Section 6 of the Endangered Species Act. A Federal grant totaling $105,005 for pass through to the UofA was proposed to conduct studies on nine different plant species in Arizona.



This table highlights the amount of funds received for plant studies through the Endangered Species Act grant program for five fiscal years.

Plant Services Division (PSD)

Pest Exclusion and Management

Increased Threat of Pests

Increased execution of various trade agreements has resulted in a higher incidence of trade into and out of the United States and, subsequently, Arizona. Many pests common to foreign countries present a significant threat to Arizona agricultural industry, public well-being and associated quality of life. As more commerce enters Arizona, and significant weather events continue, the risk of introducing plant pests or diseases from other states or foreign countries increases.

An example of a serious pest threat presently pressuring Arizona is the 2008 detection of the Asian Citrus Psyllid (ACP) in Southern California. The ACP is a pest threat in its own right, but with its ability to potentially vector Citrus Greening, one of the world's most destructive citrus diseases, ACP has become a pest of significant concern to the State of Arizona.

As a result of the 2008 detection of ACP in Southern California, the Plant Services Division intensified its detection activities for this pest. Vigilant detection activities are presently in place, focusing on commercial citrus, high risk residential citrus areas, as well as international ports of entry in close proximity to ACP infested areas. These activities, accomplished in concert with industry and public outreach, increase the probability of the early detection of the ACP and the mitigation of potential damage which could occur if such a timely early detection were not to happen.

Dangers

Introduction of non-native plant pests can have devastating effects on the yield of agricultural and horticultural commodities, and can increase industry production costs through pesticide applications for eradication or control of destructive pests. Plant pests reduce the quality of products and threaten the demand for Arizona products.

Metropolitan Phoenix is among the nation's ten largest cities and growing. This unprecedented growth has fueled significant increases in the importation and distribution of plants, many of which originate in parts of the country already infested with devastating and costly exotic pests such as the Asian citrus psyllid that vectors citrus greening, a serious threat to residential and commercial citrus trees.

Pest Exclusion Safety Nets

The Pest Exclusion and Management Program has moved to incorporate new technologies, advanced inspector training and updated quarantine requirements. Intensive pest-trapping methods are used to meet the challenges of rapid urban development, increased trade and expanded export opportunities for Arizona's agricultural industry.

Free-From Status

Arizona continues to enjoy freedom from numerous exotic pests that have cost infested states millions of dollars in attempted control or eradication. Through the deployment of several safety nets intended to minimize the threat of exotic species establishment, the Arizona Department of

Agriculture protects the quality of Arizona life. Components of these safety nets include Arizona's interior inspection operations**,** and comprehensive quarantine and survey and detection programs against the following:

Arizona's Most Unwanted Pests

- **Citrus Greening** — poses a serious threat to Arizona's citrus trees. Citrus greening is vectored by the Asian citrus psyllid. Trees infected with citrus greening, also known as Huanglongbing disease of citrus, may produce misshapen, unmarketable, bitter fruit. Other than tree removal, there is no known cure for the disease. In areas of world affected by citrus greening the average productive lifespan of citrus trees has dropped from 50 or more years to 15 or less. Trees in orchards usually die 3-5 years after becoming infected and require removal and replanting. An infected tree produces fruit that is unsuitable for sale as fresh fruit or for juice.

Asian citrus psyllid adult

USDA regulates Florida and portions of Louisiana for citrus greening; for Asian citrus psyllid, Florida, Hawaii, Guam, Puerto Rico, and portions of Louisiana and Texas.

- Light-Brown Apple Moth (LBAM) – was discovered in Alameda County, California in March, 2007. Since then, California reports LBAM detections in an additional 10 counties. This is a serious pest because the larvae feed on a wide range of crops and ornamental plants and trees important to Arizona. In January 2008, Acting Agriculture Secretary Chuck Conner announced the availability of $74.5 million in emergency funding to continue efforts in California to stop the spread of LBAM. Federal Domestic Quarantine Order DA-2008-17 regulates the interstate movement of LBAM host to prevent the spreading the infestations to other states.

Light-Brown Apple Moth larva feeding on the surface of an apple - photo courtesy of USDA

Feeding damage on pear leaf caused by Light-Brown Apple Moth larvae - photo courtesy of USDA

- **Pecan Weevil** – attacks the pecan nut, causing serious crop loss. The larvae (grubs) develop inside nuts and destroy the entire kernel by their feeding process. The nearest infestation of pecan weevil is in New Mexico. Arizona Administrative Code R3-4-231 restricts the entry of pecans, other nuts, and firewood to prevent movement of pecan weevil into the state.

White larvae (grubs) destroying the inside of a pecan

Mature weevil larva exiting a nut

- **Red Palm Mite –** The red palm mite appeared in Puerto Rico in 2006 and in Palm Beach County, Florida in December 2007. This is a pest of several important palm species including areca, date, and queen palms. It causes serious leaf damage, ruining the ornamental value of the plants. Wind currents and the movement of infested nursery stock easily distribute this mite in addition to handicrafts (hats, bowls, etc.) fashioned from infested coconut leaves that are sold to tourists on many Caribbean islands.

Red palm mite infestation on *Musa* sp., Trinidad – photo courtesy of FDACS

On palms, yellowing of leaf tissue is visible plant damage that can be caused by feeding of the mite. Photo by Joel Floyd, USDA

- **Citrus Canker**—results in rapid death of citrus trees. This disease threatens commercial and residential citrus production in Arizona. USDA regulates the interstate movement of citrus nursery stock and citrus fruit from Florida to prevent further spread of the disease in Arizona and other citrus-producing states.

- **Cactus Moth**—The Cactus Moth is a significant threat to prickly pear cactus in Arizona. This insect can attack all species of prickly pear cacti (*Opuntia spp.*) in North America and can completely destroy a cactus plant. Larvae burrow into the pad to feed, and then move to other pads before pupation. These photos are examples of the damage caused by this serious pest.

- **Japanese beetle** — defoliates ornamental plants and destroys turf roots resulting in decline or death; threatens the quality of golf courses, parks, and lawns, and export potential of Arizona's green industry. Three of Arizona's neighboring states (Colorado, Utah, and New Mexico) are battling infestations of Japanese beetle. The US Domestic Japanese Beetle Harmonization Plan aids in preventing the interstate spread of this pest on nursery stock. Federal rule regulates the movement of aircraft departing from infested areas.

Adults feeding on a grapevine leaf - USDA

Japanese beetle grubs destroyed t his turf by feeding on underground roots – USDA

- **Gypsy Moth** — larvae damage trees by eating the foliage, which weakens and eventually kills them, affecting the aesthetic value of forested areas.

The gypsy moth larva

Gypsy moth larvae have eaten most of the foliage from this tree.

- **Fruit Flies** (Mediterranean, Mexican, Oriental, and Caribbean) — devastating pests of citrus and other types of fruit that impact quality and yield. Presence in Arizona would limit export potential of citrus commodities. USDA restricts the movement of host material from areas under quarantine to prevent the spread of infestations. Photos show fruit fly larvae in damaged fruit.



- **Red Imported Fire Ant**—an aggressive competitor with native ant species, its aggressive behavior, and its ability to both sting and bite threatens public well being, quality of life, and agricultural production, especially livestock. Presence in Arizona would limit the export potential of the state's green industry. In appearance, the native Southern Fire Ant closely resembles the Red Imported Fire Ant. Federal rule restricts movement of regulated commodities from infested areas.

Field Operations

Interior Inspections

Inspection staff assigned to three operational locations (Phoenix, Tucson, Yuma) function as the second safety net against pests. Interior inspectors carry out a variety of duties including issuance of certificates, field inspections for quarantine clearance and export certification in seed and produce distribution centers, to serve the agricultural industry and contribute to the prevention of pest establishment within the state.

An Overview

In FY 2009, inspection staff intercepted 15,092, a decrease of 6.3% over FY 2008, within the state's interior through various inspections; 2,839 federal phytosanitary certificates were issued for the export of vegetable, agricultural, and ornamental seed, produce, nursery stock, wood products, and various other agricultural commodities. Pre-clearance of plants for pests, most notably citrus stock, before distribution within the State is a major inspection task.

Survey and Detection

The early detection of potential pests and delimiting surveys of pest infestations through trapping and surveillance programs for a wide range of pests is the final safety net in the department's pest exclusion effort. Statewide, an average of 4,425 traps were placed, serviced and monitored throughout FY 2009 for up to 19 targeted pest species.

Aggressive Detection

Foreign nations require scientific data to ensure that pests that inhabit Arizona will not harm their crops. Because the department maintains an aggressive detection program to help protect that federal free-from pest distinction, Arizona's agricultural producers can ship almost anywhere in the world and their products are welcomed in many foreign markets. This kind of market access is unique and is the result of the Arizona Department of Agriculture's commitment to protect Arizona industries.

Fruit Fly

In particular, many foreign nations are concerned about the fruit fly complex. Fruit flies, much like a wormy apple, cause citrus fruit to be cosmetically unacceptable to consumers and increase spoilage in commercial storage.

The Division's Exotic fruit fly detection efforts supported in part through a United States Department of Agriculture, Animal and Plant Health Inspection Service (APHIS) grant, involves monitoring an average of 3,035 traps placed statewide and currently meets or exceeds the National Exotic Fruit Fly Trapping protocol. To date, the Division's efforts have achieved the result that no fruit flies of concern have been detected in the state.

Each year the Division's program leaders evaluate the fruit fly detection process, with an eye for efficiency, utilizing the most current accepted techniques in the industry. In FY 2009, PSD inspectors continued to use all internationally accepted lures and trapping arrays and techniques for a highly efficient detection strategy for all exotic fruit fly species of concern. Add to this an ongoing training process for fruit fly trapping personnel and a focused quality control system, and the result is that Arizona citrus, both commercial and residential, is assured of appropriate protection from a debilitating infestation from these destructive pests.

Nut Pest Monitoring

The nut industry, including pecans, pistachios, and walnuts, is a fast growing agricultural industry within Arizona. Arizona production accounted for $24.5 million in pecan exports in FY2006 alone. Production acreage continues to grow annually, with approximately 3000 acres of new production in Southeastern Arizona in the previous year. Several devastating pests exist within the nut producing states surrounding Arizona, but Arizona still enjoys a pest free status with regard to them. The department has developed and implemented a detection strategy to monitor for the introduction of several of these pests, including the Hickory Shuckworm, the Pecan Nut Casebearer, the Pecan Weevil and the Walnut Husk Fly. Inspectors place traps in both commercial and

residential pecan environments in order to monitor for an introduction of these devastating pests. In addition, Arizona pecan cleaning facilities are inspected during the cleaning season each year to ensure Arizona pecans are pest free and therefore able to enter the export market unhindered.

Hand in hand with producers and industry representatives, the PSD is leading this proactive endeavor to keep Arizona-produced nuts free from pests of export significance, making Arizona-produced nuts a commodity that is desired by many in this important export market.

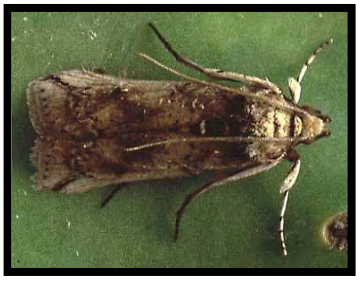
Gypsy Moth

Gypsy Moth, a devastating forest pest well established in the northeastern United States, is a pest that is threatening Arizona's forests. Leaf destruction caused by the feeding caterpillars weakens trees and can lead to tree death. Once again, due to department commitment, no reproducing gypsy moth population has been detected in Arizona. Occasionally a “hitchhiking” male moth has been detected in traps placed at RV parks. Efforts to prohibit gypsy moth movement here are underway. The department maintains an active gypsy moth trapping program including placement and servicing of traps on state and private forestlands. High-risk locations, such as RV parks, are routinely trapped.

Citrus Commodity Survey

Citrus, both its commercial production and popularity as a residential landscape choice, has historically been a key component in Arizona’s diverse landscape. Its survival, however, is continuously threatened by a wide range of harmful pests, many already found in the citrus producing states adjacent to Arizona. In order to help protect Arizona citrus, the Plant Services Division conducts an annual commodity based survey. The department has trained specialized surveyors who utilize a variety of detection techniques, which include conducting visual inspections of the groves, collecting soil samples, as well as deploying and monitoring insect traps. With the diligence of these specialized teams, along with the cooperation of the industry, we can protect Arizona’s citrus from these potential threats.

Cactus Moth



This extremely invasive prickly pear cactus pest is threatening native landscapes and agricultural industries throughout the southern United Sates and Mexico. The Plant Services Division is on the cutting edge in the detection of this pest.

Detection traps are strategically placed in key potential introduction sites in order to monitor for its arrival and allow for a rapid response by regulatory and industry representatives. In conjunction with federal support, the department is committed to protecting our native plant material and key agricultural industries threatened by the Cactus Moth.

Commitment to Service

The Plant Services division (PSD) continues its efforts to improve timeliness and quality of customer service delivery and even though faced with the continued impact of budget reductions, reduced inspection staff as well as numerous other pest challenges, PSD has demonstrated its commitment to service by the following:

Export Certification

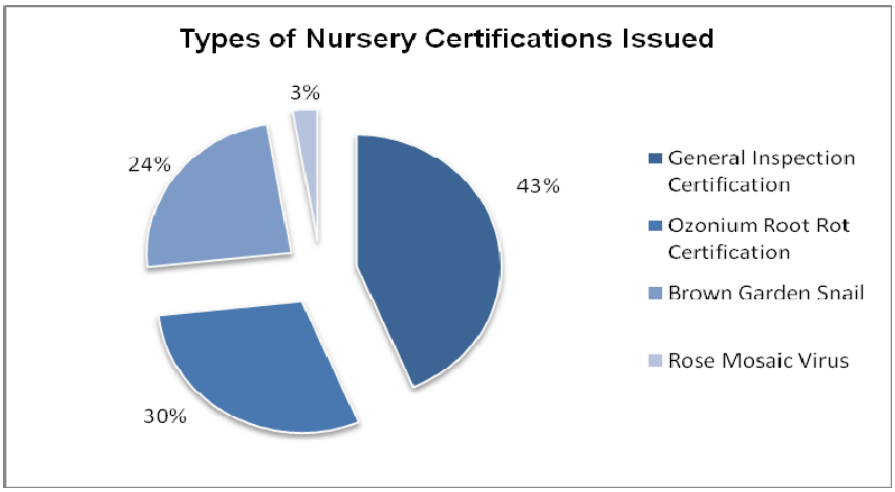
The division administers certification programs to facilitate interstate and international movement to agricultural commodities.

- **Domestic shipments of nursery stock**

In FY 2009, inspectors issued 1,493 single shipment certificates for shipments of agricultural commodities to other states. Nursery stock accounted for 110 certificates.

- **Voluntary nursery inspection certification program**

The Division processed 329 applications during calendar year 2008 from Arizona nurseries requesting certification to comply with the entry requirements of other states, and issued 289 individual certificates following inspection of the applicants' properties.



World Market Access

Successful verification of the integrity of our pest exclusion efforts and free-from status for quarantine pests of concern to our trading partners ensures greater opportunities for Arizona's agricultural industry, most notably expanded international market access.

Federal Phytosanitary Certification

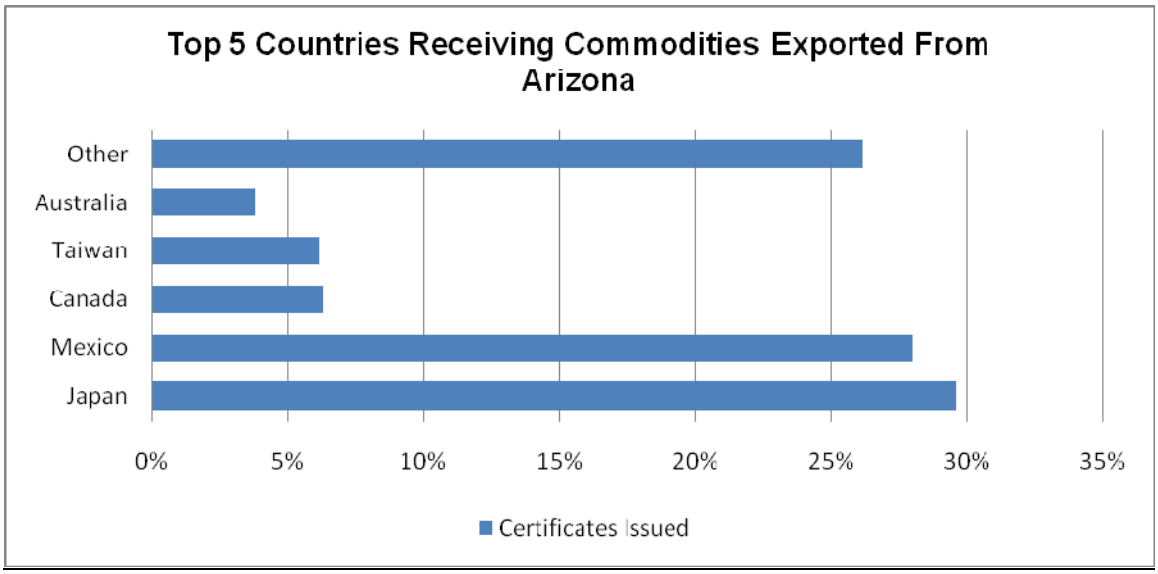
- The Division received 751 applications for phytosanitary field inspection of seed crops for international export. 52,123 acres were inspected and found free of pests and diseases.

Seed Crops Inspected

Cotton.....56%
Vegetable.....37%
Grass.....5%
Grain.....2%

Federal Export Certification of Agricultural Commoddities

- The division issued 2,839 federal export certifications to accommodate shipment to foreign markets.



Export Enhancement

Arizona's economy benefits greatly from the department'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 to the end that more and more foreign nations have opened their market, thus allowing Arizona producer's greater financial growth options.

Noxious Weeds

"Weed" is a term used to designate a pest plant. Certain imported or introduced (non-native) invasive weeds are extremely destructive and labeled as noxious for regulatory purposes.

Some of Arizona's Weeds of Major Concern

Giant salvinia	Buffelgrass
Russian knapweed	Yellow starthistle
Leafy spurge	Sweet resinbush
Camelthorn	Diffuse knapweed
Dalmatian toadflax	Hydrilla
Onionweed	Floating water hyacinth

Cooperative Effort

The Division maintains a Noxious Weed Program that coordinates a number of state, federal and university weed exclusion plans and control efforts dedicated to preventing environmental disasters caused by invasive plants. Arizona's noxious weed administrative rules divide the Noxious Weed List into three groups.

1. Regulated noxious weeds found within the state may be quarantined to prevent further spread. If the regulated noxious weed in not quarantined, the department shall provide the grower with technical information on effective weed control activates through integrated pest management.

2. Restricted noxious weeds found within the state shall be quarantined to prevent further infestation or contamination. Commodities or land may be quarantined until eradication is complete.

3. Prohibited noxious weeds are prohibited from introduction into Arizona.

At the beginning of FY 2009, 13 Weed Management Areas (WMA's) were actively pursuing control or eradication goals, mapping local weed distributions and conducting public information programs in Arizona.

A site in Arizona, that was previously infested with Kudzu vine, shows the before and after results of successful control measures to contain a potentially invasive weed.

Noxious Weeds for Sale

As each spring flower season approaches, weed dispersal can happen from businesses such as grocery, drug, pet, hardware stores and nurseries. Most gardeners do not think of nurseries or gardening shops as sources of pest plants. Arizona Department of Agriculture inspectors find prohibited weeds in retail seed displays and in display ponds each year. Often, non-native species have no natural enemies in new environments and, if exotic species are aggressive, they may become weedy invaders in their new habitats.

Morning glory vine (left) and Floating water hyacinth are examples of noxious weeds found for sale in Arizona.

Another highly used method for the distribution and sale of noxious weeds are through internet sales on peer to peer auctions and sale sites. Some noxious weeds may be pleasing to the eye and are often easily cultivated, making them a marketable resource for some home growers. These sellers, often from another state, are many times unfamiliar with regulatory restrictions in Arizona and may inadvertently be the cause of an infestation of a noxious weed.

The Arizona Invasive Species Advisory Council (AISAC)

On August 4, 2008 the AISAC began the process of implementing the Arizona Invasive Species Management Plan to address invasive species needs in Arizona. The plan was developed in 2007 with recommendations to improve invasive species management. The Arizona Department of Agriculture retains a leadership role as co-chair to the AISAC with its partner agency, the Arizona Game and Fish Department. Some of the key recommendations to the implementation include:

- Cooperate, coordinate, and increase the effectiveness of communication among agencies and stakeholders to implement comprehensive invasive species management;

- Create the Center for Invasive Species as a web-based network that would be the gateway for information collection, sharing, and distribution to aid the public, agencies and organizations in Arizona in addressing invasive species management needs;

- Seek to establish a rapid response fund and develop a strategy to assess the economic feasibility of creating a sustainable emergency response resource to address the long term issues associated with response to critical invasive species detections;

- Emphasize education and outreach as integral components to effectively accomplish goals identified in each strategic concept;

- Pursue, cultivate, and secure creative funding solutions from public and private sources. Raise the awareness of state, federal, and community decision makers for sustained commitment to manage invasive species threats, complementary to and not in lieu of other priority initiatives and program needs.