

# Arizona Department of Agriculture

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## Mission:

*To regulate and support Arizona agriculture in a manner that encourages farming, ranching and agribusiness, while protecting consumers and natural resources.*



## Annual Report FY 2005-2006



# Arizona Department of Agriculture

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September 30, 2006

Honorable Janet Napolitano  
Governor, State of Arizona  
1700 West Washington  
Phoenix, AZ 85007

Dear Governor Napolitano:

I am pleased to submit to you the Arizona Department of Agriculture's Annual Report for the fiscal year 2005-2006. Inside you will find the details about the many services provided by our department and the ways we have worked to better serve the taxpayers of the Grand Canyon state.

The following account shows how we are working to improve the quality of our states \$9.2 billion agricultural industry. As you read through these pages, you will find our staff has been diligent in awarding grant funds, administering public advisory committees, training agricultural workers around the state and working to make sure we protect one of the safest and most affordable food supplies in the entire world.

The Arizona Department of Agriculture has implemented many improvements and successes over the last fiscal year. Our technology infrastructure is on the road to recovery. We have also been diligently utilizing the funds you have given us for trying to eradicate the Glassy Winged Sharpshooter, which threatens our citrus, wine and oleander industries. These examples are all part of our ongoing effort to improve our service.

While we have accomplished the aforementioned points in spite of budget cuts, services such as securing ports of entry, monitoring safe food processing and keeping up with technology have been severely impacted by previous budget reductions. This year, we closed our Ehrenberg Port of Entry because of budget shortfalls. This means we have no way of protecting the western half of the state from plant and animal pests and diseases, unless we receive additional funding. We trust the economic integrity of the department will remain intact as we prepare for the food safety and industry challenges in the coming months and years.

Sincerely,

Donald Butler  
Director  
DB/kd

# The Department of Agriculture Advisory Council

In existence since 1989, the Arizona Department of Agriculture Advisory Council

- Reviews agricultural policy in this state as established by law and as administered in all functional areas of the department.
- Assists the director in formulating the department's proposed budget allocations among the administrative units of the department and provides such additional assistance as the director requests.
- Reviews, advises and makes recommendations to the director on proposed rules before they are adopted by the director and may recommend initiating the rule making process relating to any subject under the department's jurisdiction.
- May conduct periodic analyses of departmental policy as reflected by the operations of the State Agricultural Laboratory, the office of agriculture safety, the office of border inspections, and decisions of hearing officers.

This Advisory Council is made up of five members appointed by the Governor to five-year terms. Pursuant to statute, two members must be actively engaged in animal production as their major source of income, two members must be actively engaged in plant production as their major source of income and one member must be actively engaged in agribusiness as his or her major source of income.

On January 27, 2005, Ms. Cindy Baker of Yuma was elected Chairman of the Department of Agriculture Advisory Council and Mr. Clint Hickman of Buckeye was elected Vice-Chairman. Mr. Richard Ladra of Buckeye, Mr. Richard Lunt of Duncan and Tim Dunn of Yuma serve on the council.

# Food Safety and Quality Assurance

Cooperating with federal, state and county agencies, the primary purpose of the dairy, egg, meat and poultry inspection programs is to provide public health and quality control on regulated industry.

## *Dairy Products Control Program*

This program maintains a voluntary relationship with FDA, which includes the shipment of milk in interstate markets and physical inspection of dairy farms and processors. Effective July 31, 2006, the cooperative agreement with USDA to provide grading services of dairy products has been terminated. This was due to a variety of reasons including lack of dedicated staff to perform inspections/gradings as a USDA licensee.

Working with the National Conference of Interstate Milk Shippers (NCIMS) allows Arizona dairy farms and firms to ship milk products across state lines. Three field inspectors interact with county health program staff in helping to resolve public complaints regarding vector, odor issues and manure runoff from dairy farms.

## *Safety / Quality*

Milk and dairy products are routinely sampled and examined for a number of food safety indicators and quality factors. Microbiological tests are run to help assure the quality and safety of milk. Various testing is done to assure proper pasteurization, that milk is properly standardized including fat levels and vitamins. As part of lab testing, screening is done for antibiotics, pesticides and aflatoxin.

Dairy inspectors check facilities that handle milk such as dairy farms, processing plants and wholesale facilities. This helps to ensure conformity with state and federal laws regarding sanitation and public health issues. When they are prescribed for use on dairy farms, prescription drugs are reviewed for usage in conformity with labels on the drugs, in conformity with veterinary instructions. Water supplies are visually examined to assure compliance with public health regulations.

One program change within the last two years is the shifting of the primary responsibility for retail inspections of dairy products and addressing public concerns with dairy products to the county health departments, who visit retail facilities on a routine basis. This was accomplished by changes in Title 3 and Title 36, with the concurrence of county officials and the legislature.

## *Egg Products Control Program*

This program originated about 1940 by an act of the legislature. Today, the program inspects shell eggs and egg products at production and in commerce. A primary public health focus is the enforcement of a 45-degree ambient temperature requirement on shell eggs in commerce in Arizona. Program staff enforces this requirement from production until the product is sold at retail. Also enforced are temperature-holding requirements for frozen, pasteurized or liquid eggs in commerce.

## *Arizona Egg Production*

Arizona currently has two commercial laying flocks. There are approximately 96 licensed wholesale egg dealers inside and outside Arizona, which serve thousands of retail outlets statewide. There are a number of "nest run" producers which produce small quantities of shell eggs around the state. By state law, 750 dozen eggs can be produced annually by these producers, who sell their eggs as unwashed and ungraded product.

## *The United States Department of Agriculture (USDA) State Trust Program*

All department program inspectors are required to be licensed by USDA and have been responsible for inspecting and grading eggs, egg products and poultry products in Arizona for about sixty five years. These inspectors apply USDA grade standards to certify shell eggs, egg products and poultry products to USDA consumer grades.

A 1999 agreement allowed the Arizona Department of Agriculture to assume full management of the program, which includes inspections for new facilities desiring grading service and billing and collections for services rendered to industry. Currently, four full time graders staff two facilities. They will be joined by as many as four more full time employees, with the opening of a third shell egg packing plant in the near future.

Resident program staff provide 7 day a week coverage at plants. This includes inspecting plant sanitation, providing employee training, checking eggs for weight and grade standards, overseeing third party audits and making temperature checks on facilities and products. All costs for this program are paid for by industry under the voluntary USDA resident grading program.

Department staff assigned to the plants also assist in development and monitoring of biosecurity programs to protect laying hens in the facilities.

## *School Lunch Program*

Departmental USDA licensed inspectors inspect poultry products procured for consumption by school age children under United States Department of Agriculture Food Help Programs. Products are received at destination by agency employees to determine compliance with poultry procurement by USDA.

## *Meat and Poultry Inspection Program*

This General Fund program receives 50% in matching funds from United States Department of Agriculture to conduct many types of meat and poultry inspections at the wholesale level. Under authority of state laws, the federal Meat Inspection Act and the federal Poultry Products Inspection Act, the program directly protects Arizona consumers.

Staff inspectors receive training including HACCP inspection procedures, Sanitation Standard Operating Procedures, animal ante and post mortem inspection procedures for disease. General sanitation inspection, processing procedures and HACCP plans are reviewed. On a daily basis, inspectors visit industry plants to check for compliance with state and federal regulations. Plant and product microbiology is reviewed by submitting samples to official labs.

Other samples include analysis of percentage of fat content, water content, spices and other additives and other items, in order to verify compliance with label formulations. Inspectors and program management staff check product formulations prior to product approval. Products meeting regulatory requirements receive a triangular “mark of inspection”, which shows that it is a product approved by the agency.

### *Consumer Inquiries: A priority at the Arizona Department of Agriculture*

If there are questions from the public about any food product inspected by the department, which is under the regulatory jurisdiction of the department, field inspectors or sanitarians are dispatched to check on the product purchased, if needed. If the concern is quality or weight related, the inspector generally can resolve it promptly, following up on the issue at retail and/or wholesale outlets. If a concern about human illness is raised, a sample of the product in question is forwarded to the State Agricultural Laboratory for microbial or residue testing, as appropriate. The agency works closely with county health departments and other state or federal agencies.

# Animal Health and Welfare Program

## *Priorities and Oversight*

The highest priority of the Animal Health and Welfare Program is the prevention and rapid identification of and response to diseases of livestock, poultry and commercial fish, some of which are transmissible to humans. These diseases include many which exist in other parts of the United States and have never been identified in Arizona or have been recently eliminated from Arizona.

The Arizona Department of Agriculture State Veterinarian Office is responsible for safeguarding our livestock, poultry and commercial fish resources from devastating diseases and protecting the public from harmful interactions with livestock. Additionally, staff veterinarians provide veterinary expertise to the Meat and Poultry Inspection Program, which is responsible for the oversight of animal slaughtering and processing. Under authority of agricultural and criminal statutory obligations, staff are also active in ensuring the humane treatment of livestock.

The state veterinarian 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.

Arizona Department of Agriculture's Animal Health and Welfare 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 evidence of ownership, to inspect the animal's health or to confirm their care is humane. The field component of the Animal Health and Welfare Program 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 staff time this fiscal year.

### *Control & Eradication Program Surveillance Statistics*

Bovine Brucellosis – Blood Tests	7,574
Swine Brucellosis – Blood Tests	29
Bovine Tuberculosis – Tuberculin Skin Tests	96,048
Equine Infectious Anemia – Blood Tests	14,696
Scrapie Tests	0
Official Calfhood Brucellosis Vaccinations	52,868

## *Foreign Animal Diseases*

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

The cooperative surveillance program for END and AI continues with assistance from the United States Department of Agriculture as well as states' and industry stakeholders. The University of Arizona Veterinary Medical Diagnostic Laboratory is continuing its diagnostic screening effort as part of the surveillance program. An outreach folder containing information on Avian Influenza and Exotic Newcastle Disease as well as information on biosecurity for poultry flocks was disseminated statewide to non-commercial poultry owners. GIS mapping of premises housing non-commercial poultry was initiated. Power Point presentations on Avian Influenza and Exotic Newcastle Disease were given statewide. Training programs in the use of personal protective equipment and sampling procedures for poultry were developed for ADA personnel and presented during quarterly meetings of the Animal Services Division. A training program in the use of personal protective equipment and sampling procedures was given by ADA-ASD personnel to USDA Wildlife Services personnel. Interagency meetings concerning surveillance and response to Avian Influenza were held with USDA Wildlife Services, USDA-Veterinary Services, Arizona Department of Health Services, Arizona Game and Fish Department, and US Fish and Wildlife Service personnel. The USDA renewed ADA funding for these activities through the end of 2006.

### *Bovine Spongiform Encephalopathy (BSE)*

In cooperation with USDA-VS the department is supporting an enhanced surveillance program for BSE with the United States. A total of 13,819 samples were submitted from Arizona, all of which were found to be negative for the disease.

### *Foreign Animal Diseases Program Surveillance Statistics*

Foreign Animal Disease investigations conducted by state and federal diagnosticians during the past year:

Bovine	0
Equine	26
Avian	2
Rabbit	1

## *Animal Movement Regulations*

The Animal Health and Welfare Program 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 program works with the Central Licensing Self-Inspection Program to oversee the owner-generated documentation of Arizona livestock movement. The ability to trace the movement of animals through the marketing system 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 reduction strategies.

## *National Animal Identification Program*

The National Animal Identification System (NAIS) in Arizona continues to be managed by the Arizona Department of Agriculture. The 2005-2006 year has been focused on premises identification (Premise ID) registration for all eligible producers of beef and dairy cattle. Premise ID is a seven digit, alpha-numeric number issued by the United States Department of Agriculture (USDA) to all sites or locations where animals that qualify are housed or where they graze or are kept. This effort requires a monumental outreach effort in order to educate all owners of these animals. This effort will continue through the 2006-2007 year with funding from USDA to support the program. The issuance of animal identification tags and micro-chips will be phased in gradually as premises identification becomes completed within the state.

The Arizona Department of Agriculture is participating in three pilot projects with several different ranchers, dairymen, feedlots and two harvest houses. These projects, funded by USDA, are educational projects allowing us to learn and recognize the best methods of tagging and tracking cattle. The projects we have in motion will identify problems in tagging and tracking cattle that can be improved before the program becomes mandatory.

The Hopi Indian Nation now has premises identification numbers for all except one grazing district. They have begun electronic identification tagging (EID) their cattle and they will sell their cattle through Sun Valley Auction in Holbrook, Arizona. The Sun Valley Auction is part of the original pilot program and is set up to read the EID tagged cattle as they come into the auction barn yard. The Tonoho o'odman Indian Nation has started the process of getting premises identification numbers for their members.

We are working with Arizona Cattlemen's County Associations on a pilot project that will tag and read the tags at their ranch. The cattle will be read coming in and leaving the auction barn. This will provide education for the rancher and auction barn on how tracking in commerce may work. At present the target date for national premises identification and animal tracking to become mandatory in all states is 2009.

## *Annual Licenses*

### *Aquaculture*

Aquaculture regulation pertains to the growing, transporting and processing of commercially raised fish and shrimp for human consumption. Numbers of licenses issued: transporters (18), processors (7), facilities (15), special facilities (11), and fee fishing (5).

### *Feedlots*

28 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 and the movement of range cattle and cattle for processing, and the number of investigations for animal care issues, stray animals/animals-at-large, and livestock theft. The inspection data closely tracks the changes that have occurred in the past three years.

### *Surveillance Statistics*

Currently, over two thousand six hundred 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. Department Animal Health and Welfare officers, inspectors and deputies document all sales of range cattle and all interstate movement of range cattle. 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 pass” started 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*

<b>CLASS OF LIVESTOCK</b>	<b>NUMBER OF SHIPMENTS</b>	<b>TOTAL ANIMALS</b>
Dairy Cattle Replacements	594	36,713
Beef & Feeding Cattle	2681	396,830
Swine	390	39,343
Sheep and Goat	380	67,751
Equine	7544	17,213
Aquaculture	191	unavailable

### *Investigations and Inspections Summary*

<b>Category Name</b>	<b>Count of Calls Taken</b>
Health and Movement Inspections	4178
Butcher Inspections	1465
Animal Care Investigations	1775
Animals-at-Large Investigations	1778
Theft Investigations	56

## *Arizona Livestock Incident Response Team*

The Arizona Livestock Incident Response Team (ALIRT) has been activated several times over the 12 months. In every case the response has resulted in a preliminary diagnosis within 48 hours and independent diagnosis confirmation soon after. ALIRT is an emergency response program developed by the University of Arizona Departments of Animal Sciences and the Veterinary Diagnostic Laboratory, the Arizona Department of Agriculture, the Arizona Cattle Grower's Assn, and the USDA Wildlife Service. This program facilitates the potential diagnosis of unexplained animal 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 U of A Cooperative Extension Office. If warranted, specially trained ALIRT veterinarians will respond to the scene and start the investigation and sample collections. This is followed by a conference call of the advisory committee and determination of additional actions, if warranted. The cost of diagnosis is covered by ALIRT, this includes the ALIRT veterinarian expenses and any additional personnel and laboratory expenses related to the diagnosis. Once a diagnosis is made, and/or a treatment program is implemented, the expense is the responsibility of the producer. The producer plays a key roll in this process, starting with the herd history and any contributing factors that may assist in diagnosis. ALIRT will only respond at the invitation of the owner or manager, or in response to specific agency requests. This program 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. ALIRT has been designed for the producer and all information collected remains confidential. Emergencies may be reported by calling the Arizona State Veterinarian Hotline 888-745-5334 or the U of A Veterinary Diagnostic Laboratory 520-621-2356.

# Citrus, Fruit & Vegetable Standardization and Federal-State Inspection

Arizona ranks third in the nation for production of fresh market vegetables. Arizona acreage produced over 106 million cartons of fresh produce. Arizona's top five commodities rank second nationally and account for almost 70 percent of the state's total produce production.

The top ten commodities based on carton count for fiscal year 2006 are as follows:

Head lettuce	28,423,510	Watermelon	5,429,672
Romaine	15,782,262	Honeydew	4,194,255
Cantaloupe	14,584,737	Cauliflower	3,953,974
Broccoli	7,183,203	Spinach	3,373,480
Leaf lettuce	5,918,397	Tomatoes	3,237,519

As detailed below, the Citrus, Fruit and Vegetable Standardization Program and the Federal-State Inspection Program conducted 65,500 inspections this year. In addition, the Citrus, Fruit and Vegetable Standardization Program issued 487 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 and protecting against exporting, importing and selling of substandard produce by development and enforcement of uniform standards. It is the Citrus, Fruit and Vegetable Standardization Program (CF&V) 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 tenth 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 15.3 million packages of tomatoes and 10.6 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.

### *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

The Agricultural Consultation and Training Program (ACT) is an innovative compliance assistance program unique to an agricultural regulatory agency. ACT 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 ACT to provide a formal means by which the regulated agricultural community may request compliance assistance without regulatory intervention. ACT serves Arizona's diverse agricultural community by promoting agriculture, providing training and increasing voluntary compliance and awareness of regulatory requirements through the following compliance assistance programs:

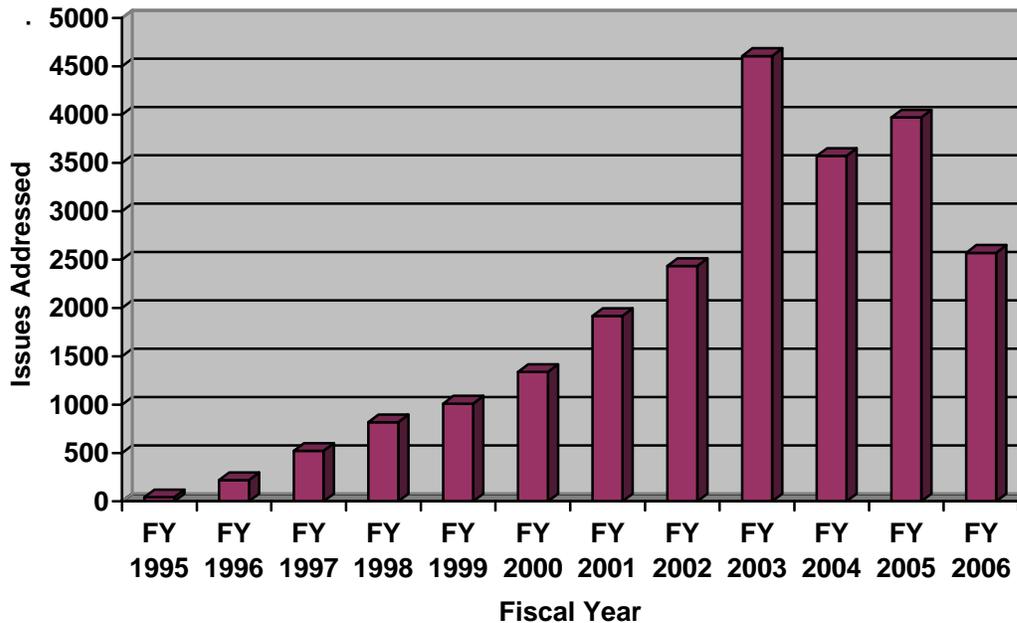
- Pesticide Safety
- Water Quality
- Air Quality

Driven by subject specific requests from members of the agricultural community, ACT field consultants conduct on-site visits of agricultural establishments and complete detailed evaluation reports tailored specifically to the customer. Included in the evaluation report is information gathered during the on-site visit and any corrective measures recommended by the field consultant. Detected violations are not made available to regulatory personnel, except in cases of imminent danger where human health and welfare are in jeopardy. ACT field consultants addressed 2,571 compliance issues this year. This represents an overall reduction of 35% in compliance issues addressed from Fiscal Year 2005. There are two reasons for this reduction:

- The loss of the Agricultural Activities Assistance Program in late Fiscal Year 2005. This program was a collaborative effort between the Arizona Department of Environmental Quality, the Environmental Protection Agency (EPA) and ADA, which addressed water quality compliance assistance issues for animal feeding operations.
- An increased emphasis on developing and conducting education and outreach training programs. The ACT program experienced a 60% increase in the number of individuals who received pesticide safety training and a 70% increase in the number individuals who received air quality training.

The following chart displays the total number of compliance issues addressed by ACT field consultants since fiscal year 1995.

**Total Number of Compliance Issues Addressed By ACT**



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

- Livestock & Crop Conservation 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

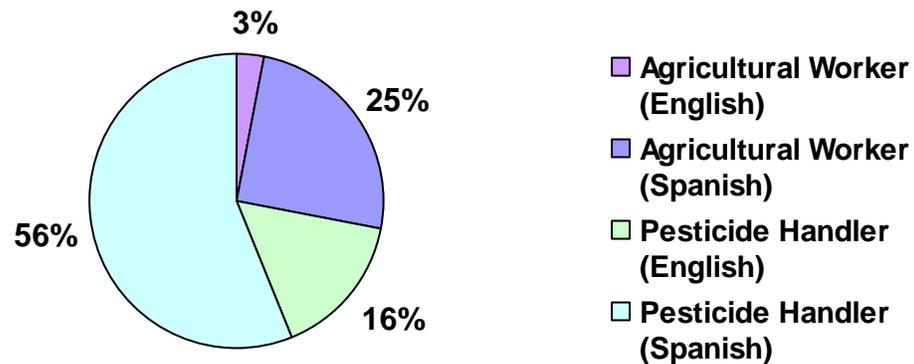
### *Pesticide Safety Compliance Assistance*

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 assists 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*

During FY 06, ACT provided pesticide safety training to 564 pesticide handlers and agricultural workers, a 60% increase in the number of people who received training during the previous fiscal year. As is noted in the following chart, 72% of the people who received training were pesticide handlers who work directly with pesticides or pesticide residues. Of the pesticide handlers, 56% attended a two-hour pesticide safety course in Spanish and 16% attended the same course in English. The remaining 28% of the people who received pesticide safety training attended a one-hour course for “agricultural workers.” An agricultural worker performs tasks such as weeding, irrigating, and harvesting crops in areas where pesticides have been applied in the previous 30 days. Twenty-five percent of the 156 agricultural workers who attended this training received the information in Spanish and 3% in English.

**Pesticide Safety Training Course Participants**



## *Joint Pesticide Safety Train-the-trainer Workshops*

The Arizona Department of Agriculture’s (ADA) Agricultural Consultation and Training Program and Environmental Services Division partnered with staff from Inter Tribal Council of Arizona, Inc., University of California, Davis, Environmental Protection Agency, Region 9, and pesticide inspectors from The Cocopah Tribe and Fort Yuma Quechan Indian Tribe to develop and present cross-jurisdictional pesticide safety train-the-trainer workshops.

As a result of this collaboration, several “Joint Arizona, California, and Tribal Pesticide Safety Train-the-trainer Workshops” have been provided in Yuma, Arizona, including a series in January 2006. The one-and-a-half day workshops were presented in English and Spanish to pesticide safety trainers representing farms, nurseries, farm worker outreach projects, health clinics, tribal pesticide programs, insurance companies, and regulatory agencies. After attending the sessions, over sixty people became qualified to train agricultural field workers and pesticide handlers in California and Arizona.

Workshop breakout sessions 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 were used throughout the courses to demonstrate ways to extend pesticide safety information to pesticide handlers and agricultural fieldworkers in an interactive and effective manner. Participants also received an overview of the Worker Protection Standard and learned about pesticide laws and regulations that are unique to Arizona, California, and local tribal communities.

Pesticide safety educators who work in Arizona and California, or who travel with their companies and are responsible for training agricultural employees in multiple jurisdictions greatly benefited from attending the joint pesticide safety train-the-trainer workshops. They became more knowledgeable about area-specific regulations and pesticide programs, which will help them to provide the most appropriate pesticide safety training and information to agricultural workers and pesticide handlers. Furthermore, these workshops increased the number of people who are qualified to train in both states. This will diminish past constraints, such as jurisdictional concerns, thereby opening doors for more training opportunities. Agricultural workers and pesticide handlers who receive effective pesticide safety training will be less likely to become exposed to pesticides or contaminate the environment.

### *Pesticide Safety Teaching Tools, Informational Resources, and Training Modules*

ACT staff develops 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 FY 2006, ACT staff worked closely with ADA's Environmental Services Division and Arizona's Occupational Safety and Health Association to develop a new training module to address pesticide safety, air quality, and hazard communication situations that inspectors witnessed during compliance investigations and safety educators heard about while providing pesticide safety training to agricultural employees. The final result was the creation of a two-hour interactive safety course, "Are You Ready for an Inspection?", which was introduced during the Arizona Nursery Association's annual safety event in November 2005.



*While visiting the personal protective equipment station, attendees were asked, "What is wrong with this situation?"*

During the course, attendees worked in small groups as they rotated through six work stations. While visiting each station, attendees were asked to analyze and discuss what they saw, identify areas of non-compliance, and to make suggestions on how to remedy the situation. At the end of the activity, station facilitators provided the correct information and handouts to ensure that attendees understood laws, regulations, and other requirements pertaining to the scenarios.

Due to the success and popularity of "Are You Ready for an Inspection?," ADA included four of the six stations during its series of continuing education courses for licensed and certified pesticide applicators.

## *Pesticide Label Comprehension Short Course*

During FY 06, ACT program staff submitted a grant proposal to the EPA's Borders 2012 program to develop and present Pesticide Label Comprehension Courses to serve the linguistic and occupational needs of pesticide handlers in the United States / Mexico border area. ACT was awarded funding for Fiscal Year 07 to provide the course to 40 pesticide handlers in Yuma, Arizona.

The Pesticide Label Comprehension Courses will provide both fluent and limited-English proficient handlers with the skills they need to comprehend and use relevant pesticide information to improve safety in the workplace.

The majority of the lessons will, contain hands-on and small group activities, enabling the course to be taught to a class consisting of participants from a variety of educational backgrounds and English proficiency skills. This program will provide better opportunities for inexperienced pesticide handlers and those with limited-English-reading skills to have access to important pesticide label information.



*Train-the-trainer Workshop attendees participate in a "hands-on" pesticide label reading activity, which will be used during the Pesticide Label Comprehension Courses.*

## *Water Quality Compliance Assistance – Comprehensive Nutrient Management Planning Program*

In September 2002, ACT entered into a cooperative agreement with the United States Department of Agriculture Natural Resources Conservation Service (NRCS) to create the Comprehensive Nutrient Management Plan (CNMP) Assistance Program. This program serves multiple organizations by addressing: ACT's goal of increased non-regulatory compliance assistance to the agricultural community, NRCS' effort to maintain and improve environmental resources, and compliance with the Arizona Department of Environmental Quality (ADEQ) Arizona Pollutant Discharge Elimination System Permit (AZPDES), which in turn meets the United States Environmental Protection Agency's (EPA) Clean Water Act regulations. Through this agreement, the certified nutrient management planning specialist (CNMPS) provides compliance assistance to animal feeding operations (AFOs) with the development of nutrient management plans (NMPs).

According to the AZPDES Permit, any AFO that is considered a concentrated animal feeding operation (CAFO) must apply for the Permit and comply with its requirements no later than July 2007. In Arizona, according to EPA's regulatory definition within the 2003 CAFO Rule, an AFO can be classified as a CAFO if it either is designated as one by ADEQ, or if it contains a specified number of animals. For example, a dairy with 700 or more mature dairy cattle, or a feedlot with 1,000 or more beef cattle would be considered a CAFO and must comply with the AZPDES Permit.



A major component of complying with the AZPDES Permit is the development of a nutrient management plan by a CNMPS. This year, the CNMP Assistance Program was assigned to develop ten NMPs for various CAFO operations. As of June 30<sup>th</sup>, three NMPs have been completed and delivered to the producers: one for a feedlot and two for dairies. Plans for two operations were reassigned to NRCS field staff; three operations cancelled plan development-assistance due to proposed changes in the Permit; one operation moved out of Arizona; and the plan for the last assigned operation is 90% complete. Because of drop-outs, an additional operation was added to the list; the plan for it is also 90% complete. In addition to providing NMP development assistance, the program assisted ten additional animal feeding

operations with Permit compliance.

NMPs are extensive plans that may contain up to nine separate components including site and soil maps; soil, wastewater and solid waste nutrient analyses; current and planned crop rotation; crop yield; and a nutrient budget for crops. The amount of time dedicated to an individual operation varies greatly, depending on the type of AFO and if manure and/or process wastewater is land applied to cropland.

### *Educational Outreach through the Multi-Agency CAFO Education Group*

The CAFO Education Group is a private-public partnership between producer organizations and state and federal agencies committed to providing education and compliance assistance to Arizona's AFO and CAFO producers. Members include representatives from the Arizona Cattle Growers Association, United Dairymen of Arizona, Arizona and Maricopa County Farm Bureaus, USDA - NRCS, EPA Region 9, East Maricopa Natural Resource Conservation District, The University of Arizona Cooperative Extension, ADEQ and ADA. The CNMP Assistance Program chairs the CAFO Education Group and facilitates regular meetings.

Through combined contributions, the Group has developed the Producer's Notebook and Permit Compliance Template (regulatory compliance guides). The CAFO Education Group provides educational outreach and oversees the Animal Waste Management website, <http://ag.arizona.edu/animalwaste/>, which is maintained by The University of Arizona Cooperative Extension. Contents of the website include an electronic copy of the Producer's Notebook, copies of regulations, technical guidance regarding waste management, important agency links and other relevant information which can assist animal feeding operations.

Typically, the CAFO Education Group meets quarterly, but due to anticipated changes in the 2003 CAFO Rule per the February 28, 2005 ruling by the Second Circuit Court (Waterkeeper Alliance et al. v. EPA, 399 F.3d 486), only one meeting was held in FY 2006. On January 24, 2006, the group focused on how the Court decision would affect Arizona CAFOs, reviewed expected timelines for new rule implementation, and described current and anticipated rules and how to comply. Most importantly, the fact

that Arizona's AZPDES Permit is still in effect until EPA produces the new CAFO Rule was emphasized. Other topics of discussion included agency updates, the importance of continued NMP development, the Producer's Notebook (updates have been postponed because much of it will change when the CAFO Rule is revised); ADEQ's Aquifer Protection Permit Lining Rule issued in November 2005; the Animal Waste Management website; and other Arizona regulations affecting animal feeding operations.

Between meetings, The CNMP Assistance Program distributes important information to members of the Group, via email, phone or personal contact. Many updates were necessary this year due to the Second Circuit Court decision, including notification of proposed changes, public comment periods and new deadlines. Major deadlines this year included Notice of Intent submission for the AZPDES Permit by February 13, 2006 and NMP development/implementation by December 31, 2006 by all Arizona CAFOs. These deadlines were later overruled by EPA's modification to the 2003 CAFO Rule which extended both NOI submission and NMP development/implementation deadlines to July 31, 2007.

### *Air Quality Compliance Assistance – Regulated Agricultural Best Management Practices*

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

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 best management practices to help reduce air pollution. Feasible and effective practices that have been evaluated for their efficiency, applicability and likelihood for implementation have been adopted into state regulation.



The RABMP program provides assistance through an on-site visit for the selection and implementation of practices that will reduce dust emissions during farming activities. A wide range of soils and cropping systems requires that best management practices be addressed on a case by case basis and fitted to the specific farm. The process of assessing agricultural practices and the impacts of implementing agricultural best management practices during farming operations is focused on the reduction of emissions from three agricultural emission source categories of tillage and harvest, non-cropland and fallow cropland areas.

As the needs of the regulated agricultural community grow, so has the RABMP program’s outreach and education. The RABMP program has added training for farm workers on best management practices, what employers are doing to comply with the law and ways workers can get involved to help reduce air pollution. A video is provided that 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. In an effort to keep the agricultural



community informed, the RABMP program also utilizes the high wind advisories for Maricopa and Yuma counties that are issued by the Arizona Department of Environmental Quality. A notification system alerts the regulated community to implement their dust control action plans during the forecasted period that is deemed a high risk for an exceedance of the particulate matter standard. Over 350 “Fly in the Eye – Air Quality in Action” newsletters are mailed out to the agricultural community. This quarterly newsletter features some of the best management practice options, a “What’s New” column highlighting current events and contact information to obtain agricultural air quality information or to schedule an on-site visit. This past year the Arizona Department of Agriculture updated the agency webpage. In conjunction with the Department’s update, the RABMP program updated the ACT air quality compliance assistance page to include useful documents to download. Available to the public is the Guide to Agricultural Best Management Practices, brochures in both English and Spanish on dust control, information on agricultural burning, a dust control plan, and an on-line request form for other program information.

The following table outlines some of the RABMP program achievements during FY06:

<b>Actual and Projected RABMP Program Achievements</b>		
	Actual	Projected
	<b>FY 06</b>	<b>FY06</b>
On-site Visits	64	60
Number of Issues Addressed	2,432	2,280
Outreach & Education Participants	3,343	2,100

The actual on-site visits exceeded projections by 7% and addressed 152 more compliance issues than projected for FY06. This increase was largely due to the program enhancements discussed above. Outreach & Education participants exceeded projections by 60% due to various outreach opportunities throughout the year that included farm worker training, dust workshops and farm safety events. Many of the program goals were exceeded in FY06 through the continued support of the regulated community and their utilization of the RABMP program services.

## *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



*A LCCGP grantee in southeastern Arizona addressed erosion problems by contour ripping and seeding of 5500 acres of rangeland.*

implementation of conservation projects that ultimately provide for the preservation of open space. The Arizona Department of Agriculture (ADA) is charged with developing, implementing and managing the bi-annual grant program. The LCCGP is funded through the Proposition 303 Growing Smarter Statute that was passed by public referendum in 1998. Approximately \$1.9 million is available in grant funds each year, through FY 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 bi-annual grant cycle. The next grant cycle is scheduled to begin in FY07. During the two-year cycle, the LCCGP grant manual, grant guidelines, and rating criteria are subject to review and response by an appointed Advisory Committee, and a public comment and hearing period. Throughout FY 2006, ADA 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 Arizona Association of Conservation Districts annual meeting and the Arizona Cattlemen’s Association annual meeting.

The 2005 grant cycle awards were announced during FY 2006, on September 15, 2005. Fifty-six grants were awarded through the LCCGP out of 101 applications received. More than 3.4 million dollars were awarded during the 2005 Grant Cycle. The average grant awarded in 2005 was \$60,769. Significant administrative time was spent assisting grantees with contract and work-plan development. Many grants are on-going projects requiring up to five years for completion. 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 FY06, ten out of fifty-six grantees have completed their proposed grant projects.

During FY06 two new LCCGP coordinators were hired, Ms. Karol Brill and Ms. Andréa Martin are now working with the expanding grant program. The LCCGP coordinators have continued to promote the LCCGP, as well as coordinate the existing grant contracts. Both Coordinators will participate in the monitoring of on-going and completed grant projects, and the editing of the new FY07 LCCGP Grant Manual. At the end of FY 2006 an LCCGP educational publication was developed. This publication will be used to promote the Grant Program, as well as highlight previous grant cycle statistics, grant program rating criteria and grant projects.

Statistics from the 2005 grant cycle are as follows:

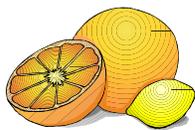
- 56 grants awarded out of 101 applications received.
- \$3.4 million disbursed.
- Grantees used funds as match/cost share to other conservation grants, such as USDA-NRCS EQIP grants. Total matching funds leveraged by LCCGP funding: \$3.62 million, which includes \$1.78 million in state funds, \$1.63 million in federal funds (and \$210K in other matching funds).
- Grantees also used funds for on the ground conservation projects funded directly by LCCGP. Examples include: fencing riparian areas, water resource development and grassland restoration.
- Many grant recipients have partnered with other grantees by sharing equipment and supplies as well as administrative support.
- 2005 grant cycle contracts are in the process of being executed, and completed. Many on-going LCCGP projects will require up to five years for completion.



*A LCCGP grantee in northern Arizona addressed water needs by installing a solar-powered pump on an existing well and providing additional water sources to wildlife, as well as livestock.*

Detailed information on the 2005 funding cycle and the LCCGP can be found on the on the ADA website at: <http://www.azda.gov/Main/LiveCropGrantProgram.htm>.

## *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. Last year, the Arizona citrus industry produced more than 4 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 varietal development. The Council is comprised of seven producers appointed by the Governor:

- Three producers from district one (including Yuma County)
- Two producers from district two (Maricopa, Pima and Pinal Counties)
- Two producers at large

In fiscal year 2006, the Council continued its work with research institutions to coordinate industry research needs. Council members approved more than \$50,000 in research grants.

Due to a statutory change that exempts the Council from the State grant solicitation and award procedures, A.R.S. §41-2702, the Council filed a notice of Final Rulemaking on January 20, 2006, which codifies their grant solicitation and award process.

#### **Fiscal Year 2006 Financial Status - Arizona Citrus Research Council**

Revenue	\$61,624.81
Expenses	\$72,347.47*

\*The Citrus Council fund balance is more than adequate to cover the difference between expenses and revenues in FY 2006.

### *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 28 million cartons of iceberg lettuce annually. Council members are appointed by the Governor and consist of seven producers:

- Four producers from district one (including Yuma and La Paz Counties)
- One producer from district two (including the remainder of iceberg lettuce producing areas in the State)
- Two producers at large

On June 6, 2006, the Council approved an increase to the fee assessed on iceberg lettuce produced and shipped in Arizona. The increase to .004 cents per carton was necessary due to the rising costs of research projects and council administration. The increase becomes effective July 1, 2006 and was supported by the industry.

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 production, harvesting, handling and transporting lettuce from fields to markets. During fiscal year 2006, the council approved \$87,000 in research grants. Some examples of research grant projects include the development of effective management tools for lettuce disease, insect management for desert lettuce, breeding high quality lettuce for arid climates, establishing quantitative guidelines for evaluating herbicide injury and exposure estimates of cadmium in desert lettuce.

Due to a statutory change that exempts the council from the State grant solicitation and award procedures, A.R.S. §41-2702, the council filed a notice of Final Rulemaking on January 27, 2006. These rules codify their administrative, grant solicitation and award processes.

## **Fiscal Year 2006 Financial Status-Arizona Iceberg Lettuce Research Council**

Revenue	\$ 88,883.27
Expenses	\$109,428.39*

\*The Lettuce Council fund balance is more than adequate to cover the difference between expenses and revenues in FY 2006.

## *Arizona Grain Research and Promotion Council*



The Arizona Grain Research and Promotion Council was created by A.R.S. §3-581 through 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.

Within the Department’s Omnibus Bill introduced in the 2006 legislative session, the number of council members was reduced from nine to seven. This change will become effective on September 21, 2006 and was necessary due to the decreasing number of Arizona grain producers.

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 use of barley in a reduced tillage cotton systems, durum production practices, testing low input barley and wheat lines, small grains variety testing, herbicides for the control of littleseed canarygrass in wheat, 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. Approximately \$39,500 was spent on research projects during fiscal year 2006.

In addition, the council finished the production of an educational and promotional video that characterizes the development, production, marketing and use of Desert Durum®. The video is being used in such programs as “Ag in the Classroom” and the “Summer Ag Institute”.

The council supports the activities of the United States Wheat Associates, the export market development arm of the United States wheat industry. Council support of the United States Wheat Associates is significant because more than half of Arizona’s durum wheat is exported. In June of 2006 the council, along with US Wheat, co-hosted a Moroccan trade team that visited Arizona to learn more about Desert Durum® and other grains grown in the state. 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.

Due to a statutory change that exempts the council from the state grant solicitation and award procedures, A.R.S. §41-2702, the council filed a Proposed Rulemaking on June 9, 2006, to codify their grant solicitation and award process. The rules will not be finalized until late 2006 or early 2007.

## **Fiscal Year 2006 Financial Status - Arizona Grain Research and Promotion Council**

Revenue	\$104,073.81
Expenses	\$130,881.95*

\*The Grain Council fund balance is more than adequate to cover the difference between expenses and revenues in FY 2006.

## *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 met several times throughout the fiscal year. They completed the State procurement process to begin the development of procedures manuals to help facilitate their statutory obligations. There were no agricultural labor issues before the board in FY 2006.

## *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 Commission consists of sixteen members:

- Five members appointed by the Governor: two members who operate family farms or ranches in this state and who are active in regional or local agricultural organizations, one member from a university under the jurisdiction of the Arizona board of regents and who has experience in range ecology, and two members who represent regional or statewide conservation organizations in this state that have been in operation for at least ten years.
- Five members appointed by the President of the Senate: two members who operate family farms or ranches in this state, one member who represents a regional or statewide land trust that has been in operation for at least five years, one member who is a member of a county board of supervisors, and one member who is a member of a natural resource conservation district board of directors.
- Five members appointed by the Speaker of the House of Representatives: two members who are licensed real estate professionals and are active in marketing agricultural properties, one member who is active in and represents a statewide agricultural organization in this state that has been in existence for at least ten years, one member who is active in managing water resources, and one member who is a member of the state bar of Arizona and who is experienced in the practice of private real estate law.
- The Director of the Department as an ex officio member.

The Arizona Agricultural Protection Act did not provide funding for the Commission. Since September of 2003, the ADA has entered into annual agreements with the United States Department of Agriculture Natural Resources Conservation Service to provide funding for the administrative support to the Commission. The final agreement with USDA/NRCS will expire on September 30, 2006.

The commission met several times throughout the fiscal year. They reviewed numerous options for a dedicated funding source. A possible funding source was identified and legislation was introduced in the 2006 legislative session. Unfortunately, the attempt to secure funding for the program was unsuccessful. The commission also drafted criteria for potential grants in anticipation of funding and will continue its mission to create a State funded program to help farmers and ranchers keep their land in agriculture.

# State Agricultural Laboratory

The State Agricultural Laboratory provides quality agricultural laboratory analysis, identification, certification and training services to various regulatory divisions of the Department and others as provided by law. To maintain the integrity of its test results, the Laboratory operates independently of the Department’s regulatory divisions and operates under a stringent quality assurance program. The Laboratory is currently organized into two main sections — Biology and Chemistry.

<b>Summary of Laboratory Testing Functions</b>	
<b>Biology</b>	
Entomology	Provides insect identifications to assist in preventing harmful pests from becoming established in Arizona and assists in certification of Arizona products.
Plant Pathology	Provides plant disease identification for certifying Arizona products for export and aiding in the prevention and control of plant diseases.
Botany	Identifies plants to assist in preventing the spread and establishment of “weeds” in the state.
Nematology	Provides nematode identifications to protect the State from introductions of pest species.
Malacology	Identifies snails and slugs to assist in preventing the establishment and spread of agricultural pests species.
Seed Quality	Tests seed properties to assure consumers are getting label guaranteed quality.
Animal Disease	Tests animal blood and milk samples for the presence of the organism responsible for causing the disease brucellosis.
Dairy Product Quality	Tests dairy products to assist regulators in enforcing quality standards.
Food Safety & Meat Microbiology	Tests meat, ready to eat products and other commodities for harmful bacterial contamination.
<b>Chemistry</b>	
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 pesticide misuse allegations.
Natural Toxin Residue	Tests human and animal feed products for the presence of naturally occurring chemicals capable of causing illness.
Pesticide Formulations	Determines quality of pesticide products through the analysis of commercially available pesticides.
Feed and Fertilizer Formulations	Performs testing of commercial 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 be of 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 disease and insect pest identifications. Within Arizona, as an offshoot of this network all identified laboratories with plant pest detection capabilities has 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 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.

## *DNA Testing Capabilities*

During the fiscal year, the laboratory continued to expand its DNA analysis capabilities. Testing to confirm plant diseases and identify insects was successfully conducted at the laboratory. The laboratory has a comprehensive biochemistry laboratory, equipped to perform state of the art DNA testing utilizing PCR technology.

## *New Technology for an Ancient Problem*

On February 12, 2005 a SAL entomologist participated in an international scientific study of a 125 million year old fossil scorpion preserved in ancient amber (fossilized tree sap) from northern Lebanon. The fossil measured only 6 mm (1/4 in) and is the oldest known scorpion to have been preserved in amber. Its owner, who has dual citizenship in both Lebanon and Germany, estimates its worth at \$300,000. Because of the SAL scientist's expertise in entomology and in the use of sophisticated digital imaging technology at the SAL, researchers at the Smithsonian Institution's National Museum of Natural History in Washington, D.C. asked the SAL scientist to digitally image critical features of the fossil, and relay them electronically to the Smithsonian and other researchers in California and Bulgaria. Working with the international scientists, the SAL scientist, using the SAL's digital imaging system, transmitted 37 digital images exemplifying features of an ancient scorpion never before seen. This study resulted in the publication of an article during FY2006 and has become an important work in the study of scorpions.

## *Public Education*

Laboratory staff participated in a media event concerning proper purchase and storage of liquid pool chlorine products. Working in concert with the Department PIO and staff from the Environmental Services Division, the laboratory tested samples of liquid pool products containing sodium hypochlorite to determine if the products had suffered degradation. Approximately one third of liquid chlorine pool products tested failed to meet the label guarantees due to degradation while in the retail marketplace.

Another public education project was coupled with the laboratory testing of dog and cat foods for the presence of harmful substances. Samples were tested for Aflatoxin and Fumonisin, both of which are toxic and can cause cancer in animals and humans. Through media participation, the Department successfully educated the public on the possible contamination issues of these two toxins.

## *Expansion of Food Protection Testing*

Prohibited materials include animal by-products that have the potential of carrying the causative agent for Bovine Spongiform Encephalopathy (BSE or Mad Cow Disease). During the past year, the laboratory developed a new program of testing animal feed products for prohibited materials. The results from a blind study of the laboratory methods being used at the SAL, showed the laboratory had correctly identified all 19 samples (6 positive and 13 negative). Inspectors from the Environmental Services Division had submitted samples to the laboratory and had included the known positives to help in testing the system. With the system now in place, ESD can now attain the regulatory testing they need to improve the safety of the feed products used in Arizona's agriculture industry.

In the United States, it is estimated that 1.5 percent of adults and as many as 6 percent of children younger than 3 years old are allergic to some type of food. Some of the more common foods to cause an allergic response in adults are shellfish; tree nuts, fish, and eggs. For children, the list includes eggs, milk, peanuts, soy, and wheat. To assist Department regulators, the laboratory has developed another new area of testing involving detection of the food allergen soy. SAL performed testing for soy contamination in ready to eat food products during the past year.

## *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 Product Quality lab undergoes on-site laboratory audits that are conducted every three years by the U.S. Food and Drug Administration (FDA) personnel. These audits, combined with analyst participation in an annual proficiency sample program ensure the quality of the analyses conducted by the Dairy Product Quality 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.

### *Assuring the quality of test results*

The Laboratory has quality control procedures in place for monitoring the validity of tests.

### *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 Biological Identification lab 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)*

Quality assurance 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 Quality Assurance Team of the Food and Drug Administration; brucellosis sera testing by the USDA; seed sample PTP by the Society of Commercial Seed Technologists; 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, nematodes, mollusks, plant diseases and weeds, seed quality analyses and information about pests that allow the regulatory divisions to make informed decisions about permits, phytosanitary certification, quarantines and pest control 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, diseases 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.

The Department's DI system has been so successful that the California Department of Food and Agriculture has implemented an identical system at its ports. The Lab has supplied training and expertise for implementing the DI system not only to Arizona's ports' personnel, but has also trained CDFA ports inspectors in the use of the DI system. The State Agricultural Laboratory continues to develop and expand the use and efficiency of the Digital Imaging system.

### *Seed Analysis Benefits Arizona's Farmers and Others*

Seed analysts in the Biology Section conduct testing on seed purity, germination rate, and weed seed content to benefit Arizona's farmers, landscapers, homeowners, golf courses and seed export companies. During FY2006, 1,754 analyses were completed on seed samples to provide assurance that the seed label matches its guaranteed performance when planted and does not contain harmful weeds. Seed technicians are certified by the Association of Official Seed Analysts and can recognize at sight over 400 species of plant seeds.

### *Identifications*

For FY2006 the Biology Section of the lab provided 19,470 identifications on specimen submissions. This included 20 botany identifications; 16,068 entomology identifications; 1,514 nematode identifications; and 1,868 plant pathology identifications.

### *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 its 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. In FY2006, the laboratory performed 7,889 microbiological and 97 antibiotic residue analyses on Arizona-produced raw milk, pasteurized dairy products, dairy product containers, and environmental dairy water samples for the Department's Animal Services Division.

FDA certified Dairy Product Quality Laboratory personnel also conduct on-site audits of commercial dairy laboratories for compliance with FDA regulations for testing milk and milk products.

### *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. A total of 400 tests for food-borne pathogens were performed in FY2006.

## *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 are 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. The Animal Disease laboratory analyzed a total of 11,711 blood and milk samples from domestic and exotic animals for the Brucellosis Eradication Program in FY2006. 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. A total of 141,030 cattle blood samples were collected and shipped to the Lubbock laboratory for testing in FY2006.

## *Chemistry*

### *Our Customers*

During FY2006, 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
- Structural Pest Control Commission
- Arizona Department of Environmental Quality
- 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 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 the Lab. Raw and finished milk products are tested for aflatoxin as a final line of defense.

### *Animal Feed Protection*

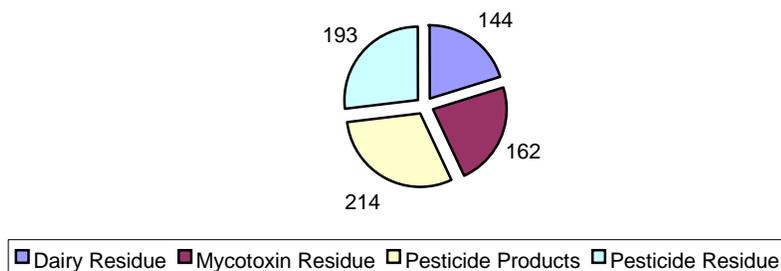
The laboratory also performs analyses for the presence of natural toxin residues in human food, animal feeds and pet food products. This includes chemicals such as aflatoxin (potent cancer-causing agent in humans and animals), fumonisin (causes death and illness in horses and hogs), and vomitoxin (causes 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.

## *Chemical Residue*

### *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 dichloro diphenyl trichloroethane or DDT. While the use of DDT was banned in 1971 due to environmental concerns, further studies have suggested that this pesticide may be responsible for causing cancer. Despite 35 years of nonuse, DDT continues to have a presence in Arizona's environment. Testing for the presence of this pesticide supports the Department's regulatory role in the preventing significant levels of contamination from reaching Arizona's dairy product consumers.

## Chemical Residue Section



### *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 estimated 11,602 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 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. During FY2006, 1,049 analyses were performed on 436 fertilizer products and 408 tests were conducted on 246 feed samples collected in the marketplace.

### *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. By performing 119 analyses, the laboratory assisted the Department in ensuring the public is receiving meat products at the economic value guaranteed on the label.

## **Environmental Services**

The Arizona Department of Agriculture Environmental Services Division is made up of three sections. The Licensing section provides uniform customer service and appropriate cash handling. The Office of Special Investigation ensures effective investigation of agricultural crimes relating to department statutory authorities. 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.

### *Staff Allocations*

The Environmental Services Division had 34 full-time employee positions as of June 30, 2006. Thirteen field inspectors are responsible for sampling various nonfood products, enforcing compliance with pesticide, feed, fertilizer and worker protection statutes and rules and conducting criminal investigations.

### *Centralized Licensing and Registration*

The centralized Licensing Section processes approximately 96 percent of licenses issued by the department. Office hours are from 8:00 a.m. to 5:00 p.m. After 4:30 p.m., paperwork is accepted but the issuance of the corresponding license may not occur until the following day. To apply for a license, call (602) 542-3578 or to access the forms, go to our web page at [www.azda.gov](http://www.azda.gov).

The Department of Agriculture is committed to providing excellent customer service in a timely manner. The centralized licensing section exemplifies this commitment to customer service. Each of our customers is given the opportunity to fill out a customer service survey card. The response to the survey cards has been overwhelmingly positive as to the level of professional service given by our employees.

### *License Fees Protect Industry and Consumers*

The Non-Food Quality protection program receives no general funds. The funding comes from legislative appropriation of monies collected from fees collected from the regulated industries selling the materials in the marketplace. The fees for this program are: 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 \$25 for dealers and \$40 for labelers. Approximately one-half of the seed fees collected are used to fund a half 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 2006, \$912,475 in fees were collected for the WQARF: \$31,300 in fertilizer fees and \$881,175 in pesticide registration fees.<sup>1</sup>

### *Licensing Requires Continuing Education*

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

During FY 2006 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 974.5. The number of training sessions which were approved for the year was 359. The University of Arizona Cooperative Extension Service sponsored 40 of these training sessions and 284 were sponsored by companies in the private sector.

### *Testing Center*

There are 21 pesticide use related tests administered by the Environmental Services Division. Other tests that are administered by the Division include tests for cottonseed samplers and milk haulers. Testing protocol require applicants to show identification with the identification being held during testing which prevents individuals from walking out

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<sup>1</sup> \* Pesticides are registered on a calendar year. A small percentage of companies register their products for two years.

with the exam. Individuals are not allowed to bring materials into the testing room. These procedures are necessary to help ensure there is no cheating on the exams. With the assistance of Federal funds, the Phoenix office purchased monitoring equipment for the testing area. This will further ensure that the testing applicants are monitored at all times which, is one of the requirements being sought nationally under the EPA certification program assessment. Tests are administered in Phoenix between 8:00 a.m. - 4:00 p.m., Monday through Friday at 1688 West Adams Street. Individuals wanting to schedule an appointment call (602) 542-3578. This procedure is followed in the Yuma/Somerton and Tucson offices also.

*Exams Administered in FY 2006*

TYPE OF EXAM	Total Exams	Number Passed	Number Failed	Passing Rate
Aerial Applicator (AAP)	8	8	0	100%
Commercial Applicator (PUC)	200	179	21	90%
Custom Applicator (CAA)	7	7	0	100%
Pest Control Advisor (PCA)	67	49	18	73%
Private Applicator (PUP)	93	81	12	87%
Fumigant Endorsement	2	2	0	100%
Milk Sampler & Hauler	114	101	13	88%
Cottonseed Sampler	1	0	1	100%
TOTALS	492	427	65	87%

*National Pesticide Certification*

Nationally, the Pesticide Certification Program is undergoing assessment. A national group of regulatory and extension professionals are working to improve the overall quality with the goal of ensuring professionalism within the pesticide application industry. The department continues to play an active role in this national effort by participating in discussions and development of methods to improve the federal program. Areas for revision that issue papers are being developed include mandatory testing, age limits of applicants for certification, closed book monitored exams, integration of pesticide handler training into the certification program and varying the training levels required for different pesticides based on toxicity and potential to cause harm. The latter issue is being discussed as a way to address homeland security concerns. Arizona already requires testing and closed book monitored examinations. The other issues will require programmatic and in some cases regulatory changes.

<i>Licenses and Registrations issued in 2006</i>	
Pesticide – Total Pesticides Registered	10,778
Agriculture	1,832
Non-Agriculture	8,946
Fertilizer – Licensed Fertilizer Companies	238
Specialty Fertilizers	1,539
Feed – Licensed Feed Companies	357
Seed Dealers	883
Seed Labelers	162
Dairy/Milk Industry Licenses	355
Aquaculture Licenses	67
Egg & Egg Products	100
Meat Industry Licenses	223
Livestock Brand Certificates	1,896
Equine Certificates Issued	836
Certificates of Free Sale	57
Number of Products on Free Sale Certificates	2,534
Native Plant Permits Issued	1638
Number of Native Plants Permitted	74,576

The Pesticide Credentials program has transitioned through the staggered renewal cycles to a uniform annual renewal date of December 31. Many growers chose the 2 year license option so the numbers reported for this annual report do not reflect the over 1,100 growers licensed in Arizona. December, 2005 was our first annual renewal season with the uniform date. The following chart represents the total number of pesticide use related licenses issued during the 2006 fiscal year. Other licenses that expire on December 31 are aquaculture, meat, dairy and pesticides. This brings an additional 12,000 licenses up for renewal during the same time frame. Additionally, feed and fertilizer tonnage reports are due for the fourth quarter. As the result of planning and cross-training, we were able to and we are confident that we will continue to provide the timely service that our customers have grown accustomed.

<i>Pesticide Use Related Credential Summary</i>	
Grower Permits (PGP)	972
Pesticide Sellers (PSP)	108
Ag Aircraft Pilots (AAP)	41
Custom Applicators (CAA)	45
Equipment Tags	232
Pest Control Advisors (PCA)	161
Private Applicators (PUP)	402
Commercial Applicators (PUC)	292

<i>Fertilizer Tonnage FY 2006</i>			
Dry Bulk	Dry Bag	Liquid	Total
130,190	85,374	280,877	496,441

<i>Feed Tonnage FY 2006</i>	<b>Total</b>
	<b>1,202,870</b>

## *Pesticide Compliance and Worker Safety*

The Compliance Section has 10 inspector positions, five Industrial Hygienists and five Pesticide Control Inspectors, who 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 misuses are promptly and thoroughly investigated. Once an investigation is complete, a recommended disposition is prepared. No recommended disposition can take place 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 complaint 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*

To report pesticide misuse, contact the Pesticide Emergency Hotline at 1-800-423-8876. 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 pesticide management areas or sensitive areas where agricultural and urban areas interface. Complaints may also be reported by calling offices in Phoenix, Tucson and Yuma/Somerton.

Type of Complaint or Incident	# of Cases
Pesticide Misuse	7
Health Effects	7
Certified Applicator - Restricted Use Pesticide Recordkeeping	6
Drift / Overspray	5
Property Damage	3
Crop Damage	3
Buffer Zone	2
Bee Kill	1
Operating without a Valid Regulated Grower Permit (PGP)	2
Possible Cross-Contamination in Animal Feed	2
1080 Reporting	1
Pesticide Storage	1
Pesticide Disposal	1
Dog Poisoning	1
Over Flight Concerns	1
Pesticide Labeling Issue during Use	1
Spill / Leaking Container	1
Odor Complaint	1
Operating without a Valid Pesticide Seller Permit (PSP)	1
<b>Total Pesticide Control (Use) Case Investigations / Complaints</b>	<b>47</b>

### *Restricted Use Pesticides*

Inspections are conducted at pesticide marketplaces to ensure that pesticides are properly registered with the state and the Environmental Protection Agency. Pesticides that have been manufactured in other countries and illegally imported into Arizona are also inspected. Many foreign-made pesticides 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 agricultural 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 and EPA'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 Protection Standard (WPS) 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, thereby gaining trust and credibility.

Each year Industrial Hygienists from the division participate in outreach efforts such as the Farmworker Appreciation Day in San Luis, Arizona. The event begins early in the morning for the thousands of farm workers who cross Arizona's borders each day to work in the agricultural fields.

Information is made available to farm workers concerning agricultural safety, pesticide exposure and prevention methods. This event is coordinated by the group Campesinos Sin Fronteras. Publications from the Department of Agriculture and EPA in both English and Spanish are made available to the workers on their way to the fields.



*Industrial Hygienist Oscar Salcedo of Yuma displays pesticide safety related material for farmworkers and their families.*



*Dancers perform at the 2005 Farmworker Appreciation Day in San Luis, AZ.*

Another outreach effort attended annually by ESD Industrial Hygienists is the Annual Conference of the AZ Inter-Agency Farmworkers Coalition (AIFC). ESD Industrial Hygienists each year participate on the board of this organization. The AIFC is made up of government, non-profit and other organizations all which have dealings with agricultural farmworkers. The meetings give participants an opportunity to network and cooperate together in providing services to the farmworkers.

### *Train-the-Trainer*

The WPS Train the Trainer program trains and qualifies individuals to be trainers of field workers and pesticide handlers regarding pesticide safety. The Train-the-Trainer program is regularly reviewed internally by looking at surveys received for all the training seminars held throughout the year and the feed back received from the participants. The program is revised to ensure interest on the participants' part and to address compliance issues being found during inspections. The program has been conducted in cooperation with Agricultural Consultation & Training staff. A test is administered at the end of the training day. The test contains 50 questions that test participants' knowledge of the materials presented during the course. Participant reviews continue to give the program high marks.



*ACT and ESD staffs cooperate and coordinate together on WPS Train-the-Trainer courses.*

Meetings were held throughout the year in agricultural regions of the state to allow easy access by the regulated parties. These sessions are held in both Spanish and English. Fifteen (15) Train-the-Trainer courses were taught during this fiscal year, approximately half in English and half in Spanish. 195 participants satisfactorily passed the certification test to become certified trainers for worker protection standards. This year WPS trainers were issued cards to train approximately 25,025 agricultural workers and 6,321 pesticide handlers.

### *Joint Train-the-trainer Workshops for Pesticide Safety Educators in Arizona, California and Tribal Communities*

The Arizona Department of Agriculture's (ADA) Environmental Services Division and Agricultural Consultation and Training Program partnered with staff from Inter Tribal Council of Arizona, Inc., the California Department of Pesticide Regulation, Environmental Protection Agency, Region 9, and pesticide inspectors from The Cocopah Tribe and



*ESD Industrial Hygienists educate future trainers on pesticide safety.*



*ESD Associate Director Jack Peterson gives a test to the attendees of the training.*

The Fort Yuma Quechan Indian Tribe to develop and present the second cross-jurisdictional pesticide safety train-the-trainer workshop. As a result of this collaboration, two "Joint Arizona, California, and Tribal Pesticide Safety Train-the-trainer Workshops" were provided in Yuma, Arizona from January 23-27, 2006.

These free one-and-a-half day workshops are presented in English and Spanish to pesticide safety educators representing farms, nurseries, outreach workers, labor contractors, commercial/custom applicators, tribal pesticide programs, pesticide distributors, insurance companies, and regulatory agencies in Arizona, California and Mexico. Sessions covered pesticide labels, personal protective equipment, pesticide-related health issues, and training requirements. Participants received an overview of the Worker Protection Standard (WPS) and information about laws and regulations that are unique to California, Arizona, and local tribal communities. Participants also received an instructor's handbook, trainer's packet, EPA materials and other useful resources. The course was designed to train pesticide safety educators (etc.) who operate in multiple jurisdictions (California, Arizona, and on Tribal lands) by clarifying responsibilities under the federal, state (Arizona and California) and tribal codes. This course qualified individuals working in both states or on tribal land to be WPS trainers, assuming the individual passed the required exam to be a WPS Trainer in Arizona.

After attending the sessions, over sixty people were qualified to train agricultural field workers and pesticide handlers in California and Arizona.

Funding for the workshop was obtained through EPA Region 9. The course was successful and comments from participants scored the workshop as excellent or exceeding standard. The Department received a US EPA 2005 Environmental Award for Outstanding Achievement for this unique cross jurisdictional program.

ESD Compliance staff and management cooperate with ACT and AZ OSHA and participate in numerous training opportunities such as the AZ Nursery Assoc. (ANA) Safety Day. Training included hands on scenarios of real life situations in nurseries affected by the federal and state Worker Protection Standards (WPS).



*Industrial Hygienists Donna Fairchild & Jeff Orr teach "How NOT to Make a Pesticide Application." As participants make notes for questions later*



### *Worker Protection Standard*



Each year thousands of farm workers enter Arizona to work on the numerous agricultural establishments within the state. All of the hygienists are required to be bilingual so they can communicate with the farm worker community ensuring they are provided the protections required.

*Worker Safety Complaints Received*

<b>Type of Complaint or Incident - 2006</b>		<b>Number</b>
Multiple WPS Violations		14
Pesticide Exposure to Workers or Handlers		3
Pesticide Safety Training		8
Pesticide Application List Missing / Incomplete		1
Entry prior to Expiration of Restricted Entry Interval (REI) / Retaliation		1
Personal Protective Equipment missing or not used		1
<b>Total Agricultural Safety / WPS Case Investigations / Complaints</b>		<b>28</b>

**FY 2006 Pesticide Related Enforcement Cases**

<b>Use</b>		<b>Worker Safety</b>	
*Total Cases	22	*Total Cases	28
Container Disposal / Storage	3	Failure to Verify Training	2
Drift / Overspray	5	Failure to Train	15
Expired License	3	Violation of Restricted Entry Interval	1
Label Violation	17	PPE (Personal Protective Equipment) / Safety Equipment Not Provided	4
Record Keeping	3	Failure to Wear Required PPE/ Safety Equipment	1
		Decontamination Site Not Provided	4
		Application List Not Provided / Posted / Incomplete	6
		Label Violation - Storage / Disposal / Transport / General Misuse	4
		Central Posting - Missing / Incomplete / Inaccessible	4
		Oral / Written Warnings	1
Penalty Assessed	\$2,559	Penalty Assessed	\$8,874
Penalty Collected	\$1,249	Penalty Collected	\$6,016

\* Cases may involve more than one area

*Non-Food Quality Assurance*

*Marketplace Inspections and Sampling*

Division inspectors inspect and sample animal feed products, fertilizer, pesticide and seed in the marketplace to protect consumers by ensuring that products meet label guarantees. "Cease and Desist" orders are issued on unregistered products, unlicensed companies and products which fail laboratory analysis as well as other issues relating to products being mislabeled. The division has been coordinating with other states to nationally target unapproved feed ingredients identified as having health and safety concerns.

<i>Sample Analysis for Deficiencies for 2006</i>						
<b>Sample Type</b>	<b>Collected</b>	<b>Analyses Reported</b>	<b>Samples Reported</b>	<b>Sample Violation Rate</b>	<b>Analysis Violation Rate</b>	<b>Cancelled</b>
<b>Feed</b>	214	384	234	15.0	11.2	0
<b>Fertilizer</b>	447	1021	424	10.6	5.7	0
<b>Mycotoxin</b>	44	124	44	9.1	7.3	0
<b>Pesticide Formulation</b>	182	198	198	7.6	7.6	0
<b>Pesticide Residue</b>	64	142	68	47	26	8
<b>Seed</b>	240	451	242			1

Samples can have numerous analyses.

### *Bovine Spongiform Encephalopathy Inspections (Mad Cow Disease)*

The division, under a cooperative agreement with the Food and Drug Administration (FDA), conducts inspections of feed manufacturers and dealers to determine compliance with federal regulations regarding animal feed ingredients fed to ruminants and their potential for human health and safety concerns. During FY 2006, the division conducted 9 inspections of feed manufacturers in Arizona. The inspections found all facilities were in compliance in keeping prohibited materials out and properly labeling those that can contain certain beef materials.

### *Pesticides and Liquid Pool Chlorine Sampling*

Five ESD inspectors participated in liquid pool chlorine (sodium hypochlorite) sampling after the ADA issued another annual press release advising distributors and users about the product used as a disinfectant in pools. A total of 20 liquid chlorine samples were collected. Five (5) of the products failed to meet label guarantees (20% failure rate), which is a decrease from last years failure rate of 33%.

The division routinely samples liquid pool chlorine products each summer as part of the ongoing pesticide Quality Assurance program to ensure that Arizona consumers get efficacious product which will kill bacteria and algae in their pools. Because the product quickly degrades in heat in sunlight, it is important that consumers are educated on what to look for and stores selling the product know how to store it properly. Retail outlets are given practical information on proper storage to help them make smart purchases as well.

### *Fertilizer Penalties*

During FY 2006, the division issued 40 Warnings and Cease & Desist Orders to fertilizer manufacturers and distributors found distributing fertilizers that failed to meet label guarantees. Twenty three penalties totaling \$20,892.61 were assessed to fertilizer manufacturers and distributors, both in state and out-of-state, found distributing their products in Arizona when the fertilizer were deficient and did not meet label guarantees.

### *Commercial Feeds*

Naturally occurring toxic chemicals, such as aflatoxin comes from fungus found on corn and other grains. When pets consume these natural toxins through their feed, they cause severe liver damage. The division routinely checks animal feed products to be proactive in ensuring the feed products distributed within the state are safe. This year the Division tested dog and cat food for mycotoxins after nearly 80 pets died due to toxic food in other parts of the country. Luckily, none of the contaminated pet food was shipped to Arizona and no positive samples were found during routine sampling conducted across the state.

### *New Seed Labeling Rules*

The division began regularly meeting with the Seed Trade Association of Arizona (STAA) and industry regarding drafting new seed labeling rules. The group requested that the Department open a docket on the seed rules to incorporate and update seed labeling regulations. The work group reviewed seed labeling information from California regulations as well as Recommended Uniform State Seed Labeling (RUSSEL) for possible incorporation into the labeling regulations. New rules should be finalized early in FY 2007.

### *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 2,833 calls were received by OSI personnel: 1,493 dealt with native plant issues, 920 were livestock related and the remaining 420 calls related to other issue.

A Memorandum of Understanding between the department and the University of Arizona was continued to study threatened and endangered plants species under Section 6 of the Endangered Species Act. A Federal grant totaling \$110,251 was received to conduct studies on eight different plant species in Arizona.

## *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 investigation techniques, annual firearms qualifications and various other proficiency requirements. OSI also has the responsibility for maintaining training records for all departmental peace officers. Arizona Peace Officers Standards and Training audited departmental records to ensure all certified officers complied with state standards. Compliance results were commendable.

One of the requirements to maintain officer certification is obtaining CEU's. All OSI Investigators attended the eighteenth annual Conservation Law Enforcement Association Conference held in Prescott, Arizona. This year's conference focused on Careers in Law Enforcement, which covered the uniqueness of police stress, the work, the responsibility for people, the dangers associated with the job, the long, irregular hours, the pressures placed upon you to perform at your maximum capacity day after day and the need to control emotions on a fulltime basis.

The second day was centered on Ethical Decision Making and The Effective Courtroom Testimony. The course covered an overview on the decision making process, and what needs to be considered in the decision. This presentation covered a ten step approach to making better ethical decisions. Another block of instruction was designed to give either the veteran or novice additional information on how to improve performance in effective courtroom testimony. All the courses were designed to give each participant the necessary insight into reaching optimal levels of human performance. Certified personnel received 14.5 hours of continuing training credits for attending the two day conference.

One OSI investigator attended the annual International Livestock Identification Association (ILIA) and the Western State's Livestock Investigators Association (WSLIA) conferences. This year's ILIA event was held in Camloops, British Columbia, Canada. The conference focused on national identification for animals and tracking animal diseases through premises validation and individual testing. The goal of the conference was to promote and develop uniform laws and enforcement procedures relating to livestock identification, inspection, and brand recording. This year's WSLI event was held in Reno, Nevada. The conference centered on domestic and international terrorism, USDA national ID program, cattle theft investigations, and other regulatory issues.

## *Enforcement Activity*

During the fiscal year, OSI investigated forty-two cases of alleged civil and criminal misconduct. Eight cases were filed with county attorney offices throughout the state, three of which are either awaiting trial, or pending review, and five cases were closed by successful adjudication. Two cases were closed with the issuance of a warning. Eleven cases were reviewed and closed due to insufficient evidence and twenty-one cases are ongoing.

### *Native Plants Investigations*

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 programs, and permit issuance.

There were twenty-one cases involving the theft or illegal removal of protected native plant, of which seven cases are still under investigation. Two cases are pending review by county attorney offices. One case was closed with the issuance of a warning citation. Five cases were closed by successful adjudication and six cases were reviewed and closed due to insufficient evidence.

### *Livestock Investigations*

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. A volunteer equine ownership/hauling certification has the same function. Both types of registration help identify livestock and protect the owner, should the stock become lost or stolen. In addition, it is unlawful to kill, mistreat, take, or sell livestock of another. It's also illegal to slaughter animals, or sell, or expose for sale the meat without a license.

There were two cases involving the killing of a horse and four head of cattle. The cattle case is still under investigation and the horse shooting case was closed due to insufficient evidence.

There were ten cases involving the theft of ten horses and one cattle. Five cases are still under investigation, three cases were closed due to insufficient evidence, and two cases are pending prosecution through county attorney offices.

There were five cases of livestock cruelty involving twelve horses and 31 head of cattle. One case was closed by successful adjudication, one case was denied by the county attorney and three cases were closed due to insufficient evidence. Two cases were investigated involving ownership disputes of one horse and 27 head of cattle. Both cases were settled through civil hearings with favorable outcomes.

### *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.

An investigation of alleged illegal slaughtering operation is currently being reviewed by a county attorney's office.

*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.

An investigation of alleged illegal digging of historical artifacts is currently being reviewed by a county attorney’s office.

*Native Plant Removal and Transportation Permits and Tags Issued - Tucson Office*

**FY 2006**  
**Native Plant Removal and Transportation**  
**Permits and Tags**

<b>Month Issued</b>	<b>No. of Permits</b>	<b>Regular Tags</b>	<b>Saguaro Tags</b>	<b>Pincushion Tags</b>
Jul	51	761	728	150
Aug	64	844	505	415
Sep	55	611	427	50
Oct	79	1207	1973	760
Nov	75	1032	538	125
Dec	64	851	487	311
Jan	92	1,860	1009	135
Feb	86	1,424	436	475
Mar	90	1,284	776	1,079
Apr	70	765	440	740
May	93	1,623	471	479
June	57	871	303	260
<b>Total</b>	<b>876</b>	<b>13,133</b>	<b>8093</b>	<b>4,979</b>

### Blue & Green Seal Permits

Month Issued	Blue Seal Permits	No. Of Blue Seals	Green Seal Permits	No. Of Green Seals
Jul	28	100	22	6535
Aug	30	93	2	1285
Sep	9	44	12	3912
Oct	11	232	17	6338
Nov	2	13	13	5652
Dec	4	22	7	1857
Jan	6	46	17	4,448
Feb	1	2	14	5,805
Mar	1	6	26	9,222
Apr	1	4	14	4,989
May	0	0	18	6,458
June	2	28	16	6,468
<b>Total</b>	<b>95</b>	<b>590</b>	<b>178</b>	<b>62,969</b>

## 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 serious pest incursions is the recent detection of the glassy-winged sharpshooter in Sierra Vista, Arizona. Glassy-winged sharpshooters feed on plant material vectoring Pierce's disease of grape, oleander leaf scorch, alfalfa dwarf and citrus variegated chlorosis; threatens the state's wine grape and citrus industries, and urban landscapes. Governor Napolitano issued an emergency declaration near the end of FY 2006 releasing an initial \$200,000 to combat this pest in Sierra Vista and establish a state-wide detection program.

## *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 quarantined for devastating and costly exotic pests such as the red imported fire ant.

## *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 ports-of-entry, interior inspection operations and a comprehensive survey and detection program against the following.

## *Arizona's Most Unwanted*

- Asian longhorned beetle—boring insect that weakens and eventually kills infested trees; its damage threatens urban landscapes.
- Glassy-winged sharpshooter—feeds on plant material and spreads Pierce's disease of grape, oleander leaf scorch, and citrus variegated chlorosis; threatens the state's wine grape and citrus industries, and urban landscapes.
- Japanese beetle—defoliates ornamental plants and destroys turf roots resulting in decline or death; threatens the export potential of Arizona's green industry.
- Gypsy moth—weakens and eventually kills forest trees, impacting the aesthetic value of forested areas.
- Citrus canker—results in rapid death of citrus trees. Threatens commercial and residential citrus production.
- Citrus Greening - poses a serious potential threat to both Arizona's residential and commercial citrus. This disease infects most citrus species, hybrids and cultivars. Fruit that is produced from an infected tree is misshapen, bitter in taste and does not ripen properly. Citrus Greening is spread primarily by an insect called the Asian Citrus Psyllid.

- Cactus Moth - The invasive cactus moth (*Cactoblastis cactorum*) is spreading in the southeastern United States and has the potential to reach Arizona, and beyond, and could cause significant impacts on native prickly pear cacti of the genus *Opuntia*.
- Fruit flies (Mediterranean, Mexican, Oriental, and Caribbean)—devastating pests of citrus impacting quality and yield. Presence in Arizona would limit export potential of citrus commodities.
- 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.

### *Field Operations: Ports-of-Entry*

The ports, Arizona’s first line of defense against the importation of exotic pests, are operated as staffing allows 24 hours, 7 days a week at the eastern interstate ports of entry at Sanders and San Simon, Arizona. The Yuma port of entry operates on a 24/7 schedule as staffing permits. The ports of entry on Interstate 10 at Ehrenberg and State route 95 at Parker, and Douglas, Arizona ceased operations, in FY 2006 and FY2004, respectively, due to budgetary constraints. The Duncan port of entry continues 16/5 operation with funding from the California Department of Food and Agriculture. All ports are staffed to inspect commercial vehicles hauling commodities that may harbor serious plant pests and diseases or that may originate from infested areas.

### *Commercial Inspections*

In FY 2006, of the total trucks inspected, 12,185 were rejected because of pest interceptions or noncompliance with quarantine rules and regulations. This is a reduction over FY05 of 17% primarily as a result of the department’s inability to operate the Douglas, Ehrenberg and Parker ports of entry and reduced operating schedules by the Arizona Department of Transportation – Motor Vehicle Division in FY06. Interceptions of pests totaled 11,691; a reduction of 16% over FY05. Rejection rates were 9.4%, 11%, 11% and 13 % in FY 2006, 2005, 2004, and 2003, respectively.

### *California-Arizona Partnership*

Recognizing the pest exclusion effectiveness of Arizona’s ports system, the California Department of Food and Agriculture (CDFA) entered into a renewable agreement in FY2000 with the department to inspect commercial trucks entering Arizona and destined for California. The inspections are conducted at Arizona’s eastern ports and are to detect the presence of RIFA and other pests. The \$350,000 annually from CDFA and in-kind contributions from department funds, allows for staffing of the Duncan port and augments staffing at the San Simon and Sanders ports. Continuation of this State-to-State agreement in FY2006 solidified efforts to establish a regional approach to pest exclusion.

## *Interior Inspections*

Inspection staff assigned to five operational locations (Phoenix, Tucson, Yuma, San Simon and Ehrenberg) 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 2006, inspection staff intercepted 16,435, an increase of 21% over FY 2005, within the state's interior through various inspections; 5,084 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, 6,450 traps were placed, serviced and monitored for approximately 18 targeted pests.

### *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 department's fruit fly detection program, supported in part through a United States Department of Agriculture, Animal and Plant Health Inspection Service (APHIS) grant, involves monitoring our nearly 3,650 traps placed statewide and currently meets or exceeds the National Exotic Fruit Fly Trapping protocol. To date, the department's efforts have achieved the result that no fruit flies of concern have been detected in the state.



Each year as the Survey & Detection program leaders evaluate the fruit fly detection endeavors, with an eye for efficiency, utilizing the most current accepted techniques in the industry.

In FY 2006, all internationally accepted lures and trapping arrays and techniques have been brought together 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. Projections call for a 20% growth of nut acreage over the next 1-2 years. Several devastating pests exist within the pecan 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. Trapping key groves and inspecting cleaning facilities are two key components in the strategy.

Hand in hand with producers and industry representatives, the department 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 fast growing 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 Greening / Asian Citrus Psyllid*



Citrus Greening poses as a serious potential threat to both Arizona's residential and commercial citrus. This disease infects most citrus species, hybrids and cultivars. Fruit that is produced from an infected tree is misshapen, bitter in taste and does not ripen properly. Citrus Greening is spread primarily by an insect called the Asian Citrus Psyllid.

The department is working closely with industry, researchers and the public to conduct a specialized survey for both the disease and insect. The survey is broken up into two parts; the first being visual inspections in predetermined residential locations throughout the state. The second part of this survey is conducted in nurseries. It consists of visual inspections of nursery stock, as well as placing insect traps in those nurseries where the host plant (*Murraya spp.*) for the psyllid is located. This combined effort will help protect both Arizona's residential and commercial citrus.

## *Cactus Moth*

This extremely invasive prickly pear cactus pest is threatening native landscapes and agricultural industries throughout the southern United States and Mexico. The Arizona Department of Agriculture is on the cutting edge in the detection and rapid eradication 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 Arizona Department of Agriculture is committed to protecting our native plant material and key agricultural industries threatened by the Cactus Moth.

## *Commitment to Service*

Arizona Department of Agriculture 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, the Pest Exclusion and Management Program demonstrated its commitment to service by the following:

## *Nursery Certification*

The Arizona Department of Agriculture administers a voluntary nursery certification program to facilitate the export of pest-free nursery stock.

- Shipment certification – 366 certificates were issued for nursery stock shipments destined to:

Nevada.....	37%
Arizona, to protected areas.....	21%
Texas .....	21%
California .....	18%
Florida .....	3%

- Annual certification – 112 shipping nurseries were issued one or more of the following certifications to meet the entry requirements of other states:

General nursery stock inspection certification.....	49%
Ozonium root rot certification .....	15%
Brown garden snail certification.....	32%
Rose Mosaic Virus certification .....	4%

## *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.

### Phytosanitary Certification

- The department received 441 applications for phytosanitary field inspection of seed crops.

#### Seed Crops Inspected

Cotton.....	60%
Vegetable .....	28%
Wheat .....	6%
Alfalfa .....	2%
Grass .....	2%
Melons.....	2%

- The division issued 5,084 federal phytosanitary certificates in FY 06 to enable agricultural commodities to be exported to foreign markets.

Type of certificates issued

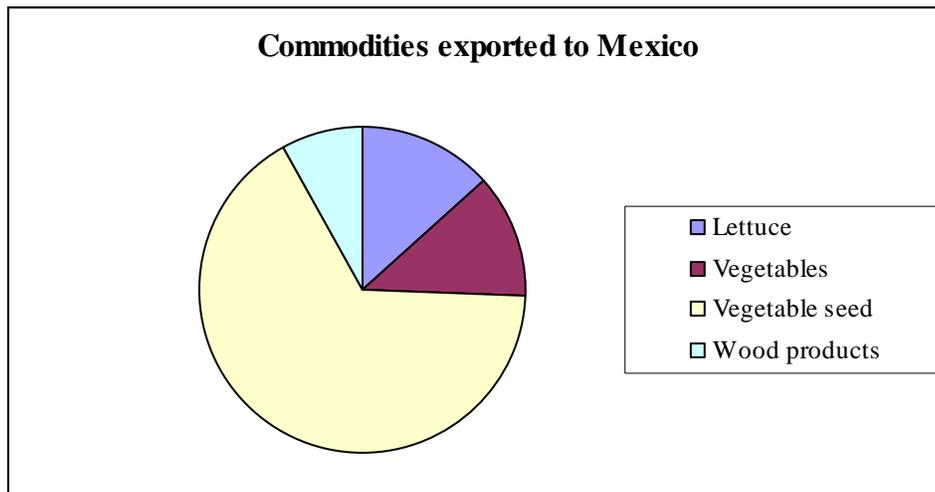
Certificates issued for domestic commodities .....	71%
Certificates issued for foreign commodities .....	27%
Certificates issued for processed products .....	3%

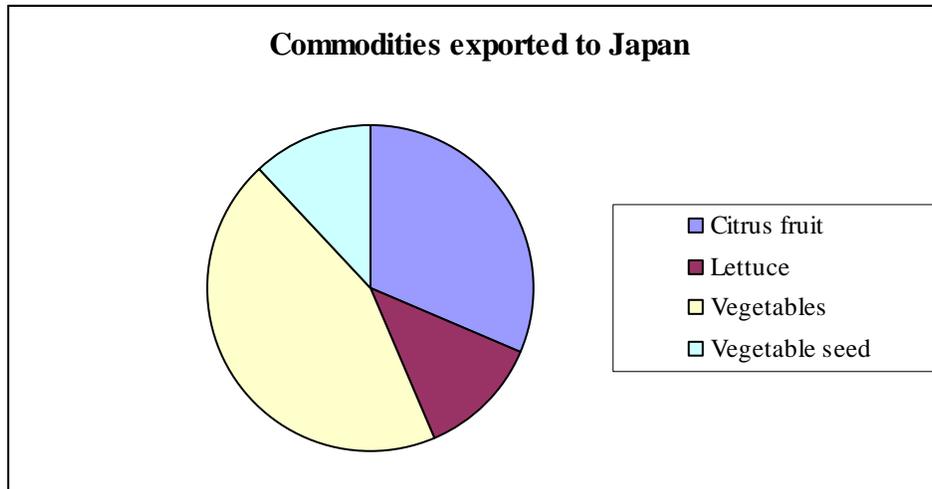
Top 5 commodities exported from Arizona

Vegetable seed .....	47%
Vegetables.....	28%
Citrus fruit .....	15%
Lettuce.....	11%
Wood products.....	5%

Top 5 countries receiving commodities exported from Arizona

Mexico .....	48%
Japan .....	31%
Taiwan.....	3%
Bahamas.....	2%
Canada.....	2%





### *Export Enhancement*

Arizona’s economy benefits greatly from the department’s strict maintenance of its aggressive pest exclusion program. In previous years, government quarantine officials from the People’s Republic of China, Chile, Argentina, Israel and Mexico reviewed the department’s pest exclusion 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.

### *Cooperative Effort*

The department 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 is not quarantined, the department shall provide the grower with technical information on effective weed control activities 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 2006, 26 Weed Management Areas (WMA's) and weed resource groups were actively pursuing control or eradication goals, mapping local weed distributions and conducting public information programs in Arizona.

### *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.

### *Preparing for New Invaders*

The identification, control and eradication of invasive weeds were an important part of the discussions that formed the recommendations made in the Arizona Invasive Species Advisory Council report to the Governor. The Department of Agriculture along with other state agencies and representatives from industry, CWMA's, conservation groups and the academic community met to provide guidance on the ever growing problem of invasive species in our state. After months of discussion, the council came up with recommendations that included: strengthening the early detection and rapid response capacities of the state; establishing an invasive species database and mapping system; developing a comprehensive state wide invasive species management plan; and establishing a center to act as a clearinghouse for invasive species research and education.