



Arizona Department of Agriculture



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 2004-2005

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Arizona Department of Agriculture

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September 30, 2005

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 2004-2005. 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.

I am proud to offer the following account as to how we are working to improve the quality of our State's agricultural industry. This year, the University of Arizona statistically confirmed that agriculture is worth \$6.6 billion each year to our state. As you read through these pages, you will find our staff has been working hard to award grant funds, administer public advisory committees and train agricultural workers around the state.

The Arizona Department of Agriculture has implemented many improvements and successes over the last fiscal year. We are beginning to build a technology infrastructure within our department that will enable us to better serve our taxpayers. In addition, we are targeting more international markets as avenues to promote the products grown in our state and we have built a new website with consumer information pertaining to diseases, organics and daily news items. This is 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. 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,

A handwritten signature in cursive script that reads "Donald Butler".

Donald Butler
Director
DB/kd

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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, Mr. Rick Ladra was elected Chairman of the Department of Agriculture Advisory Council and Ms. Cindy Baker of Yuma was elected Vice-Chairman. Mr. Doug Mellon of Yuma, Mr. Clint Hickman of Buckeye and Mr. Richard Lunt of Duncan 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

The dairy inspection program originated 87 years ago, just after Arizona became a state in 1912. Known as the office of the state dairy commissioner, the dairy commissioner was appointed by the Governor, until the early 1990's.

In 1991, the State Dairy Commission became part of the Arizona Department of Agriculture. At the same time, all laboratory-related work began being processed at the State Agriculture Lab, which was formerly the State Chemist's office. Most dairy samples were previously analyzed at the state health lab.

The program cooperates with both FDA and USDA. The work with FDA includes the shipment of milk in interstate markets and physical inspection of dairy farms and processors. USDA work includes facility inspections and grading / sampling of various dairy products such as butter, cheese and powdered milk and officially assigning USDA grades to such products.

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 and that vitamins are at proper levels. 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 is done 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 use as directed on labels. Water supplies are visually examined to ensure that potable and non-potable water supplies are not co-mingled and cross-contaminated.

Egg Products Control Program

For 60 years, egg, egg products and poultry grading was performed by this program. The State Egg Inspector's office was formed in the late 1930's to standardize the production and sale of (primarily) eggs in the shell. The agency worked directly with the predecessor of the United States Department of Agriculture, the War Food Administration, in matters of egg and poultry procurement for the war effort and later for the Veteran's Administration.

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, which are in commerce.

Arizona Egg Production

Arizona currently has two commercial laying flocks. There are approximately 100 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 since the 1940's. 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.

Applicants for grading service, industry, military and USDA itself, pay the full cost of this voluntary inspection program, as officially graded products command a premium in the market place. Eggs inspected by ADA staff are shipped to other states as far away as Hawaii and Mexico. Four USDA licensed department employees work full time at two egg grading plants. This provides 7 day a week coverage 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.

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. Department personnel verify that products are received under seal and properly refrigerated during shipping. Shipping companies are monitored to maintain compliance with temperature limits, in part because children are considered high risk with respect to food borne illness.

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 procedures and federal computer system and processing procedures. On a daily basis, inspectors visit industry plants to check for compliance with state and federal regulations. When samples are collected for microbiology testing, additional samples of products are also taken.

These 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.

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 also taken more staff time this fiscal year.

Control and Eradication Programs

Bovine Tuberculosis (TB)

TB was diagnosed in a culled dairy cow during slaughter processing. An epidemiological investigation lead to this cow being traced to a commercial dairy herd in Arizona. Eight other dairy herds and one dairy grower operation were identified as being potentially exposed. Subsequently, approximately 12,000 cattle were tested for tuberculosis through February and March of 2005. This situation caused numerous quarantines to be imposed and consumed over 400 hours of state personnel time. The confirmed infected herd is currently under quarantine and negotiations are nearing completion as to the destruction of the animals (totaling approximately 4600 animals), so as to prevent the further spread of tuberculosis.

Pseudorabies (PRV) / Hog-Dog Fighting

PRV was diagnosed January 2005, in a group of feral swine that had been seized by Yavapai County officials during the execution of a warrant in December 2004. This police action was the result of an investigation of animal cruelty involving dogs being pitted against feral swine in a sporting contest.

In early January 2005, USDA had declared the commercial swine industry to be free of PRV in the United States. This announcement signaled the successful completion of this program. An accelerated eradication program had been put into effect by USDA in 1999 with \$80 million allocated for the eradication effort.

However, as a result of the illegal entry of these feral swine into Arizona for the purposes of conducting “hog-dog events”, PRV was introduced into the state. Numerous administrative and court hearings were held in conjunction with this matter, which lead to the swine remaining in impound for approximately seven months, and the potential for the spread of this disease. Efforts to control and eradicate the disease were ultimately successful, costing extensive personnel time and \$19,000 in care, feeding and disposal.

Control & Eradication Program Surveillance Statistics

Bovine Brucellosis – Blood Tests	60,621
Swine Brucellosis – Blood Tests	1,125
Bovine Tuberculosis – Tuberculin Skin Tests	44,182
Equine Infectious Anemia – Blood Tests	14,114
Scrapie Tests	27
Official Calfhood Brucellosis Vaccinations	42,232

Foreign Animal Diseases

West Nile Virus (WNV)

WNV was first identified in the Eastern U.S. in 1999 and has since spread westward across the country. The department continues to work closely with the Arizona Department of Health Services, Arizona Veterinary Diagnostic Lab and other state, county and local government agencies in conducting surveillance and reporting activities across the state. In calendar year 2004, there were 109 equine cases confirmed in eleven counties. As of August 12th there have been twelve (12) equine cases in calendar year 2005, involving Apache, Maricopa, Pima, Pinal, Yavapai counties. The department continues to stress vaccination of horses and mosquito control as prevention strategies.

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.

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 12,810 samples were submitted from Arizona, all of which were found to be negative for the disease.

Vesicular Stomatitis Virus (VSV)

Vesicular Stomatitis Virus (VSV) was diagnosed in Texas, New Mexico and Colorado in 2004. VSV was diagnosed in the Arizona in 2005 for the first time since the late 1990's. Utah, Wyoming and Montana have also confirmed VSV this year. Restrictions on livestock shipments entering from affected states continue to be implemented.

This virus causes blisters primarily in horses on the lips and tongue. It can also affect cattle and as such, is very difficult to distinguish from foot and mouth disease virus (FMDV). VSV is usually self limiting and occurs sporadically in the Southwestern US.

During this epidemic, 75 foreign animal disease (FAD) investigations were conducted by state and federal veterinarians in conjunction with local veterinary practitioners. Equine on 27 premises were confirmed positive for VSV and subsequently quarantined. As of August 17th, the last remaining premises was released from quarantine. No new case of VSV has been confirmed since the second half of June 2005.

Foreign Animal Diseases Program Surveillance Statistics

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

Bovine	2
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Equine	87
Sheep & Goats	2
Javelina	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 2004-2005 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 2005-2006 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 two pilot projects with several other states in tagging and tracking dairy and beef cattle throughout these states. These projects are funded by USDA and are educational projects in order for us to learn and recognize the best methods of tagging and tracking. In 2005, we have completed placement of over 2,000 radio frequency identification (RFID) ear tags in dairy calves from six dairies and tracked their movement from the dairy to a calf feedlot and then on to a feedlot. They will eventually be tracked to the processing plants.

We will also begin to track beef cattle from the Navajo and Hopi Reservations as they arrive at the Sun Valley Auction in Holbrook, Arizona. These animals will receive RFID ear tags on the reservation and Sun Valley Auction will be equipped to read them upon arrival. The present target date for national premises identification and animal tracking to become mandatory in all states is 2009.

Self-Inspection

Improving the existing Self-Inspection system for beef cattle was a major priority for Animal Services Division during this fiscal year. The certificate form itself was outdated. Legislative mandates required that the department begin collecting a 20 cent per head fee for cattle movement covered by the form.

In late January, a review of the existing structure resulted in a comprehensive needs assessment. In April, Self-Inspection renewal applications were mailed to the existing 1200+ users. July 1, 2005 was set as the deadline for the new 7C Self-Inspection Certificate to go into use.

On May 3, a draft of the revised 7C Self-Inspection form was presented to the Animal Services Advisory Council for review. After incorporating the changes recommended by this group, production started on the new forms. Work also started on a new NR Self-Inspection form to accommodate non-range cattle owners.

To minimize confusion and inconvenience during the change, a dedicated phone operator and separate Self-Inspection email address was established. For additional outreach, a new Self-Inspection web page for frequently asked questions was published at the Department's website.

To date, 2057 new Self-Inspection packets have been mailed.

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 (20), processors (10), facilities (23), special facilities (11), and fee fishing (6).

Feedlots

27 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.

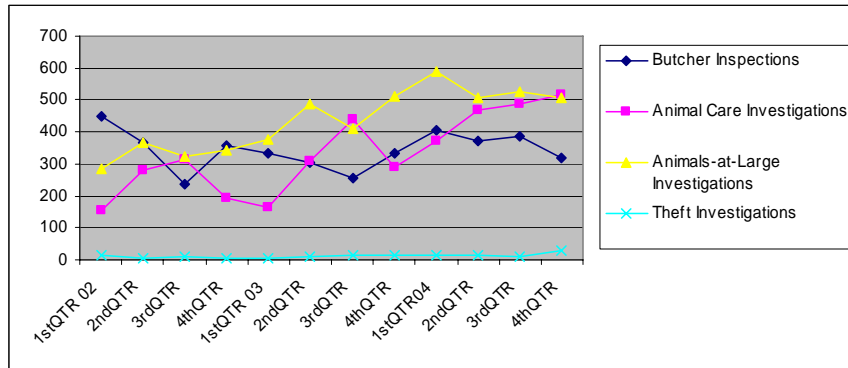
Surveillance Statistics

Currently, over two thousand 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.

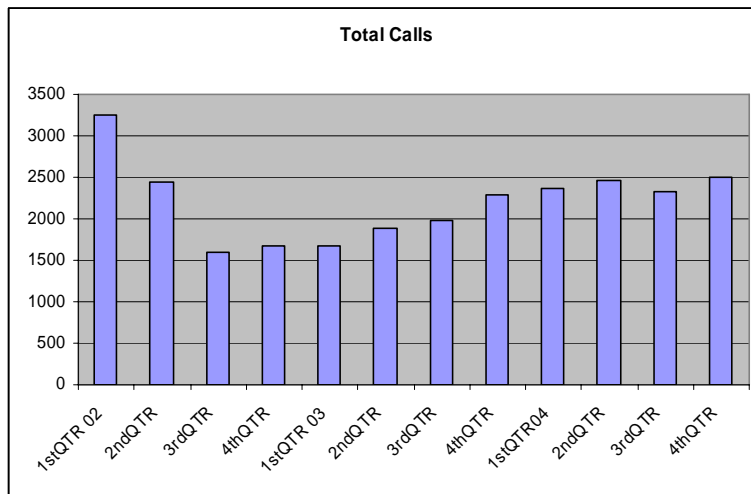
Livestock Import Summary

CLASS OF LIVESTOCK	NUMBER OF SHIPMENTS	TOTAL ANIMALS
Dairy Cattle Replacements	607	39,778
Beef & Feeding Cattle	3235	397,060
Swine	335	28,400
Sheep and Goat	401	70,798
Equine	8364	20,000
Aquaculture	179	unavailable

Investigations and Inspections



The graph above shows the number of investigations conducted for animal care issues, stray livestock and livestock theft. “Butcher Inspections” denote those for cattle processing at custom exempt slaughter plants.



Reduction-in-Force 3rd Qtr FY2002 from 45 to 18 full-time field personnel.

Citrus, Fruit & Vegetable Standardization and Federal-State Inspection

Arizona ranks third in the nation for production of fresh market vegetables. Arizona acreage produced more than 100 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 2005 are as follows:

Head lettuce	29,606,492	Watermelon	4,342,000
Romaine	15,887,174	Spinach	4,224,371
Cantaloupe	13,223,457	Cauliflower	3,454,890
Broccoli	5,852,116	Honeydew	2,916,533
Leaf lettuce	5,716,031	Spring Mix	2,411,786

As detailed below, the Citrus, Fruit and Vegetable Standardization Program and the Federal-State Inspection Program conducted 69,526 inspections this year. In addition, the Citrus, Fruit and Vegetable Standardization Program issued 479 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. 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. Grapes and 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 ninth 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 14 million packages of tomatoes and 17.6 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 Created

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.

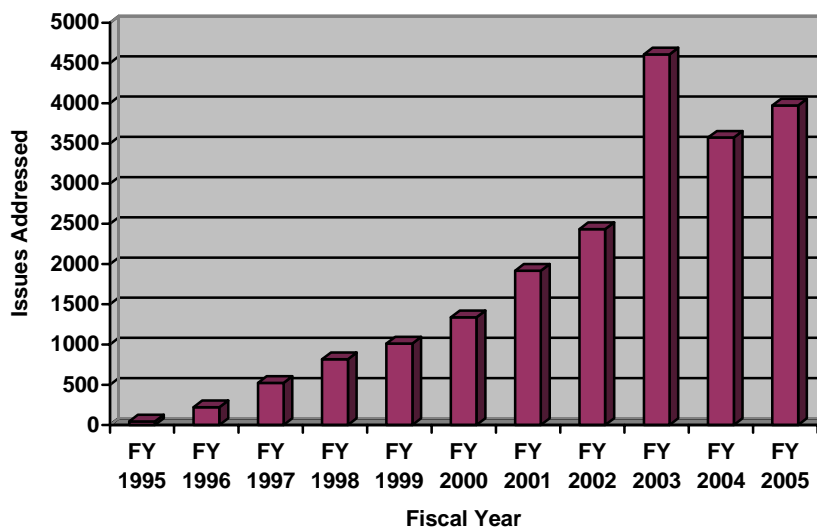
Agricultural Consultation & Training

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:

- Worker 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. This year, ACT field consultants addressed 3,970 compliance issues. This represents an approximate 10% increase in total compliance issues addressed from Fiscal Year 2004. The following chart displays the total number of compliance issues addressed by ACT field consultants since fiscal year 1995.

Chart 1. 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

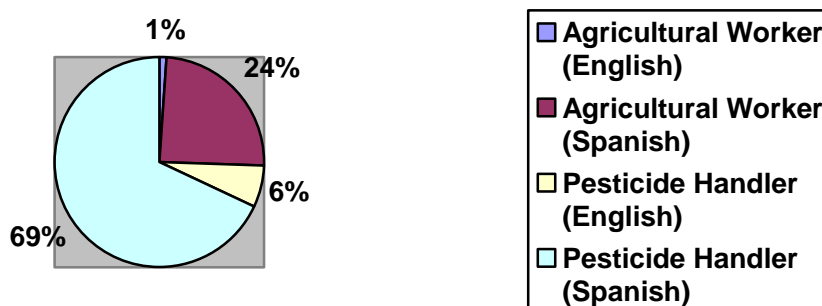
Pesticide Safety Compliance Assistance

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 the Worker Protection Standard 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 state and federal pesticide regulations. In October 2005, ACT hired a bilingual pesticide safety educator to fill a vacant position, which allowed ACT to continue these valuable services.

Pesticide Safety Training

During FY 2005, ACT provided pesticide safety training to 252 pesticide handlers and 87 fieldworkers employed at over 30 Arizona farms and nurseries. As is demonstrated in the following chart, the majority (75%) of the training requests received and provided by ACT were for pesticide handler training. Of those, 69% were Spanish-language pesticide safety training, and 6% were pesticide safety trainings in English. The remaining requests (25%) were for agricultural worker trainings, of which 24% were provided in Spanish and 1% were provided in English.

Pesticide Safety Training Provided



The one-hour pesticide safety course designed for agricultural workers includes video clips, case studies, discussion sessions, and hands-on activities such as pesticide exposure role plays. A two-hour session was developed for pesticide handlers, which includes additional information on

safely mixing, loading, and applying of pesticides. Pesticide label reading and spill clean-up activities are also included to allow handlers to practice work-related tasks during the training course.

Pesticide Safety Teaching Tools and Informational Resources

ACT staff develops and adapts teaching tools and informational resources for use in trainings and presentations and for distribution to agricultural employers, employees, health care professionals, and people who are responsible for extending pesticide safety information.

An example of an interactive teaching tool that has been adapted to fit a variety of audiences and topics is Pesticide Safety “Jeopardy”. ACT staff used the game as an interactive and entertaining way to present WPS compliance issues to attendees of workshops and training sessions. The pesticide safety “Jeopardy” game included questions and answers about safe pesticide application and handling, safety training requirements, employers’ responsibilities, protective equipment, and pesticide hazard recognition.



An ACT staff member encourages learning with fun interactive methods.



A Pesticide Safety “Jeopardy” game contestant eagerly participates.

An informational resource, *The Bilingual English/Spanish Pesticide Label Terminology Pamphlet* was developed in FY 2005 to assist Spanish-language readers in recognizing and comprehending important pesticide use, safety, and health information located on pesticide product labels.

Pesticide labels carry instructions on how to mix, apply, store, and dispose of pesticides in a safe and effective manner. This important safety information is only available in English on the majority of pesticide labels sold in the United States. Pesticide handlers who are unable to read this important information, might inadvertently put themselves, other people, the environment, and crops at risk. Although federal and state laws require that pesticide handlers receive training on basic pesticide safety and label instructions, even the best training and clearest instructions cannot replace the ability to read the label to review safety and handling procedures or to respond appropriately to emergency situations. “The Bilingual English/Spanish Pesticide Label Terminology Pamphlet” contains a lexicon of label specific words pertaining to personal protective equipment, first aid, environmental protection,

pesticide formulations, storage and disposal of pesticide containers, and the meaning of commonly used acronyms such as “EPA” and “WPS.”

Pesticide Information for Health and Safety Educators

ACT Program staff worked with ADA’s Environmental Services Division and the Inter Tribal Council of Arizona, Inc. to present a pesticide health issues short course for health and safety outreach educators. It was designed to provide information, resources, and training tips to health and safety outreach educators to help them develop effective and interesting pesticide health and safety programs for tribal community members, health care professionals, agricultural employers, pesticide handlers and other agricultural employees. The 4.5 hour course, which was held in Yuma in June 2005, was presented in English and in Spanish. Participants included nurses, fire department staff, Indian Health Services (IHS) health care providers, farmworker advocates, health and safety educators, farm labor contractors, farm owners and operators, and regulatory agency staff.

Joint Pesticide Safety Train-the-trainer Workshops

New collaborations were formed when 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 the Cocopah Tribe’s and Fort Yuma Quechan Indian Tribe’s pesticide programs to create and present the Joint Pesticide Safety Train-the-Trainer Workshops.

Due to variations in state and tribal pesticide related laws and regulations, Arizona, California, and Tribal Communities do not have reciprocal agreements for trainer qualifications. Therefore, pesticide safety educators must attend separate courses in each state and learn about specific tribal pesticide laws in order to effectively train pesticide handlers and field workers who will be working in those areas.

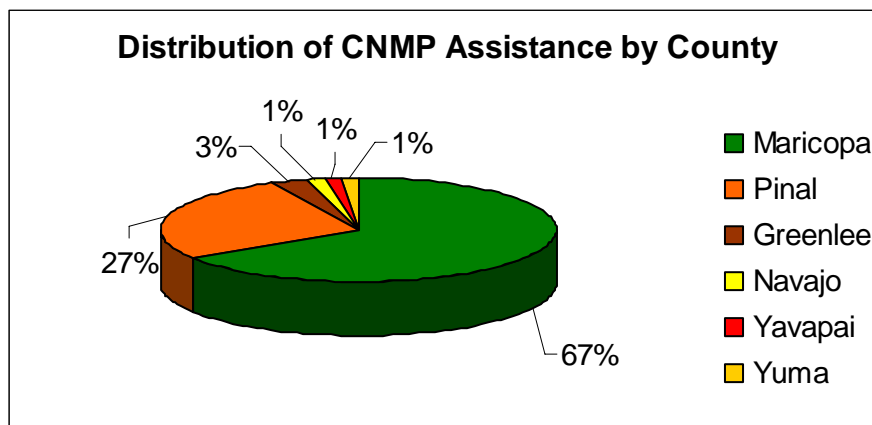
The 1.5 day workshop was offered in Spanish and English and was held in Yuma, Arizona from November 30 through December 3, 2004. It qualified participants to train pesticide handlers and agricultural fieldworkers in Arizona and California and provided an overview of pesticide programs and ordinances that were unique to local Tribal communities. Breakout sessions covered important pesticide safety and health information such as pesticide label comprehension, personal protective equipment, and pesticide-related health issues. Participants also received an overview of the federal Worker Protection Standard and requirements for training pesticide handlers and fieldworkers. A variety of hands-on training techniques were used throughout the course to demonstrate ways to extend pesticide safety information to pesticide handlers and agricultural fieldworkers in an interactive and effective manner.

Over fifty people, representing farming operations, health clinics, social service agencies, farm worker outreach projects, tribal pesticide programs, and pesticide regulatory agencies, attended the joint train-the-trainer workshops. Pesticide safety educators who travel with their

companies and are responsible for training agricultural employees in Arizona, California, and on tribal lands located in the southern region of both states greatly benefited from attending the joint pesticide safety train-the-trainer workshops, as they are now qualified to train in each state and received additional information about local Tribal pesticide ordinances. Due to the success of and need for the workshops, the team of instructors will continue their collaborative efforts and will present joint train-the-trainer workshops on a yearly basis.

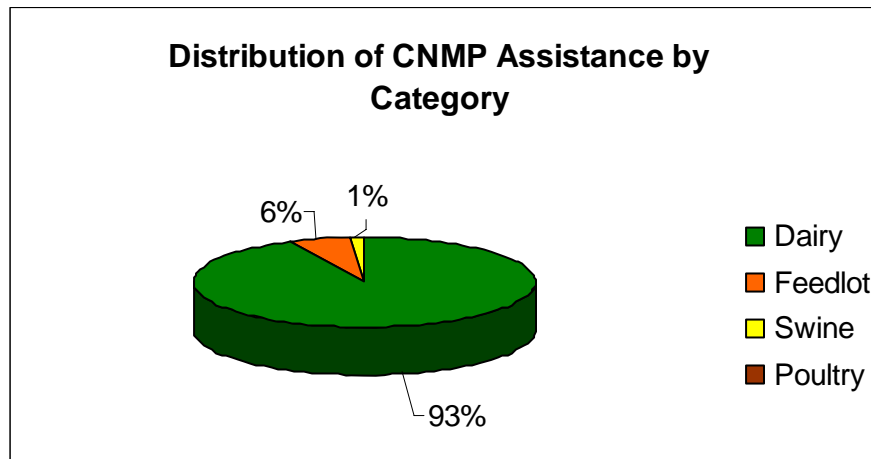
Water Quality Compliance Assistance – Comprehensive Nutrient Management Planning Program

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 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). As shown in the following figure, assistance is provided upon request throughout Arizona.



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 December 2006. In Arizona, according to EPA’s regulatory definition, 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 an NMP by a CNMPS. In Fiscal Year 2005, voluntary sign-up for NMP assistance with the CNMP Assistance Program reached an all-time high of 70 producers; a 67% increase from the previous year. Of those operations, there were 65 dairies, 4 feedlots and 1 swine operation (as shown in the following figure).



Realizing that the demand for NMP development outweighed the Program’s resources, ADA and NRCS met to identify resources to provide additional assistance. Fifty-seven operations awaiting NMP assistance were distributed among NRCS personnel and contracted technical service providers. This left 13 operations for the CNMP Assistance Program to focus on between March 2005 and September 2006.

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. This fiscal year, two NMPs were completed: one for a feedlot and one for a dairy.



The amount of time dedicated to an individual operation varies greatly, mostly depending on the type of AFO and if manure and/or process wastewater is land applied to cropland.

Water Quality Compliance Assistance – Agricultural Activities Assistance Program

The Agricultural Activities Assistance Program (AAAP) is a compliance assistance program which helps concentrated animal feeding operation (CAFO) owners and operators understand and comply with federal and state water quality regulations. CAFOs are dairies, feedlots, swine operations and poultry facilities, which are not required to obtain a Federal National Pollution Discharge Elimination System (NPDES) Concentrated Animal Feeding Operation (CAFO) Permit. The purpose of AAAP is to increase CAFO compliance to water quality regulations in order to reduce potential animal-waste contamination of surface and ground waters. The two primary objectives of AAAP are:

- 1) To educate producers regarding federal and state regulations including: the federal CAFO Rule changes, the Arizona Pollutant Discharge Elimination System (AZPDES) CAFO General Permit and Arizona's CAFO and Nitrogen Fertilizer Agricultural General Permits.
- 2) To help producers increase compliance with water quality regulations in order to help protect Arizona's waters.

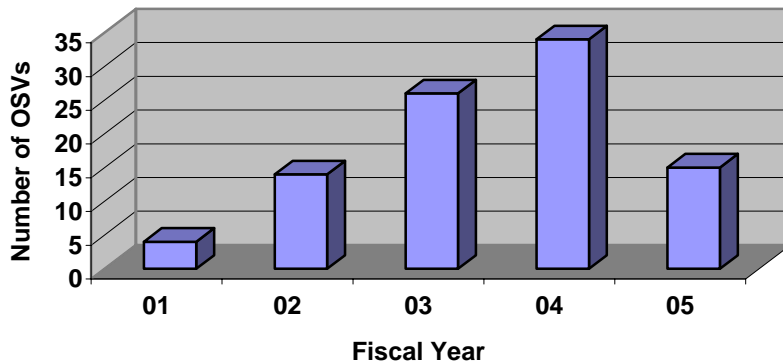
The program is funded through an Intergovernmental Service Agreement (ISA) between the ADA and the Arizona Department of Environmental Quality (ADEQ). Through this agreement, ADEQ provides AAAP with funding by means of an Environmental Protection Agency (EPA) grant, which requires a funding match of 40% by the ADA.

AAAP's On-Site Visits

AAAP personnel conduct on-site assessments of AFOs, during which ACT personnel assess the livestock facility waste containment structures and waste management practices to determine the facility's level of compliance with state regulations. When non-compliance is observed, the ACT Field Consultant makes written recommendations to the operator and owner to help bring the facility back into compliance. On-site visits are valuable in identifying and helping to correct potential compliance violations prior to possible discharges of manure-water to surface water.

AAAP may consult with ADEQ on a compliance issue to obtain interpretation of a regulation in order to provide the producer with the best recommendation for compliance. However, AAAP maintains the confidentiality of all AFOs assisted. During fiscal year 2005, AAAP personnel conducted fifteen on-site visits. As a result, 1,920 compliance issues were assessed relating to manure and wastewater management. Thirty of the 1,920 issues assessed were found out-of-compliance or potentially out-of-compliance, which could have lead to citations for the facilities. The figure below illustrates the number of OSVs conducted by ACT pertaining to CAFO and AFO compliance assistance.

RAAAP/AAAP On-Site Visits



The total number of OSVs decreased in fiscal year 2005 as a result of the field consultant leaving the position in mid-year. Due to a loss of funding from EPA, ADEQ recommended not hiring a replacement to fill the position. Negotiations are continuing with ADEQ on the future of this program.

Educational Outreach through the Multi-Agency CAFO Education Group

AAAP provides educational outreach to AFO producers in cooperation with the CAFO Education Group. The CAFO Education Group is a cooperative between producer organizations and state and federal agencies committed to providing education and compliance assistance to Arizona's AFO and CAFO producers. CAFO Education Group members include representatives from the Arizona Cattle Feeders' Association, United Dairymen of Arizona, Arizona and Maricopa County Farm Bureaus, USDA - NRCS, EPA Region 9, East Maricopa Natural Resource Conservation District, University of Arizona Cooperative Extension, ADEQ and ADA. AAAP chairs the CAFO Education Group, whose group efforts are funded through a grant from the EPA to the ADA.

The CAFO Education Group's efforts include the Producer's Notebook, educational outreach workshops and the Animal Waste Management website. The Producer's Notebook, which is periodically updated, contains summaries and information on State and federal regulations, worksheets to assist in record keeping, contact information for financial and technical assistance organizations, principles of nutrient management, sampling procedures and other materials to assist producers with compliance. During fiscal year 2005, AAAP, CNMP Assistance Program and the CAFO Education Group began the development of an updated Producer's Notebook to help producers address the requirements of ADEQ's new AZPDES CAFO Permit. AAAP also worked with the CAFO Education Group in updating 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, links to information and agencies, which can assist animal feeding operations, and other relevant information.

Other educational outreach provided by AAAP includes answering producer questions and providing information through letters, emails, faxes and phone calls. AAAP attends and has provided educational and promotional displays at producer group meetings and trade shows. In addition, AAAP writes informational articles which have been published in the Arizona Farm Bureau Newsletter, the United Dairymen of Arizona Magazine, the Arizona Horse Connection Magazine, and Cattlelog Magazine and Newsletter from the Arizona Cattle Feeders.

This portion of the AAAP has been moved under the purview of the certified nutrient management planning specialist. Meetings will continue to be held quarterly or on an as needed basis.

Air Quality Compliance Assistance – Regulated Agricultural Best Management Practices

The Agricultural Consultation and Training (ACT) Program has entered into the third year of administering the Regulated Agricultural Best Management Practices air quality compliance assistance program that helps the agricultural community with applicable air quality regulation. Federal, state and local regulation can be complex and difficult to understand and the RABMP provides a means by which Arizona's agricultural community can request compliance assistance without regulatory intervention.

The foundation of the RABMP program's success is the on-site visit when the field consultant can discuss reasonable and feasible best management practices that can be implemented to help control regulated air pollutants from becoming airborne during agricultural activities. Best management practices or commonly referred to as BMPs are techniques implemented such as:

- Leaving crop or other plant residues on the soil surface that can reduce soil erosion between crops.
- Limiting farming activities during high wind events thereby reducing the transport of PM10.
- Combining tractor operations that reduce the number of passes on a field and the amount of soil disturbed.
- Converting to a no or low till operation that reduces the loss of soil and water.
- Using an irrigation management system that conserves water, reduces weeds and results in less soil compaction and need for tillage.

As the needs of the regulated agricultural community grow so has the air quality program's outreach and educational tools. The RABMP program has added training for farm workers on BMPs, what employers are doing to comply with the law and ways workers can get involved to help reduce air pollution. A PM10 video provided by the ACT program explains how dust affects our health, where PM10 can come from and what to do if excessive dust is reported. 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 set up through the ACT

program alerts the regulated community to implement their dust control action plans during the forecasted period and informs them that surveillance of airborne dust may be conducted on days that are deemed high risk for a PM10 exceedance of the health standard. Over 350 people are mailed the “Fly in the Eye – Air Quality in Action” newsletter. The quarterly newsletter features some BMP options available, a “What’s New” column on 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 which now includes maps of the Maricopa and Yuma County PM10 non-attainment areas where BMPs are required, daily wind forecasts for those non-attainment areas, informational documents to download and the availability to request a site visit on-line.

The actual growth of on-site visits in fiscal year 2005 increased by 43% from the prior year. This increase exceeded projected numbers and was largely due to the joint on-site visits with ACT’s Pesticide and Worker Protection program and the other enhancements discussed above. Also realized in the increased numbers was the utilization of the RABMP program by Yuma farmers to help understand compliance with the new BMP regulation that became final in June 2005.

Table 1 - Actual and Estimated OSV Projections for the RABMP Program			
	Actual	Projected	Projected
	FY 05	FY06	FY07
Number of Issues Addressed	1,938	2,280	2,736
Compliance Issues Corrected	640	752	902
On-site Visits	51	60	72

Table 2 - Actual and Estimated Projections for RABMP Outreach and Education			
	Actual	Projected	Projected
	FY 05	FY06	FY07
Number of Sessions	27	42	48
Number of Participants	1,959	2,100	2,400

The RABMP program goal is to provide the regulated agricultural community with the necessary resources to achieve compliance with applicable air quality standards. Through innovation and enhanced outreach and education the RABMP program is projecting to increase the number of on-site visits by 30% over the two years. It is with the continued support of the agricultural community that this goal will be accomplished.

Livestock and Crop Conservation Grant Program

The Livestock & Crop Conservation Grant Program (LCCGP) was created on September 18, 2003, by the Arizona State Legislature to assist ranchers and farmers with the implementation of conservation projects that ultimately provide for the preservation of open space. The Arizona Department of Agriculture is charged with developing, implementing and managing the 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.

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.



The grant program guidelines and criteria are subject to an annual public process and may change from year to year in response to public input. During FY 2005, ADA personnel conducted four public hearings statewide to solicit public comment on the proposed grant program guidelines and criteria. As a result, the following types of projects were considered for funding during the FY 2005 grant cycle:

- Utilization of funds as match / cost share to other conservation grants. For example, if the applicant is participating in or plans to apply for USDA NRCS EQIP grant which typically requires that the applicant provide 50% of the total project funding, LCCGP funds could be awarded for use as the 50% matching funds to the EQIP grant contract.
- On-the-Ground Conservation Projects (for example: riparian fencing, water resource development, grassland restoration).

- Livestock deferment funding in relation to a conservation practice or project. For example, if the applicant chooses to implement a conservation management practice such as prescribed burning or herbicide application that requires the deferment of livestock, the applicant may apply for LCCGP funds to cover the costs associated with deferring livestock.

In addition to public hearings, ADA personnel conducted five informational workshops statewide to provide potential applicants with a general grant program overview and information on how to apply for funds. Throughout FY 2005, ADA personnel participated in various stakeholder meetings and conferences to promote the grant program, including 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.



In October 2004, ADA entered into an Inter-Governmental Cooperative Agreement with USDA-NRCS. This agreement provides technical and administrative support to the LCCGP, which compliments many USDA Farm Bill programs.

LCCGP funds were not awarded during FY 2004 due to

program development, and as a result, ADA had approximately **\$3.8 million available in grant funds for the FY 2005 grant cycle**. The 2005 funding cycle grant application deadline was May 13, 2005, and ADA received 101 grant applications. The **total request for FY 2005 grant funds was over \$10.4 million**. The FY 2005 grant applications are currently in the evaluation process, and grant awards have been announced.

Detailed information on the 2005 funding cycle can be found in the LCCGP Manual and Application Package, which is currently available on the ADA website at: <http://agriculture.state.az.us/Main/lccgpManual.pdf>

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 3 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 2005, the Council continued its work with research institutions to coordinate industry research needs. Council members approved more than \$54,000 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 Proposed Rulemaking on February 18, 2005, to codify their grant solicitation and award process. These rules are scheduled to be finalized in early 2006.

Fiscal Year 2005 Financial Status - Arizona Citrus Research Council

Revenue	\$50,232.42
Expenses	\$82,871.42*

*Actual revenues were lower than projected. The Citrus Council fund balance is more than adequate to cover the difference between expenses and revenues in FY 2005.

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 29 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

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 2005, the council approved over \$81,000 in research grants. Some examples of research grant projects include the development of effective management tools for lettuce disease, breeding high quality

lettuce for arid climates, chemical application through sprinklers and field evaluation of lettuce cultivars.

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 Proposed Rulemaking on February 11, 2005, to codify their administrative, grant solicitation and award processes. These rules are scheduled to be finalized in early 2006.

Fiscal Year 2005 Financial Status-Arizona Iceberg Lettuce Research Council

Revenue	\$ 95,226.95
Expenses	\$101,399.32*

*Actual revenues were lower than projected. The Lettuce Council fund balance is more than adequate to cover the difference between expenses and revenues in FY 2005.

Arizona Wine Commission

The Arizona Wine Commission was terminated effective July 1, 2004 and the statute that established the Commission, Title 3, chapter 3, article 6 was repealed effective January 1, 2005.

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. The council consists of nine Arizona grain producers appointed by the Governor.

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, tissue testing to prevent low grain protein content in durum, small grains variety testing, herbicides for the control of littleseed canarygrass in wheat, and lower stem nitrate concentration in small grains. Annually, the council funds the small grain variety test trials used by producers to evaluate the varieties available. Approximately \$32,800 was spent on research projects during fiscal year 2005.

In addition, the council began the production of an educational and promotional video that characterizes the development, production, marketing and use of Desert Durum®. The council supports the activities of 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. 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 approved a Rulemaking Docket Opening in preparation for proposed rules on their grant solicitation and award process. The legislative change will not become effective until early in fiscal year 2006.

Fiscal Year 2005 Financial Status - Arizona Grain Research and Promotion Council

Revenue	\$120,073.65
Expenses	\$116,160.22

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 on April 21, 2005 to approve the Interagency Service Agreement with the Department of Agriculture. There were no agricultural labor issues before the board in FY 2005.

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 commission gathered in Prescott, AZ in September of 2004 to discuss its priorities, timeline and strategies for funding. Three sub-committees were formed within the commission to address legislative education and outreach, criteria development and evaluation processes, as well as branding and messaging for the program. The commission and its sub-committees have met several times throughout the fiscal year. They have studied other state programs to learn about their processes and reviewed numerous options for a dedicated funding source. Although a dedicated funding source has not been identified to date, the commission continues 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.

Summary of Laboratory Testing Functions	
Biology	
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 establishment and spread 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 pest 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.
Chemistry	
Dairy Residue	Analyzes milk and other dairy products for the presence of pesticides and other harmful chemicals.
Pesticide Residue	Assists pesticide law enforcement officials through the forensic analysis of samples resulting from an investigation of 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.

New Leadership

Since the formation of the Department of Agriculture in 1991, the State Agricultural Laboratory had been under the direction of Dwight Harder. He joined Arizona state government in 1985 as the manager of the chemistry section of the laboratory (then under the Office of State Chemist). Dwight retired in late July, 2004, after serving Arizona for 19 years and overseeing the laboratory through major projects including: relocating all lab activities to the Holly St location in 1991; producing the highly regarded Program Authorization Review of the Laboratory in 1995; directing the laboratory activities during the Karnal Bunt emergency project in 1996; implementing the Y2K related replacement of the laboratory data systems in a comprehensive Laboratory Information Management System in 2000; and guiding the laboratory through the difficult cost restructuring needs in 2002-2004. He was succeeded as Laboratory Director by Doug Marsh, a leader with 18 years of state service for the department and its predecessors.

Administrative Rules

The five year review of the Laboratory's Rules was completed this year. The rules cover activities at the State Agricultural Laboratory as well as the certification of outside laboratories for agricultural testing. The new rules became effective on November 13, 2004.

DNA Testing Capabilities

During the fiscal year, the laboratory made large strides in its efforts to include DNA analysis in its arsenal of testing capabilities. The laboratory remodeled an existing lab area into a comprehensive biochemistry laboratory, equipped to perform state of the art DNA testing utilizing PCR technology. In addition to the physical remodeling of the lab space, new equipment was purchased and SAL scientists were sent to expert laboratories for training on plant disease and genetically modified seed identification.

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.

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. Reporters from Channel 3, Channel 5 and the Arizona Republic were present to observe and record the testing. Staff was subsequently interviewed concerning the testing performed at the State Agricultural Laboratory. Approximately one third of liquid chlorine pool products tested failed to meet the label guarantees due to degradation while in the retail marketplace.

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; and a PTP for meat analyses and brucellosis testing conducted by the USDA.

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 FY2005, 1,629 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 FY2005 the biology section of the lab provided 17,680 identifications on specimen submissions. This included 57 botany identifications; 14,326 entomology identifications; 1,538 nematode identifications; and 1,759 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 train 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 are 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 FY2005, the laboratory performed 8,364 microbiological and 112 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 356 tests for food-borne pathogens were performed in FY2005.

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 14,178

blood and milk samples from domestic and exotic animals for the Brucellosis Eradication Program in FY2005. 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 99,437 cattle blood samples were collected and shipped to the Lubbock laboratory for testing in FY2005.

Chemistry - Our Customers

During FY2005, 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
- Gila River Indian Community
- 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

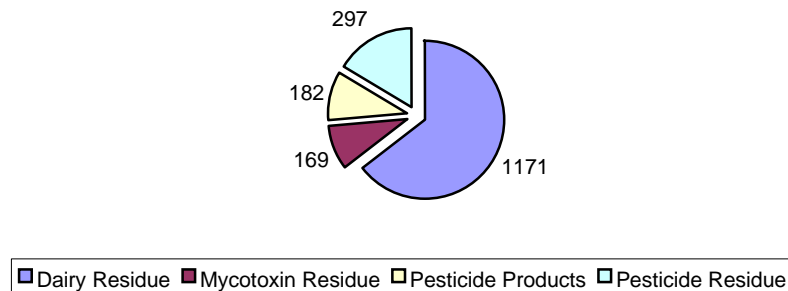
The laboratory also performs analyses for the presence of natural toxin residues in human food, animal feeds and pet food products. This includes chemicals such as aflatoxin (potent cancer-causing agent in humans and animals), fumonisin (causes death and illness in horses and hogs), and vomitoxin (causes 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 30+ 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 FY2005, 1,375 analyses were performed on 656 feed and fertilizer products 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 147 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 responsible for protecting public health, agricultural workers, consumers and the environment. The department's centralized licensing within the division provides uniform customer service and appropriate cash handling. The Office of Special Investigation within the division ensures effective investigation of agricultural crimes relating to department statutory authorities. The division's Pesticide Compliance and Worker Safety Program protect 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. The Nonfood Product Quality Assurance Program reviews, labels and inspects, as well as taking samples of feed, fertilizer, pesticide and seed in the marketplace for analysis at the State Agricultural Laboratory to ensure product quality.

Staff Allocations

The Environmental Services Division had 34.5 full-time employee positions as of June 30, 2005. 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. One and one-half of the 34.5 positions are assigned to the State Agricultural Laboratory for analysis of the nonfood products sampled.

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 access our home page at www.azda.gov.

The Department of Agriculture is committed to providing excellent customer service on a timely basis. The centralized licensing section exemplifies this commitment to customer service. This proves true many times over through the return of customer service survey cards stating what a pleasant experience it was and how great the employees were in treating them so professionally.

Arizona Administrative Code changes moved all pesticide credentials to a December 31 renewal date. This change is expected to prove to be much more convenient to the affected pesticide applicators since the renewal dates were March 31 and September 30 which were in the middle of two busy seasons and caused confusion because of the varying renewal dates for different credentials. Customers have already voiced their

satisfaction with this change and they look forward to its full implementation which will occur in December of 2005.

License Fees Protect Industry and Consumers

The Non-Food Quality protection program is funded with no general funds. The funding comes from legislative appropriation of monies collected from: an annual \$10 commercial feed license fee and the \$0.20 per ton commercial feed inspection fee; an annual \$125 fertilizer license fee, a \$50 per brand and grade specialty fertilizer registration fee and a \$0.25 per ton fertilizer inspection fee; a \$100 per product pesticide registration fee; and, an annual seed license fee of \$25 for dealers and \$40 for labelers. Approximately one-half of the seed fees collected are used to fund half a position at the State Agricultural Laboratory to perform seed quality analysis. This year the legislature appropriated \$200,000 from the feed fund to develop a statewide system of notification relating to animal disease.

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 2005, \$950,200 in fees was collected for the WQARF: \$39,700 in fertilizer fees and \$910,500 in pesticide registration fees.

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

The continuing education program strives to keep credential holders aware of the current laws, rules and the latest integrated pest management techniques which help them to protect the environment by utilizing pesticides properly. During FY 2005 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 952. The number of training sessions which were approved for the year was 392. The University of Arizona Cooperative Extension Service sponsored 34 of these training sessions and 331 were sponsored by companies in the private sector.

Testing Center

Tests administered by the Environmental Services Division include milk haulers, cottonseed samplers and a myriad for pesticide-use. Testing protocol require applicants to show identification before taking an exam and the identification is held during testing to prevent individuals walking out 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. Tests are administered in Phoenix between 8:00 a.m. - 4:00 p.m., Monday through Friday at 1688 West Adams Street, to schedule an appointment call (602) 542-3578. This procedure is followed in the Yuma/Somerton and Tucson offices also. For people outside the Phoenix-metro area, contact should be made with the local inspector to arrange testing.

Exams Administered in FY 2005

TYPE OF EXAM	Total Exams	Number Passed	Number Failed	Passing Rate
Aerial Applicator (AAP)	10	10	0	100%
Commercial Applicator (PUC)	236	206	30	87%
Custom Applicator (CAA)	20	20	0	100%
Pest Control Advisor (PCA)	194	110	84	57%
Private Applicator (PUP)	106	97	9	92%
Fumigant Endorsement	14	7	7	50%
Milk Sampler & Hauler	84	76	8	92%
Cottonseed Sampler	1	0	1	0%
TOTALS	665	526	139	79%

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 of the National Pesticide Training and Certification Program 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 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.

<i>Licenses and Registrations issued in 2005</i>	
Pesticide – Total Pesticides Registered	11,602
Agriculture	1,983
Non-Agriculture	9,619
Fertilizer – Licensed Fertilizer Companies	229
Specialty Fertilizers	1,298
Feed – Licensed Feed Companies	543
Seed Dealers	1010
Seed Labelers	162
Dairy/Milk Industry Licenses	336
Aquaculture Licenses	73
Egg & Egg Products	93
Meat Industry Licenses	229
Livestock Brand Certificates	1,922
Equine Certificates Issued	1,526
Certificates of Free Sale	107
Number of Products on Free Sale Certs	5,578
Native Plant Permits Issued	1,572
Number of Native Plants Permitted	102,078

The Pesticide Credentials program has transitioned through the staggered renewal cycles to a uniform annual date of December 31. Many growers chose the 2 year license option so the numbers reported for this annual report do not represent the total of over 1,100 growers licensed in Arizona. This coming December will be our first annual renewal season with the total volume. The following chart represents the total number of pesticide use related licenses issued during the 2005 fiscal year. We expect these numbers to increase for the first annual renewal period effective this December 31. Other licenses set to expire on December 31 are aquaculture, meat, dairy and pesticides. This brings an additional 12,000 licenses up for renewal during the same time frame. Additionally, feed and fertilizer tonnage reports will also be due for the fourth quarter of 2005. As the result of additional planning and cross-training, we are confident that we will be able to provide the timely service that our customers have grown accustomed to over the last 3-4 years.

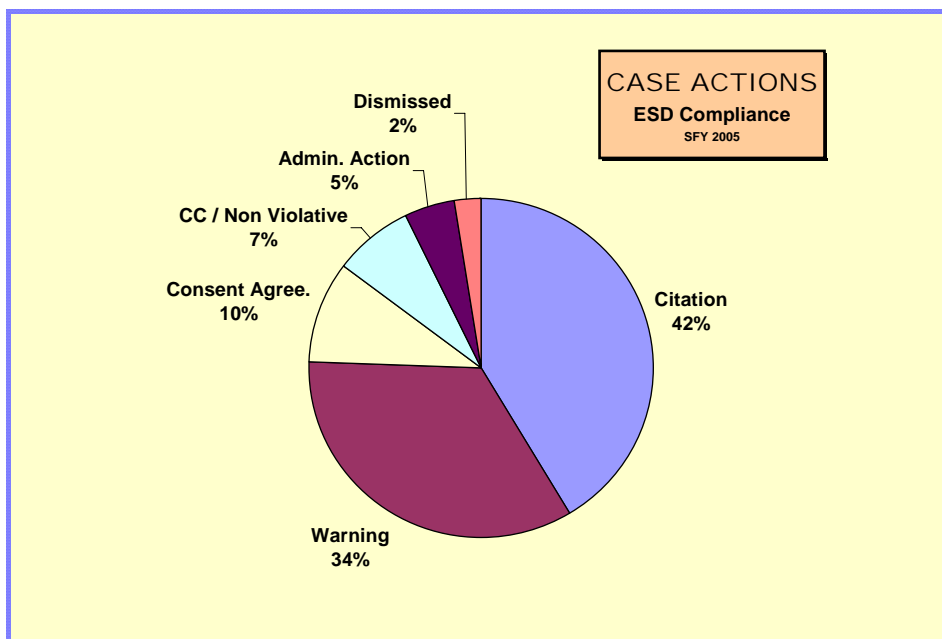
<i>Pesticide Use Related Credential Summary</i>	
Grower Permits (PGP)	443
Pesticide Sellers (PSP)	86
Ag Aircraft Pilots (AAP)	57
Custom Applicators (CAA)	60
Equipment Tags	208
Pest Control Advisors (PCA)	256
Private Applicators (PUP)	505
Commercial Applicators (PUC)	329

<i>Fertilizer Tonnage FY 2005</i>			
Dry	Liquid	Misc.	Total
162,065	249,864	160,915	572,844

Feed Tonnage FY 2005	Total
	1,225,565

Pesticide Compliance and Worker Safety

Five division Industrial Hygienists and four Pesticide Control Inspectors conduct a full range of health and safety inspections at commercial and private businesses that apply pesticides in agricultural settings and at pesticide dealer or 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.



* includes both Pesticide Compliance and Worker Safety cases and Non-Food Quality Assurance cases.

Misuse is Taken Seriously

The department aggressively monitors 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 parties agree, a complaint can be issued. Negligent parties may negotiate a settlement with the department, request a hearing with the Office of Administrative Hearings or pay a penalty established by law for their actions.

2005 Pesticide Compliance

Cases	1	2	3	4	5	6	Total
Citation Issued	XX	X	X	X	X	X	7
Consent Agreement Issued	X			X			2
Penalty Assessed	\$336.90	\$334.80	\$362.00	\$168.00	\$168.00	\$325.00	\$1,694.70
Penalty Paid	\$336.90	\$334.80	\$362.00	\$168.00	\$168.00	\$325.00	\$1,694.70
Code	Incident Type / Identification						
DR	X	X	X	X	X	X	6
LV			X	X			2
RK	X						1

Report Pesticide Misuse

To report pesticide misuse allegations, 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 located in Phoenix, Tucson and Yuma/Somerton.

Pesticide Use Cases Opened

Failure to use PPE	2	Fish Kill	1
RUP Sales to uncertified person(s)	1	Drift/Overspray - Health Effects	3
Odor Complaint	1	Feed Cross Contamination	1
RUP misuse to kill birds	1	Early Entry into Fields under REI	2
Dog Poisoning	2	Invalid Regulated Grower Permit	1
Fertilizer Application ¹	2	Health Effects to workers	1
Crop Damage	3	Pesticide Storage	1

Private RUP Recordkeeping Violations	2	Pesticide Concerns Seller RUP Recordkeeping Violations	1
Pesticide Misuse RUP use without certification	2	Drift	1
Property Damage	1	Drift onto School	1
		TOTAL CASES	35

¹ individuals believed they had been drifted on by pesticides, whereas upon investigation it was found fertilizers had been applied.

Restricted Use Pesticides

Inspections are conducted at pesticide distributors to ensure that pesticides are properly registered with the state and the Environmental Protection Agency. 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.



Inspections are designed to identify pesticides that have been manufactured in other countries and illegally imported into Arizona. 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.

Agricultural Worker Safety



The agricultural safety program is 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). WPS regulations are aimed at reducing the risk of pesticide poisonings and injuries among agricultural

workers and pesticide handlers.

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.

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. The program is revised continuously 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, which usually follow the courses with pesticide handler training. A test is administered at the end of the training day. The test contains 50 questions that test participants' basic knowledge of the materials presented during the course. Participant reviews continue to give the program high marks.

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. Fourteen (14) Train-the-Trainer courses were taught during this fiscal year, approximately half in English and half in Spanish. 197 participants satisfactorily passed the certification test to become certified trainers for worker protection standards. This year WPS trainers were issued cards to train approximately 22,149 agricultural workers and 5,888 pesticide handlers.

The Environmental Services Division and Agricultural Consultation and Training in cooperation with EPA Region 9, and members of California UC Davis, the Quechan Tribe Pesticide Program, and the Inter-Tribal Council of AZ held their first ever Joint Arizona, California and Tribal Train-the Trainer Workshop November 30 through December 3, 2004.

The course was designed to train pesticide safety educators (growers, outreach workers, labor contractors, commercial/custom applicators, 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.

This one and one-half day course was presented in English and Spanish. 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.

Registration was free. Over 40 people attended the Spanish course, while approximately 22 attended the English course. Three individuals failed to pass the required Arizona exam to become qualified trainers in this state; however, they are qualified to train in California without any expiration.

Continuing Education Credits were available for pesticide applicators by the California Department of Pesticide Regulation and the Arizona Department of Agriculture. 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.

Worker Protection Standard



Each year thousands of farm workers enter Arizona to work on the numerous agricultural establishments within the state. Department inspectors cover the Worker Protection Standard (WPS) through inspections, participation in the training courses and in developing training materials. Industrial Hygienists help agricultural establishments who need assistance to be in

compliance with the WPS laws. All of the hygienists are required to be bilingual and can communicate with the farm worker community ensuring they are provided the protections required.

The department continues to play an active role in various organizations to identify and coordinate mutual agency requirements and to assist farm workers in becoming aware of the laws created for their protection. Periodic meetings are held to allow outreach efforts to be extended to the worker community and employers.

Worker Safety Cases Opened

Untrained Workers	5
Failure to Provide PPE	1
Multiple WPS Violations	5
Early Entry / Field under REI	1
No Pesticide Application List	1
Health Effects to workers	1
Unqualified WPS Trainer	1

Worker Protection & Safety [WPS] Case Actions / Incidents

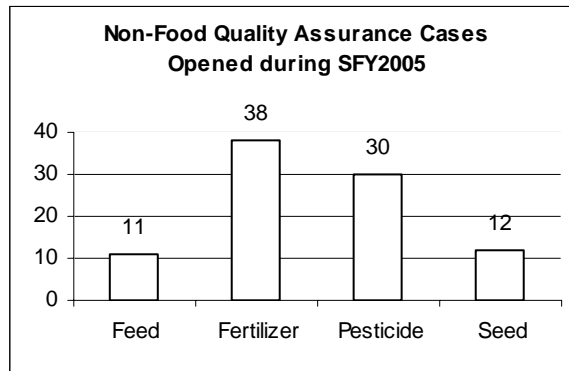
CASES	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
Citation Issued	X	X	X	X	X	X	X		X	XX			10
Consent Agreement Issued	X	X											2
Warning Issued	X		XX	X		X	X	XX	XXX	X	XX		14
Case Closed / Non Violative												X	1
Penalty Assessed	\$700.00	\$2,000.00	\$590.00	\$507.50	\$1,896.80	\$480.00	\$162.50		\$650.00	\$965.00			\$7,951.80
Penalty Paid	\$700.00	\$2,000.00			\$1,896.80		\$162.50		\$650.00	\$965.00			\$6,374.30

Code	Incident Type / Identification												
FV	Failure to Verify Training		X	X								2	
FT	Failure to Train				X	X	X	X	X		X	X	7
RE	Violation of REI (Restricted Entry Interval)						X				X		2
PE	PPE (Personal Protective Equipment) / Safety Equipment Not Provided	X	X	X		XXX		X			X	X	9
FP	Failure to Wear Required PPE (Personal Protective Equipment) / Safety Equipment Decontamination	X											1
DE	Site Not Provided		X			X			X				3
AL	Application List Not Provided / Posted / Incomplete			X	X			X	X			X	5
ME	Medical Emergency Information Not Posted / Missing	X		X			X						3
SA	Safety Poster Not Posted / Illegible / Inaccessible				X				X		X		3
LV	Label Violation - Storage / Disposal / Transport	X		X		XX		X			XX		7
CP	General Misuse Central Posting - Missing / Incomplete / Inaccessible			X		XX		X		XXX		X	8
OW	Oral / Written Warnings					X				XX	X		4

Non-Food Quality Assurance

Marketplace Inspections and Sampling

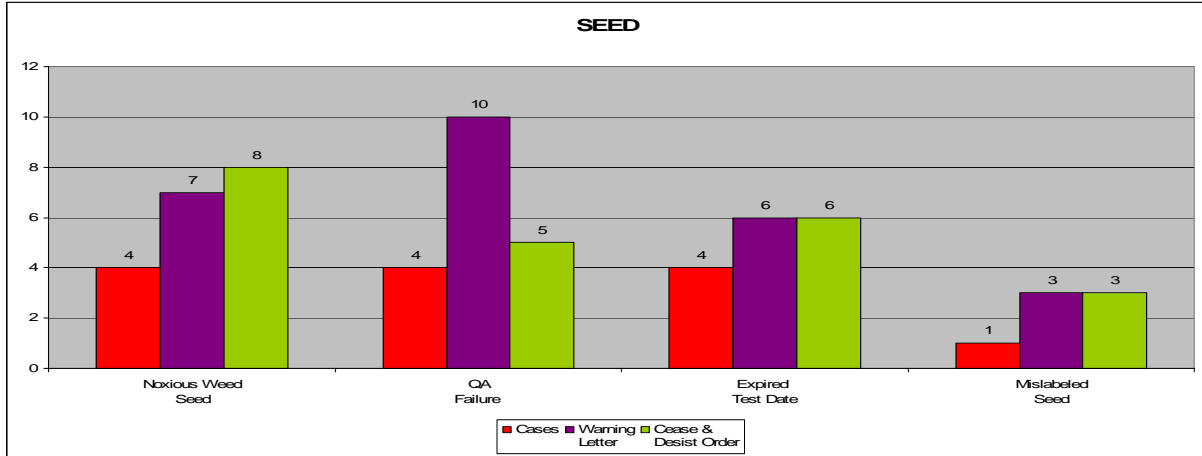
Division inspectors inspect and sample animal feed products, fertilizer, pesticide and seed in the marketplace to protect consumers by ensuring that products meet label guarantees. “Cease and Desist” orders are issued on unregistered products, unlicensed companies and products which fail laboratory analysis 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 issues.



Sample Analysis for Deficiencies for 2005

Sample Type	Collected	Analyses Reported	Samples Reported	Sample Violation Rate	Analysis Violation Rate	Cancelled
Feed	202	358	203	9.9%	7.3%	1
Fertilizer	437	949	429	14.7%	8.3%	9
Mycotoxin	33	96	33	36.4%	25.0%	0
Pesticide Formulation	174	174	174	8.1%	8.1%	3
Pesticide Residue	93	261	92	52.2%	48.3%	10
Seed	341	478	353	5.4%		0

This table highlights the number of samples analyzed during the FY which do not correlate with number collected.



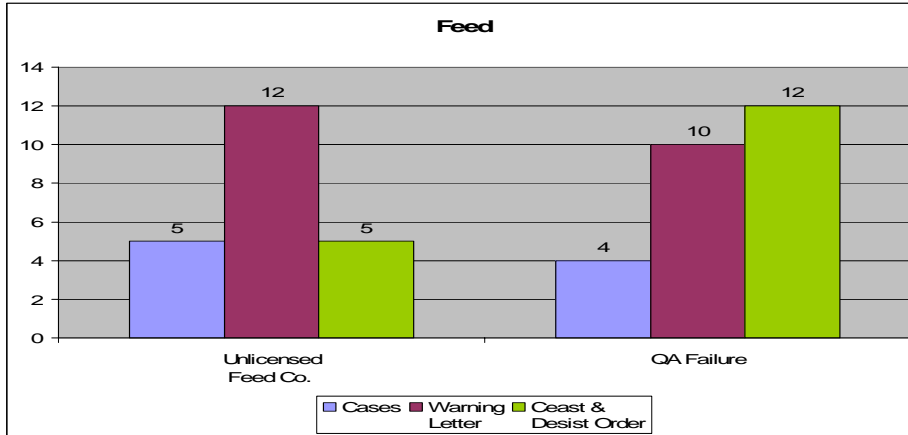
In addition to the information in the above chart shows an additional warning letter and a "Cease and Desist" order were issued to an unlicensed seed labeler.

The number of cases will increase for all the non-food quality program commodities next year as a new case tracking system is being implemented. Any time further investigation is required a case will be opened.

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. Numerous avenues of contamination of the animal feed supply may directly relate to food for human consumption. During FY 2005, the division conducted 19 inspections of feed manufacturers in Arizona for compliance with the prohibited materials feed ban and feed labeling requirements.

During one month, inspectors collected 20 feed samples containing both prohibited ruminant material and non-prohibited material. These samples were submitted to our State Agricultural Laboratory as blind samples and were not identified as to the ingredient content. Samples were analyzed using two different methods to determine whether or not the laboratory methodology could identify which samples contained prohibited ruminant material and which did not or were suspect. Division inspectors tracked which samples contained prohibited ruminant material and which did not and submitted the information to management. Analysis determined that the laboratory could positively identify feeds suspect of containing prohibited ruminant material.

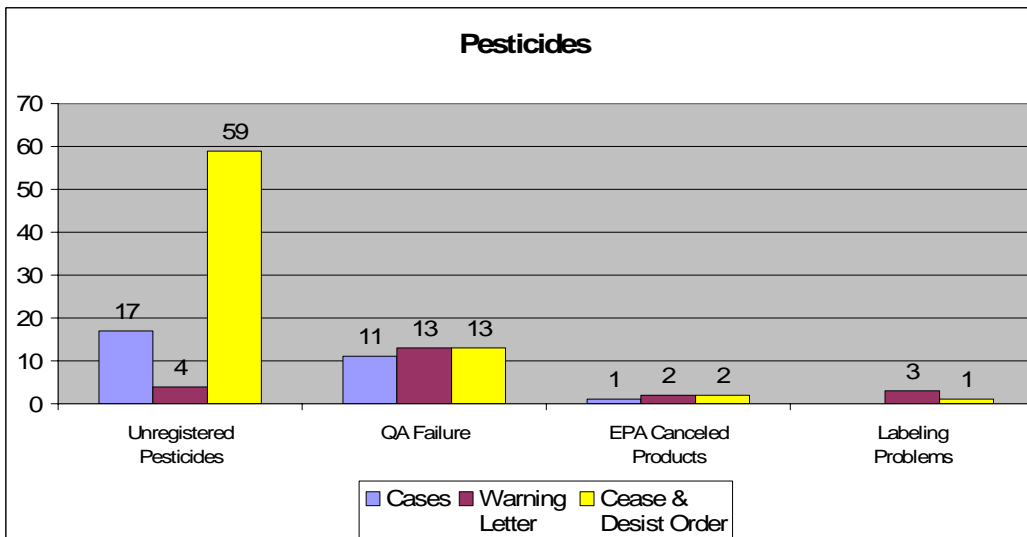


In addition 2 cases were opened to deal with adulterated feed complaints.

Pesticides and Liquid Pool Chlorine Sampling

Six ESD inspectors participated in liquid pool chlorine (sodium hypochlorite) sampling after the ADA’s press release about the product used as a disinfectant in pools. At least six requests from media including radio and newspaper were received. Local news stations accompanied inspector Paul Nicodem during routine sampling at several marketplaces. A total of 24 liquid chlorine samples were collected. Eight (8) of the products failed to meet label guarantees (33% failure rate).

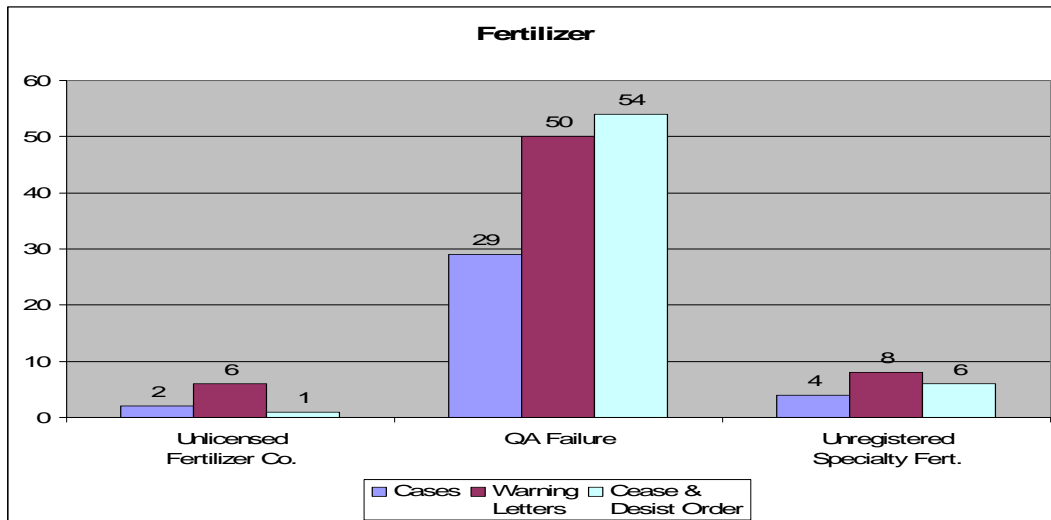
The division routinely samples liquid pool chlorine products each summer to ensure that Arizona consumers get efficacious product which will kill bacteria and algae in their pools. Because the product quickly degrades in heat in sunlight, it is important that consumers are educated on what to look for and stores selling the product know how to store it properly.



Label violations include false and misleading labeling and products claiming to be exempt from EPA registration when in fact they are not exempt. EPA canceled products relate to actions taken by the EPA phasing out pesticides containing chlorpyrifos and diazinon.

Fertilizer Penalties

During FY 2005, the division issued 46 penalties based on tonnage of fertilizers distributed, which were found deficient during laboratory analysis. \$30,827 in penalties was assessed to fertilizer manufacturers, both in state and out-of-state, found distributing products in Arizona which did not meet label guarantees.



The department also received three complaints from individuals believing they had been drifted on by pesticides. However, upon investigation it was found fertilizers had been applied. This allayed the complainants' fears.

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. Over 2,500 calls were received in OSI: 1,600 dealt with native plant issues, approximately 800 were livestock related with the remainder relating to some other issue.

A Memorandum of Understanding between the department and the University of Arizona was renewed to study threatened and endangered plants species under Section 6 of the Endangered Species Act. Federal grants for \$80,500 were received to conduct studies on three different plant species in Arizona.

Officer Certification & Training

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. Arizona Peace Officers Standards and Training audited departmental records to ensure all certified officers complied with state standards. Compliance results were commending.

Investigators attended the seventeenth annual Conservation Law Enforcement Association Conference held in Prescott, Arizona. This year's conference focused on Work Place Violence and Officer Survival, which covered the physical dangers and businesses at risk of decreased productivity due to the physical and emotional injuries suffered by battered workers. These effects indicate a need for corporate education about workplace violence, its prevalence, and its consequences and for strategies to be created to combat its pernicious effects.

The second day was centered on The Winning Mind presented by the infamous J.D. "Buck" Savage. Buck Savage, portrayed by Dave Smith, is an internationally known motivational speaker, law enforcement trainer and entertaining writer with an extraordinary commitment to the police profession. Dave began his own police career after graduation from the University of Arizona when he joined the Tucson Police Department. In 1978, he took a position with the Arizona Department of Public Safety. There, he developed the popular "Buck Savage" video training series, and was the lead instructor for the Calibre Press "Street Survival". The course was designed to give each participant the necessary insight into reaching optimal levels of human performance in life and death confrontations. Certified personnel received 16 hours of continuing training credits for attending the two day conference.

OSI investigators attended the annual International Livestock Identification Association Conference. This year's event was held in Rapid City, South Dakota. 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 insofar as such ends are consistent with the needs of the member US states, Canada provinces and Native American Tribal Nations.

Enforcement Activity

During the fiscal year, OSI investigated thirty-eight cases of alleged civil and criminal misconduct. Ten cases were filed with either county attorney offices or the Attorney General's Office, four of which are either awaiting trial, or pending review. Five cases were closed by successful adjudication, and one case was closed with the issuance of a warning citation. Ten cases were reviewed and closed due to insufficient evidence. Eighteen 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 nine cases involving the theft or destruction of protected native plant, of which six cases are still under investigation. Two cases are pending review by the Attorney General's Office. One case was closed with the issuance of a warning citation.

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.

There were nine cases involving the killing of five horses and twelve head of cattle. Four cases are still under investigation, one case is pending prosecution through a county attorney office and four were closed due to insufficient evidence.

There were ten cases involving the theft of nine horses and twenty head of cattle. Six cases are still under investigation, three cases were closed due to insufficient evidence, and one case is pending prosecution through a county attorney office.

There were four cases of livestock cruelty involving eleven horses. Three cases were closed by successful adjudication and one case is still under investigation. Four cases were received involving ownership disputes of horses. Two were settled through civil hearings and two were reviewed and closed due to insufficient evidence.

Food Safety Investigations

OSI investigation responsibilities include assistance in illegal animal slaughtering operations for food safety reasons. Federal and state laws require specific sanitary standards through enforcing these laws consumers are assured that food products meet prescribed standards and that Arizona consumers have a safe supply of wholesome meat and meat products.

There is one ongoing investigation involving food safety violations, in which individuals are selling potentially harmful non-inspected meat products to the public.

Cultural Resource Investigations

Material evidence of past cultural heritage is found in many areas in Arizona. This includes ruins, burial sites and pictograph sites, none of which can be renewed, and when destroyed, are gone forever. The department continues to work closely with other agencies to reduce the threat of losing one of Arizona's richest cultural legacies. One alleged violation of theft of artifacts was investigated and closed due to lack of evidence.

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.

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 is expected to grow by one million people over the next ten years. 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. Threatens 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 aesthetic value of forested areas.
- Citrus Canker—results in rapid death of citrus trees. Threatens commercial and residential citrus production.
- 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 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 Sanders, San Simon, Yuma. The port of entry on Interstate 10 at Ehrenberg, Arizona operated between 8 and 16 hours per day due to staffing shortages. The Douglas and Parker, Arizona ports of entry ceased operation due to budget reductions. 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 2005, of the total trucks inspected, 14,696 were rejected because of pest interceptions or noncompliance of quarantine rules and regulations. This is a reduction over FY04 of 23% primarily as a result of the department's inability to fully staff the Douglas, Ehrenberg and Parker ports of entry and reduced operating schedules by the Arizona Department of Transportation – Motor Vehicle Division in FY05. Interceptions of pests totaled 14,041; a reduction of 21% over FY04. Rejection rates were 11%, 11%, 13 % and 8.7% in FY 2005, 2004, 2003 and 2002, respectively.

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 2005, inspection staff intercepted 13,487 pests within the state's interior through various inspections; 5,599 federal phytosanitary certificates were issued for the export of vegetable, agricultural, and ornamental seed, produce, nursery stock, wood products, and various other agricultural commodities. Terminal inspections (review of packages for quarantine items at large distribution facilities) have increased multiple-fold with the explosion of e-commerce. Pre-clearance of plants for pests, most notably citrus stock, prior to 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, 7,378 traps were placed, serviced and monitored for approximately 15 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, supported in part through a United States Department of Homeland Security Animal and Plant Health Inspection Service (APHIS) grant, involves monitoring our nearly 4,500 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.

During this FY, a Mediterranean fruit fly infestation was detected in Tijuana, Mexico. Because of its close proximity to key citrus and cucurbit producing areas of Arizona and the ports of entry between Mexico and Arizona which move fruit fly host material into Arizona, the department moved quickly to aggressively monitor any movement of the

Medfly into Arizona. Within weeks, and supported by emergency detection funds from the State of Arizona and the USDA, inspectors had placed 1200 additional detection traps within Yuma county and then moved into the Nogales / Tucson area to monitor any potential introduction through the international port of entry located there.

Over a 10 month period, these key areas were vigilantly monitored. The emergency detection strategy employed was validated many times throughout the period as sterile release flies, used in the eradication process in Tijuana, found their way into the traps in Arizona. However, no wild Medflies were detected. The eradication of the Tijuana infestation has now been completed. The department was able, with the emergency funds supplied, to protect Arizona producers and homeowners from this devastating pest.

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, and the Pecan Weevil. 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.

Commitment to Service

Arizona Department of Agriculture continues its efforts to improve timeliness and quality of customer service delivery and even though faced with continued 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 - 1,080 certificates were issued for individual nursery stock shipments destined to other states, including:

California	15%
Florida	46%
Nevada	14%

- Annual certification – 106 shipping nurseries were issued one or more of the following certifications:

General nursery stock inspection certification.....	70%
Ozonium root rot certification	40%
Brown garden snail certification.....	36%
Rose Mosaic Virus certification	6%

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 493 applications for phytosanitary field inspection of seed crops.

Seed Crops Inspected

Cotton.....	61%
Vegetable	26%
Melons.....	5%
Wheat	6%
Grass and misc. grain.....	2%

- The division issued 5,599 federal phytosanitary certificates in FY 05 to enable agricultural commodities to be exported to foreign markets.

Type of certificates issued

Certificates issued for domestic commodities	70%
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Certificates issued for foreign commodities	29.5%
Certificates issued for processed products	0.5%

Top 5 commodities exported from Arizona

Vegetable seed	35%
Vegetables.....	23%
Lettuce.....	10%
Wood products	8%
Citrus fruit.....	8%

Top 5 countries receiving commodities exported from Arizona

Mexico	55%
Japan	25%
Canada.....	2%
Korea.....	2%
Australia.....	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.

Red Imported Fire Ant (RIFA)

The red imported fire ant is no longer a pest that threatens from distant southeastern states. In recent years, populations were discovered as near-by as New Mexico and California. This aggressive pest, with the ability to wound with both bite and sting, inflicts painful injuries and in some cases death, if disturbed.

Erradication of RIFA is a department top priority, due to its significant ability to disrupt agricultural productivity, endanger public health, negatively impact fragile ecosystems and reduce the quality of life enjoyed in Arizona.

Nationally Renowned

The USDA continues to help fund other Arizona Department of Agriculture detection programs, including those against Japanese Beetle, Khapra Beetle, Glassy-winged Sharpshooter, a citrus disease survey, a cotton pest survey, and others. Each of these steps are taken toward the successful accomplishment of key Pest Exclusion and Management Program objectives. These continuing department efforts maintain Arizona’s federal designation as free-from these pests, and enable our state to avoid economically costly federal quarantines.

California-Arizona Partnership

Recognizing the pest exclusion effectiveness of Arizona's ports system, the California Department of Food and Agriculture (CDFA) entered into a three-year 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 FY2005 solidified efforts to establish a regional approach to pest exclusion.

Invasive 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 2005, 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.

Giant Salvinia Survey

In June 2002, Arizona Department of Agriculture began an aquatic weed survey. Fieldwork continued through early June 2003. A total of 159 sites were inspected for the presence of Pinnate Waterfern, Hydrilla and Giant Salvinia. Survey areas included

natural and man-made water habitats plus several retail aquatic plant businesses, parks, aquatic recreational areas and private aquatic gardens. This work was funded by a grant from United States Department of Agriculture Cooperative Agricultural Pest Survey (CAPS) Program.

Giant Salvinia Survey Results



Three federal noxious weed species were detected in the survey including Pinnate Waterfern (*Azolla pinnata* R. Brown), Hydrilla (*Hydrilla verticillata* (L.f.) Royle) and Giant Salvinia (*Salvinia molesta* Mitch).

Numerous Giant Salvinia colonies were observed in Colorado River slackwater areas north and west of Yuma, Arizona in southwest Yuma County. Giant Salvinia was documented in 22 sites; 21 of those locations were in Colorado

River habitats protected from main current turbulence.

Survey Assessment

The *Azolla* records may be the first reports of this species in Arizona. Even though no *Azolla* plants were found in natural or man-made water ways, such widespread distribution in retail aquatic plant dispersing situations indicate a high probability of this weed escaping into natural and constructed water bodies. Thus, additional survey efforts are needed with inspections concentrated in urban and agricultural areas. Historical records maintained by Arizona Department of Agriculture's Noxious Weed Program indicate sporadic Hydrilla infestations have been recorded and abated since 1984. Results from this 2002-2003 CAPS survey confirm that Hydrilla continues to be a serious threat to Arizona waters. Several areas previously found infested with Hydrilla were again surveyed in 2005. The Hydrilla infestation continues to persist in these areas. Areas of the state not monitored during this survey need to be inspected with the goal of producing a complete understanding of where submerged aquatic noxious weed species may exist in Arizona.

Giant Salvinia was first observed in Arizona river habitats in late summer of 1999. Sources of that infestation were, and still are, irrigation drainage waters from the region around Blythe, California. The drain flows south and empties into the Colorado River approximately 21 miles southwest of Blythe.



Substantial *Salvinia* colonies continue to thrive in the southern 10 to 12 miles of this brush infested drain. No Giant *Salvinia* plants were documented upstream from the previously confirmed infestations on Cibola National Wildlife refuge. However, this survey confirms Giant *Salvinia* reproduces in and disperses from slackwater sites as far south as Morelos Dam, approximately 70 miles down river from the Wolter's Camp / Cibola Refuge area.

As temperatures increase during May and June, these protected colonies begin rapid vegetative growth to the point that new growth expands into river currents and moves downstream. Since Morelos Dam is the source of irrigation water for Mexico west of the Colorado River in the region south of the Mexico/California border, natural river flow transports many thousands of Giant *Salvinia* colonies into Mexico during *Salvinia*'s peak growing season (May-October.).

Based on widely distributed field populations and commercial sales of Giant *Salvinia*, it is possible other infestations may be established in Arizona's natural waters and man-made aquatic sites. As a result, more exploratory surveys are needed to define the extent of Giant *Salvinia* occurrence in densely populated urban areas and irrigated agricultural lands.

Biocontrol of Giant Salvinia

In 2003, a biocontrol project was initiated on the lower Colorado River in an effort to suppress populations of Giant *Salvinia*. The *Salvinia* weevil, *Cyrtobagos salviniae*, was released at four sights (two in AZ, and two in CA) along the river. Additional releases were made in 2004, and 2005. There are now 12 release sites on the lower Colorado River in the vicinity of Yuma. Biological control using the *Salvinia* weevil has been effective in reducing the biomass of *Salvinia* by reducing the enormous growth potential of the weed. After three years of weevil releases, it appears that this weevil has become established in the *Salvinia* population along the river. We should see this weevil begin to reduce the *Salvinia* population over the next several years.

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. Non-native morning glory species invade and persist in Arizona's agricultural crop fields and urban gardens. They grow so abundantly and are so competitive that their vines entangle, cover and smother the crops and ornamental plants. In fact, morning glory infestations become so dense that it becomes extremely difficult to harvest crops-an economic disaster for the farmer. Therefore, these non-native morning glory species are prohibited in Arizona.

A non-native aquatic plant native to the Amazon region of tropical South America, water hyacinths have spread to tropical and subtropical areas worldwide. Water hyacinth plants, another prohibited plant pest, form thick mats that are able to completely cover water surfaces. Water hyacinth populations degrade aquatic habitats by reducing open water and displacing native plants, create mosquito habitat, and obstruct waterways.