

State of Arizona Department of Agriculture



Annual Report Fiscal Year 2002-2003

JANET NAPOLITANO
Governor



DONALD BUTLER
Director

Arizona Department of Agriculture

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October 8, 2003

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

Dear Governor Napolitano:

Pursuant to Arizona Revised Statutes 3-107(A)(6), I am honored to submit to you the Arizona Department of Agriculture Annual Report for the fiscal year 2002-2003. The report details the many services provided by this most outstanding department. As reported, the professional activities of department staff, individuals committed to excellence, reflect the expertise and training each department employee brings to his or her service of the people of the State of Arizona.

I am proud to offer the following account of agriculture staff efforts in improving the quality of Arizona's agricultural industry. Awarding grant funds, opening new State and foreign markets to Arizona businesses, administering public advisory committees, training agriculture workers around the State in safety, research writing and representation of best management practices are some of the services offered by our staff.

The Department of Agriculture realizes its duty to incorporate developing technology and state-of-the-art protocols as it fulfills its mandate to regulate agribusiness and protect public health and safety. However, department services, which range from securing Arizona's ports-of-entry to monitoring safe food processing and packaging, were severely impacted by budget reductions this term. As we prepare for the food safety and industry challenges of the coming months, we trust the economic integrity of the department will remain intact.

Sincerely,

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

Donald Butler
Director

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The Arizona Department of Agriculture

Mission Statement

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

From farm to table, Arizona's agriculture and food systems are among the most efficient in the world. Maintaining that level of efficiency is necessary in order to maintain our way of life and our standard of living.

Beyond efficiency, public confidence in the safety of Arizona's agricultural and food-processing and food-packaging systems require critical services provided by the Department of Agriculture. The department's infrastructure of services operates to ensure Arizonans will have an abundant and safe food supply.

In calendar year 2003, the entire State of Arizona was declared by the federal government as a disaster area due to "severe," "extreme" and "exceptional" conditions of drought. In the summer of 2003, high winds and hail damaged thousands of Arizona acres of corn, cotton, chili peppers and pinto bean crops. Tree crops of peaches, apples and pistachios suffered as well. Nevertheless, the Arizona Department of Commerce reports that a number of agriculture advantages support the forward movement of Arizona's new economic cycle, namely Arizona agriculture's high exposure to foreign trade, its extensive farmland and its resources.

Nationally as well as locally, the leadership role the Department of Agriculture must take in security efforts crystallized upon assignment of the United States Department of Agriculture's Animal and Plant Health Inspection Service inspectors to the newly established Department of Homeland Security. In Arizona, department officials have been assigned to the Homeland Security Coordinating Council.

The challenges of this year were met by a department staff continually recognized around the country as innovators and leaders in their respective fields. With a highly contagious and very deadly poultry disease at its borders, department personnel successfully kept it from spreading through the State and destroying Arizona industries.

As drought conditions threatened the cattle production industry, the department's administration of the federal non-fat-dry milk feed supplement assistance program served as the model in other States. The department's port-of-entry and in-State operations inspectors were the ones who discovered Mexican fruit fly in Texas shipments and thus protected Arizona against neighbors' infestations of deadly plant pests and diseases. Within months of the Governor's required efficiency review report, the department, not even included in the list of critical response agencies, submitted a report commended personally by the Governor and designated as the model for the State of Arizona.

The Department of Agriculture continues to strengthen its commitment to serve the people and industry of Arizona.

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 make 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 the 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.

In 2002, Mr. Ben Gingg was elected Chairman of the Department of Agriculture Advisory Council. Mr. Gingg is joined on the council by Mr. Doug Mellon of Yuma, Arizona, Mr. Earl Petznik of Maricopa Arizona, Mr. Rick Ladra of Buckeye Arizona and Ms. Cindy Baker of Yuma, Arizona.

Food Safety And Quality Assurance

As a result of the September 11, 2001 tragedy, Arizona Department of Agriculture Food Safety and Quality Assurance Programs have a stronger focus on food safety. Dairy Products Control, Egg Control and Meat and Poultry Inspection Programs comprise the three food safety programs at the Arizona Department of Agriculture. These public health programs are charged with safe production, processing and distribution of food items produced in Arizona.

Dairy Products Control Program

Originally created as a separate Office of the State Dairy Commissioner, the Dairy Products Program is now a part of the Arizona Department of Agriculture. The dairy program's origin goes back some 85 years, just after Arizona became a state in 1912. One of the very earliest of the public health programs, the Dairy Commission was charged with monitoring and improving sanitation at both dairy farms and in milk processing plants - prior to the advent of pasteurized products or widespread refrigeration of dairy products. At the time, lacking both pasteurization and refrigeration, sanitation and control of zoonotic diseases (those transmissible to humans) were the most important parts of the program.

Changes over the years

In 1991, the State Dairy Commission became part of the Arizona Department of Agriculture. Not only did the Agriculture Department assume responsibility for housing the program, its State Agricultural Laboratory (SAL) became responsible for processing dairy samples taken to ensure public health and food quality. The Dairy Products Control Program, as it is now known, continues working relationships established with both the Food and Drug Administration (FDA) and United States Department of Agriculture (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.

In 1995, the Dairy Products Control office was merged administratively into one office with the Egg Products Control Program. The program consolidation continued when the Meat and Poultry Inspection Program was merged in as well, forming the core of the Food Safety / Quality Assurance Programs at the Arizona Department of Agriculture.

The Dairy Products Control Program works cooperatively with the Food and Drug Administration with respect to the National Conference of Interstate Milk Shippers (NCIMS). This program allows Arizona milk producers and firms to ship milk products across state lines in interstate commerce. Agency staff have also been working for several years with a pilot group at NCIMS to develop a new Hazard Analysis Critical Control Point based inspection system, similar to what has been developed for the meat and poultry industry. The three field inspectors interact with county health program staff in helping to resolve public complaints regarding vector or odor issues at dairy farms.

Safety and Quality

Milk and dairy products are routinely sampled and examined for a number of food safety indicators and quality factors. At the State Agriculture Laboratory, tests such as Coliform and Standard Plate Count are run to determine if milk was processed under sanitary conditions and is of good quality. Tests are conducted to verify that milk was properly pasteurized, that added vitamins are at standardized and safe levels and for other items to ensure public safety. Milk is also checked for standardization, to verify that statements, such as fat content shown on labels,

properly reflect the product contained. 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 related issues. When they are prescribed for use on dairy farms, prescription drug usage is checked to be certain that they are approved for dairy animal use. Water supplies are visually examined to ensure that potable and non-potable water supplies are not co-mingled and cross-contaminated.



*The USDA "Shield"
applied by Arizona Department of Agriculture staff to
officially graded eggs and dairy products*

Egg Products Control Program

Food safety and quality within the Department of Agriculture includes the Egg Products Control Program, which began in the Department of Agriculture when the department was formed in 1991. The program was previously called the State Egg Inspection Board and had its origin in 1941. Intending for it to eventually become a fully self-supporting program, the legislature at first loaned the program \$2,000. Those start-up funds were repaid when the program became operational. During the 1940's, the program 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 all industry levels. This includes packing plants, wholesalers and retail firms. The Arizona Department of Agriculture has adopted United States Department of Agriculture grade standards and weights, and applies these to eggs in commerce in Arizona. Three field staff monitor the program statewide and help to ensure that eggs offered for sale to consumers meet applicable standards, are held in sanitary facilities and are fit for human consumption.

Prior to the FDA requirement for shell eggs to be held at 45 degrees F, the Department of Agriculture changed its statute to a 45-degree ambient temperature requirement as a needed change to promote food safety. Program staff enforces this requirement from production until the product is sold at retail. The program also enforces temperature requirements for frozen pasteurized or liquid eggs, which are in commerce.

A Growing Industry

Although Arizona is a relatively small egg producing state, it has gone from approximately 250,000 layers five years ago to more than 2.5 million layers at present. This represents a ten-fold increase in numbers. Arizona currently has 3 commercial laying flocks, including a small facility north of the Grand Canyon. There are approximately 100 licensed wholesale egg dealers in the state, which serve thousands of retail outlets.

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

Department program inspectors have been USDA licensed to inspect and grade several commodities since the 1940's. These inspectors apply USDA grade standards to certify shell eggs, egg products and poultry products. A new state trust agreement in 1999 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 'value added' program (generally, products which are officially USDA graded command a premium in the market place). Additionally, department staff stationed at the egg plants provide contract compliance services which allow Arizona eggs access to foreign markets, including Mexico. The State of Hawaii currently receives large quantities of eggs produced in Arizona and graded by our staff.

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, reviewing Hazard Analysis Critical Control Point (HACCP) plans and making temperature checks. Department staff certify that shell eggs produced under private label consistently meet USDA standards.

Department resident graders assigned to the plants have also assisted plant management in developing and enforcing biosecurity programs to help prevent Exotic Newcastle Disease (END) from entering the facilities. END in the birdhouses would result in full depopulation of all birds at an egg packing plant.

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. Because children are considered high risk with respect to food borne illness, the strict performance of shipping companies is monitored.

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. Empowered by state statutes and administrative rules, the Federal Meat Inspection Act and the federal Poultry Products Inspection Act, the program directly protects Arizona consumers.

Staff inspectors receive training identical to USDA inspectors including training in 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 standards.

Beyond organoleptic inspections...

It used to be the norm to perform "organoleptic" inspections of meat and poultry. That is, utilizing the senses of taste, smell, vision and touch to determine disease or other conditions which render animals and animal products unfit, either partially or wholly, for human consumption. Over the past five years, there has been a move toward more "scientific" forms of inspection. Out of this, HACCP inspection procedures were devised and implemented. Originally developed for producing the safest food possible for America's astronauts, HACCP is

now the norm in much of the food industry. The Arizona Meat and Poultry Inspection Program has been operating for 4 years under HACCP principles.

More Than Just Inspections

In addition to HACCP inspection procedures in the plant, Arizona's consumers benefit from routine microbial analysis of meat and poultry samples submitted to the State Agricultural Laboratory. Environmental swabs taken in processing plants and samples of meat and poultry are routinely checked for Salmonella, Listeria and other organisms of public health concern. Residue testing for illegal antibiotics is also performed on samples submitted to the laboratory. This compliments antibiotic screening (called STOP tests), which are performed by inspectors at the plant level.

When samples are collected for microbiology testing, additional samples of products, especially further processed foods, are taken as well. Known as "economic" samples in the program, these include analysis of percentage of fat content, water content and other items, 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 an Arizona Department of Agriculture approved product.



*ADA's Official
"Mark of Inspection" found on
officially inspected meat and
poultry products.*

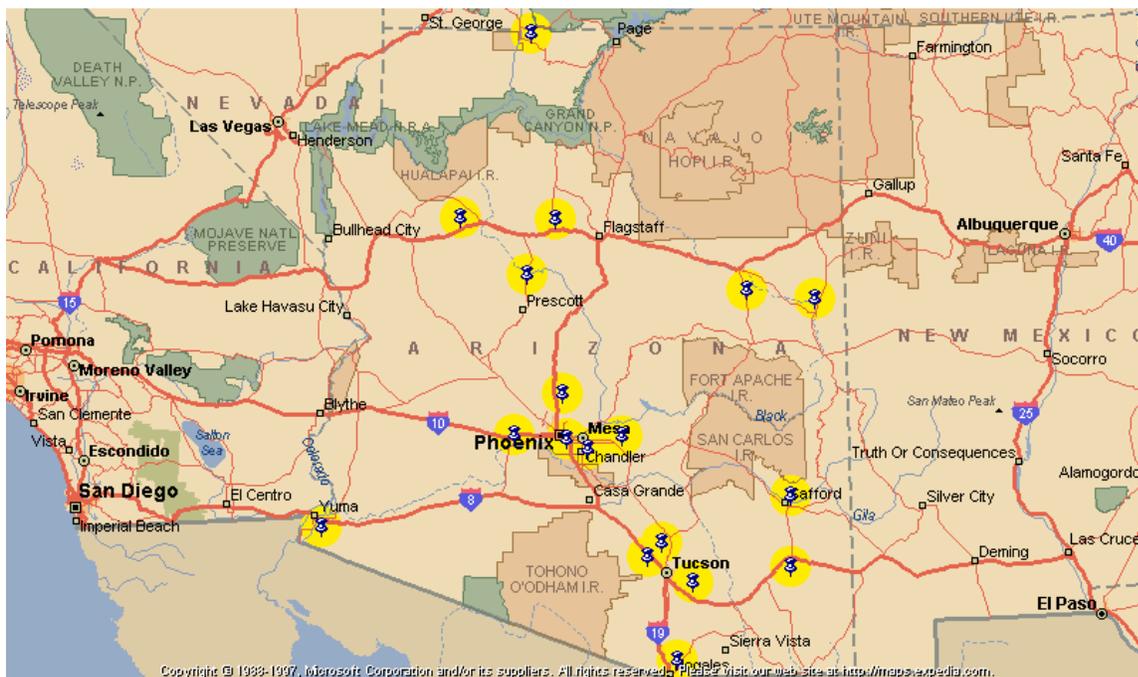
Consumer Inquiries: A priority at the Arizona Department of Agriculture

When consumer inquiries are made about any food product inspected by the department and a question or concern cannot be satisfactorily addressed over the telephone, a field inspector is dispatched to check on the product purchased. 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

Restructuring the Animal Health and Welfare Program

In early 2002, two programs within Animal Disease, Ownership and Welfare in the Animal Services Division were combined into the Animal Health and Welfare Program. The merger of the Livestock Inspection and Animal Disease Control Programs resulted from a need to meet an Agency budget shortfall as well as the need to further emphasize the importance of disease prevention and response rather than livestock ownership. The merger included a significant reduction in field personnel with remaining personnel focusing primarily on disease exclusion and rapid identification, public health and safety, and livestock welfare as opposed to the previous primary focus on livestock ownership



This map shows the locations of the 18 field personnel in the Animal Health and Welfare Program.

Priorities and Oversight

Of 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 oversees the new Animal Health and Welfare Program with the primary goals of safeguarding our livestock, poultry and commercial fish resources from devastating diseases, protecting the public from harmful interactions with livestock, and ensuring the humane treatment of livestock. In addition, the State Veterinarian serves as the agency's Chief Veterinary Meat Inspector and provides veterinary expertise to the Meat and Poultry Inspection Program, which is responsible for the oversight of animal slaughtering and processing.

Livestock, Poultry and Commercial Fish Disease Prevention and Control

In order to prevent importation of diseased animals from other states and nations and to ensure rapid identification and containment of infected animals, Animal Health and Welfare Program officers and inspectors are deployed throughout the State for the purposes of:

- Monitoring the health of animals moving in interstate commerce as well as those imported through international ports-of-entry;
- Monitoring the health of livestock at locations where they are concentrated such as auctions, feedlots and dairies;
- Enforcing laws governing the importation of animals;
- Application of quarantines under authority of the Department Director and the State Veterinarian;
- Enforcement of laws pertaining to feeding livestock in beef cattle feedlots and swine in meat garbage feeding operations. (Improperly treated meat garbage can spread swine diseases including diseases foreign to the United States);
- Investigation of reported inhumane treatment of livestock;
- Containment of straying livestock including those from Mexico.

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.

Training to Recognize Symptoms

Enhancement of inspector ability to recognize and respond to potentially devastating livestock diseases was accomplished through the State Veterinarian's training of the Animal Health and Welfare officers and inspectors to, first, identify livestock diseases, both foreign and endemic, and then to effectively contain them. After the field staff, accredited veterinarians and interested industry were trained to identify the symptoms of Foot and Mouth Disease and how to implement biosecurity measures that help prevent the introduction of any disease to a herd or flock. Lastly, Animal Health and Welfare Program field staff meet quarterly to receive updates on current and emerging animal health issues.

Homeland Security Grant Improves Response Capability

These grant funds were distributed to states on a one-time basis but, in response to identified continuing gaps in this nation's ability to safeguard livestock resources, Congress approved supplemental funding to the United States Department of Agriculture for distribution to states for improvement of the National Animal Health Emergency Management System. Arizona received almost \$150,000 of this "homeland security" funding. Part of that grant was used to hire a full-time veterinarian assigned to emergency planning activities. Grant funds were also used for computer laptop purchases to improve the communications capability of field staff and for the purchase of global positioning units enabling field staff to map livestock and poultry facilities for future disease response activities.

Disease Threats and a Plan for Response

Because the potential for an outbreak of foreign animal disease is high due to the increase in both international trade (85% in the last two years) and passenger traffic, and to the ever increasing threat of intentional introduction of disease agents that affect livestock (agri-bioterrorism), the State Veterinarian began work in 1999 on a Foreign Animal Disease Response Plan. The plan is now complete and is incorporated into the State of Arizona Emergency Response and Recovery Plan. It will guide the department as well as other supporting state, federal and private agencies in the event of a disease emergency. The emergency-planning veterinarian, hired under the Homeland Security grant, has already begun a complete review and update of the response plan.

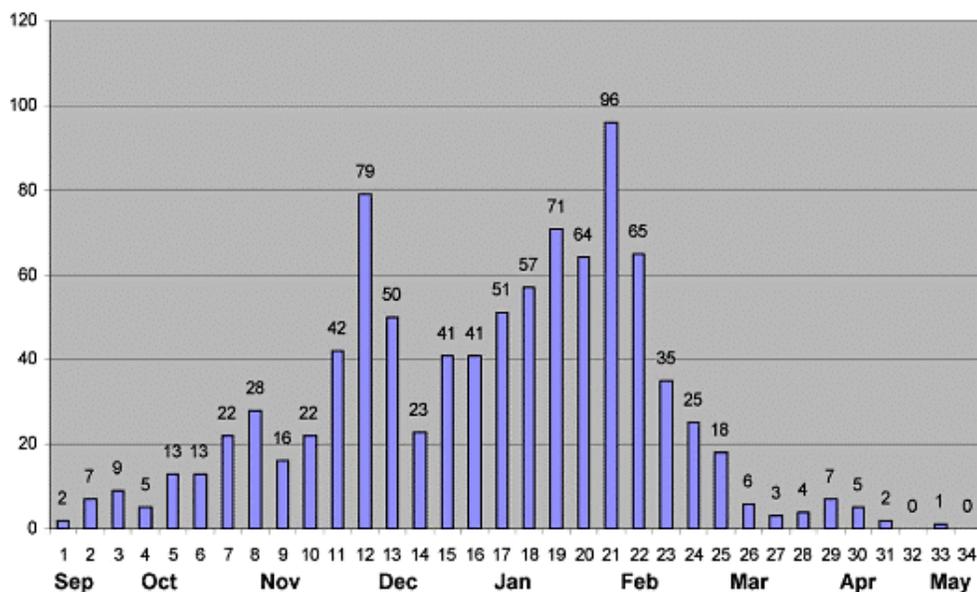
Threat in Point: Prepared to Respond

During 2000, the department was occupied with implementation of risk reduction strategies in response to the outbreak of Foot and Mouth Disease in the United Kingdom and the European Union. While the disease did not enter the United States, the department strategies put into place to strengthen Arizona's ability to safeguard against foreign animal diseases ultimately proved critical to the department's response this year to a very real threat at Arizona's back door. In the fall of 2002, southern California was infected with Exotic Newcastle Disease (END), a foreign animal disease deadly to poultry and other types of birds. The discovery of the disease had an immediate impact to that state's as well as the entire nation's poultry industry through lost export markets: several foreign nations immediately closed their borders to all United States poultry products, virtually crippling American poultry industries. In response, the State of California and the United States Department of Agriculture formed a joint state-federal task force to contain and eradicate the disease.

END Spreads

In spite of efforts by the eradication task force, the deadly disease progressed in commercial poultry operations and backyard flocks, enveloping a large area of southern California. Every southern California County on Arizona's western border was infected. In early January, the disease was discovered in counties in southern Nevada, along Arizona's northern border. Then, in April, END was confirmed in backyard fowl in southwestern Texas.

Number of New END Infected Premises by Week*
2002 - 2003



* Based on sample collection date

Risk Reduction Strategy Maintains Public Safety

With END affecting two of our neighbor states, the department implemented its strategy to reduce the likelihood of the disease's entrance into Arizona. Strategy steps included:

- Formation of a Department "Task Force" to meet at least weekly to address the END threat and the plethora of issues which arose daily
- Issuance of the director's Administrative Order augmenting disease regulations already in place
- Request of the Governor for her declaration of emergency
- Request of United States Department of Agriculture Secretary Ann Veneman for her declaration of extraordinary emergency
- Activation of inspection assistance from the Ports Program of the Plant Services Division
- Meeting at least weekly with representatives of Arizona Department of Transportation, Department of Public Safety and the Division of Emergency Management to collaborate on necessary cooperative efforts
- Identification of risk pathways by which the disease might enter the state
- Training staff from the Animal Health and Welfare Program's Meat and Poultry Inspection unit
- Conducting public educational outreach to tribal nations, private veterinarians, extension agents, bird clubs, feed stores, and commercial poultry operations which included distribution by mail, fax and e-mail of press releases, brochures, flyers and public service announcements, in Spanish and English
- Attending bird events to monitor the health of the participant birds
- Petition of the United States Department of Agriculture for deployment of an Incident Management Team to support department risk reduction actions
- Establishing an 800 number for the reporting of suspect cases and to obtain information about the disease

As a direct result of the department's risk reduction strategy plan, one infected backyard flock was identified along the western Arizona border. Because of the effectiveness of the department plan and due to the department's public outreach efforts, an agriculture extension agent was able to recognize and report suspicious symptoms.

Incident Command System Implemented

Recent training department staff had completed in the Incident Command System allowed rapid response to the report of a possible Arizona END outbreak. The Incident Command System, a system to "manage" any emergency, was originally initiated by the U.S. Forest Service and had been implemented by local law enforcement and emergency response agencies throughout the country. While END was neither a fire, flood nor hazardous materials spill, the Incident Command System standardized response structure allowed staff response to it to be managed effectively.

Two of the Assistant State Veterinarians from the Animal Health and Welfare Program, assisted by several field staff, were deployed to the site of the infected flock. There they established a forward command post at the office of the local county department of health. Containment measures were put into place, in concert with local authorities, while the State Veterinarian, the United States Department of Agriculture Area Veterinarian-in-Charge, and the Arizona Department of Agriculture END Task Force continued development of the containment and elimination strategy. Advisors arrived from the United States Forest Service trained in the Incident Command System and an incident command post was established at within the

department's offices. Logistics challenges such as establishing telephone and computer modem lines, designating work areas and purchasing simple office supplies were addressed when, at the height of the emergency, more than 50 veterinarians, animal health technicians and support personnel were assigned to contain the deadly disease.

Surveillance Activities Initiated and Commercial Operations Advised

To determine the extent of the disease, the END Task Force initiated surveillance activities in the three western Arizona counties. This included locating backyard poultry premises, interviewing the owners, inspecting birds for disease, and testing any that appeared ill. Additionally, in order to ensure the biosecurity of Arizona's commercial poultry operations, the State Veterinarian assisted them with audits of their current biosecurity measures and made recommendations for improvement. Increased surveillance was implemented at these high-risk operations.

Outbreak Contained

Surveillance activities initiated in western Arizona yielded no positive cases and the single outbreak in western Arizona was successfully contained. When surveillance activities yielded no positive cases, Arizona was declared free of Exotic Newcastle Disease.

Animal Health Programs

In addition to oversight of the ongoing State/federal/industry programs for the elimination of brucellosis and tuberculosis in cattle, pseudorabies in swine and equine infectious anemia in horses, the Animal Health and Welfare Program field veterinarians have new responsibilities as the result of increased national efforts in the elimination of Transmissible Spongiform Encephalopathies such as BSE (mad cow disease) in cattle, scrapie in sheep, Johne's Disease in cattle and West Nile Virus in horses.

For example, to address Johne's Disease issues, the department's special advisory committee, created in 2001 - 2002, continues to update their plan to combat the prevalence of the disease in Arizona dairy cows. Newly obtained information assists the committee in educating members of the dairy industry of the merits of controlling and eliminating this disease.

Another example of new responsibilities centers on the 2001 rules for individual identification of sheep and goats in interstate commerce for purposes of scrapie control. Those rules were expanded in early 2003 to apply to sheep and goats in intrastate commerce thus adding to the department's animal health control oversight.

Livestock Inspection

As reported last year, along with the merger of the Livestock Inspection Program and the State Veterinarian's Office came a reduction in field personnel. The new program is focused on disease prevention, early identification and response. Because of the personnel reduction and the need to emphasize animal health, livestock ownership inspection duties previously conducted by field personnel were suspended. However, since maintaining the ability to trace a diseased animal through its movements back to the source herd is of such great importance, the department's voluntary self-inspection program was expanded.

The Animal Health and Welfare Program is focused on protecting and regulating the \$5 billion livestock industry. While the primary focus is protecting livestock and horses 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 a cornerstone of an effective disease control program. If a diseased animal is located, the

knowledge where the animal has been enables identification of potentially exposed animals and the implementation of disease reduction strategies.

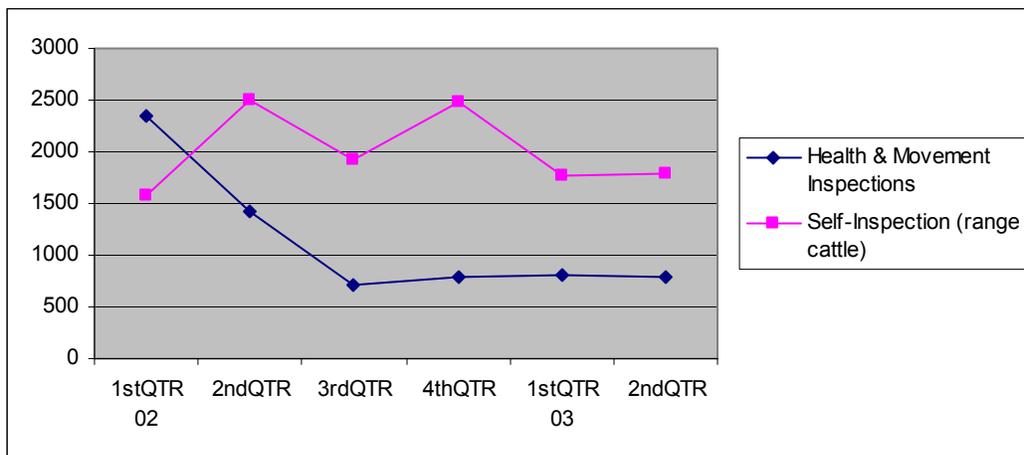
Suspension of Certain Inspection Activities

In spring 2002, many of the in-state inspection activities conducted by department field personnel were suspended, including inspections previously performed for feedlots and small producers. While self-inspection was used to document these particular inspections, inspections of range cattle being shipped out-of-state or at private treaty sales was maintained. In addition, inspection of cattle being transported to local slaughter plants was maintained for the protection of public health from the processing of unwholesome animals.

Inspection Data Tracking

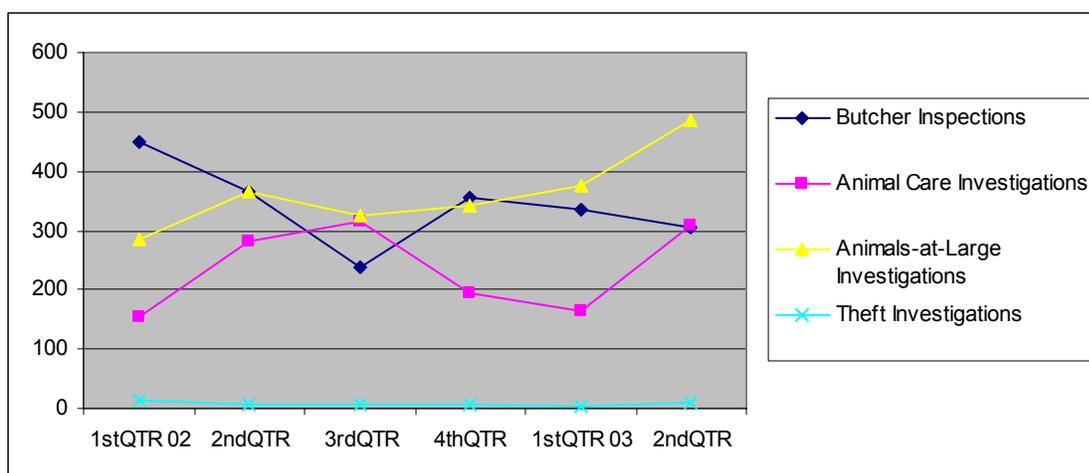
With the change in the Livestock Inspection Program came the need to capture field inspection activity. Since 2002, a number of activities have been closely monitored and include such items as the number of inspections for health and the movement of range cattle and cattle for processing, and the number 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 year with the merger of the two programs.

Health and Movement Inspection vs. Self-Inspection



This graph demonstrates the drop in field inspections coinciding with the director's order to suspend some of the inspection activities. Concurrently, there is a rise in the number of self-inspections conducted by the livestock owner.

Investigations and Inspections of Cattle for Processing



This graph shows the number of investigations conducted for animal care issues (generally higher in the summer months, or 2nd and 3rd quarters), stray livestock, and livestock theft. When comparing the number of reported thefts prior to the change in the program to those after, it appears that the number of reported thefts has remained unchanged in spite of a heavier reliance on self-inspection. In addition, the graph shows the number of inspections conducted for cattle processing.

Theft and Stray Issues Continue to be addressed

The Animal Health and Welfare Program continues to work in concert with the department's Office of Review and Investigations responding to reported cases of livestock theft. Department response to reports of livestock strays also continues as it has in the past. Strays without owners along the international border are seized and checked for diseases before being released for sale. Strays from the interior of the State are identified and the owner, if known, is notified. If the stray is unclaimed, it is contained and remanded to the nearest livestock auction for sale.

Service to the Livestock Industry

Service to the people of Arizona and to Arizona's livestock industry by protecting livestock from contagious and infectious diseases, ensuring that animal movements are tracked and the regulation of processing animals' health are of utmost importance to Arizona Department of Agriculture Animal Health and Welfare Officers and Inspectors. 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 animals for health or to confirm their care is humane. As a result of workforce reduction, the field component of the Animal Health and Welfare Program consists of five officers and thirteen 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.

Commercial Fish Industry: Aquaculture Disease and Control

Arizona producers of warm water fish species such as catfish, tilapia and shrimp are among this State's most unique industries. They are joined by those in the production of cold-water species such as trout, which occurs in cooler parts of northern and eastern Arizona. The scope of state

aquaculture regulation covers those involved in the growing, transporting and processing of commercially raised fish and shrimp for human consumption. Statutes mandate that, when transported, live fish must be accompanied by a certificate of aquatic health and, because the department does not yet have a fish health inspector on staff, the University of Arizona assists the department by conducting fish farm inspections and sample testing in order to complete required health certifications. Department aquaculture statistics for 2002-2003 reveal 71 licenses were issued to aquaculture facilities, transporters and processors including eight for educational or research purposes.

Increasing Animal Disease Threats

Easily accessible international travel and relaxed trade restrictions create staggering vulnerability in our animal industries to foreign animal disease the result of which, as seen with the outbreak of Exotic Newcastle Disease, is a major economic crisis. We have witnessed the economic effect of Canada's incidence of Mad Cow Disease. Such an incident in the United States could quickly compromise the strength of our country's animal industries and the welfare of a nation dependent on an abundant supply of reasonably priced, safe and wholesome foods. The Arizona Department of Agriculture takes seriously its duty to protect the health of Arizona's livestock, poultry and commercial fish populations from such a calamity.

Threat of Agro-Terrorism Increases

The September 11, 2001 purposeful destruction of American lives and property by a terrorist organization bent on disrupting countless American freedoms underscored our homeland vulnerability to terrorist acts. The potential for intentional terrorist acts involving America's food supply demonstrated the wisdom of the Arizona Department of Agriculture's move to protect the health and vitality of the livestock industry.

Acknowledging the increasing threat of intentional introduction of a foreign animal disease, while suffering imposed budget reductions, the Animal Health and Welfare Program continues to find innovative uses of limited resources to prevent, rapidly identify, contain and eliminate diseases which threaten negative economic impact on not only the animal livestock industry, but on the public as well.

Homeland Security Grant

In fiscal year 2002/2003, the Department utilized funds made available from the U.S. Department of Agriculture to augment our surveillance and emergency response capabilities. The Department's work plan included purchasing equipment to improve communication with field personnel and the hiring of an emergency-planning Assistant State Veterinarian. This specialist veterinarian devoted her time to emergency planning and preparedness and outreach activities on the recognition of foreign animal diseases. This individual will expand department animal health emergency planning to include Arizona's counties.

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 97 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. FY 2002-2003 numbers of commodity cartons shipped from Arizona, in order of their volume, are as follows:

Head lettuce	32,216,241
Cantaloupe	11,834,466
Romaine	11,577,972
Broccoli	5,864,323
Leaf lettuce	5,542,608

As detailed below, the Citrus, Fruit and Vegetable Standardization Program and the Federal-State Inspection Program conducted 88, 853 inspections this year. In addition, the Citrus Fruit and Vegetable Standardization Program issued 501 licenses to industry producers.

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

Standardization Program

Arizona citrus, fruit and vegetable producers rely on the Arizona Department of Agriculture for access to markets in order to sell their commodities. To qualify to sell their commodities, Arizona producers must show proof of compliance with international, national and other States' quality standards. It is the Arizona Department of Agriculture Citrus, Fruit and Vegetable Standardization Program (CF&V) that provides Arizona growers, shippers, dealers and commission merchants proof of their quality standards compliance.

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 and condition factors, bruising and decay), size, maturity, processing and labeling. These Program inspections take place in fields, packinghouses, coolers and warehouses.

Because of the CF&V Program, Arizona 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 that citrus, for example, is tested 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 7th 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, Arizona is the second busiest port-of-entry for produce in the United States; last year, department staff inspected more than 23 million packages of tomatoes and 15.7 million lugs of table grapes imported from Mexico.

It is important to note that in FY 2002 - 2003, 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, met several times to develop 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. Department federal-state inspectors in Nogales, Yuma and Phoenix are currently being trained to be licensed by USDA as the program auditors.

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 more than 29 million pounds of produce collected and distributed to food banks and other organizations serving those in need during this past year.

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, the risk of introducing a pest or disease from other states or foreign countries increases.

Dangers

Introduction of non-native 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. In addition, pests threaten to reduce the quality of products and, eventually, 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.

Natural Barriers

Fortunately, Arizona's desert climate provides a barrier against the natural movement of certain pests into the State. The desert climate also protects against the establishment of insects and other pests should they arrive by artificial means such as transiting in trucks. Our climatic advantage combined with an aggressive pest exclusion program allows Arizona to enjoy freedom from many pests that plague other states, which means Arizonans are able to continue to enjoy a high quality of life.

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 and 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...

Arizona's Most Unwanted -

Asian Longhorned Beetle—burrowing insect that weakens and eventually kills infested trees.

Japanese Beetle—defoliates ornamental plants and destroys turf roots resulting in decline or death.

Gypsy Moth—weakens and eventually kills forest trees. Impacts 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 pest 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.

Field Operations: Ports-of-Entry

The ports are operated 24 hours, 7 days a week at Sanders, San Simon, Yuma, and Ehrenberg, Arizona and 8 hours a day at Duncan, Douglas and Parker, Arizona. These ports-of-entry are Arizona's first line of defense against the importation of exotic pests. All ports are staffed to inspect commercial vehicles hauling commodities that may harbor pests and diseases or that may originate from quarantine areas.

Commercial Inspections

In FY 2003, a total of 180,689 commercial vehicles were inspected at the seven ports. Of the total trucks inspected, 23,528 were rejected because of exotic pest interceptions or noncompliance of quarantine rules and regulations. Rejection rates increased to 13.02 % in FY 2003, from only 8.72% in FY 2002, as a result of additional truck volume redirected through the San Simon port-of-entry because of staffing at the non-interstate ports at Duncan and Douglas, Arizona. The increase might also be attributed to an increase in pest populations: increased movement of the larger numbers of such pests. Trucks placed under warning-hold (a follow-up inspection required at truck's destination) totaled 5,846.

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 exotic pest establishment within the State.

An Overview

In FY 2003, inspection staff processed 1,299 incoming loads that required detailed destination inspections due to point of origin or pass through quarantine concerns. More than 6,400 state and federal phytosanitary certificates were issued for the export of seed, produce, various agricultural commodities and nursery stock. 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, 7,102 (compared to 7,013 in 2002) traps were placed, serviced and monitored for approximately 18 targeted pests.

Aggressive Detection

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

Fruit Fly Free

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 6,200 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.

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, the extended absence of an appointed Director, and inspection staff who were needed to combat poultry disease threat as well as numerous other challenges, the Pest Exclusion and Management Program demonstrated its commitment to service by the following:

Digital Imaging Technology

Digital imaging technology is used to improve the speed at which regulatory samples of pests originating from remote locations of the state can be identified. Digital imaging systems, capable of sending picture images of pests over the Internet for identification by a laboratory technician stationed miles away, continues at all interstate and selected non-interstate ports-of-entry.

These systems significantly reduced the turn-around-time required for identification of numerous intercepted pests in trucks held at the ports.

With the substantial support of the State Agricultural Laboratory, expanded utilization of digital imaging has resulted in identification of dozens of pest species from remote locations via this technology. Continued expansion of the use of this digital imaging technology will enhance our customer service.

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 producers' greater financial growth options.

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. In 2003, after demonstrating the success of the Arizona Department of Agriculture's fruit fly survey and detection program, the United States Department of Agriculture was able to negotiate an increase in the allowed exportation of Arizona grown lemons into Mexico.

Red Imported Fire Ant (RIFA)

The red imported fire ant is no longer a pest that threatens from distant southeastern states. In recent years, isolated 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.

Exclusion 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 Department is nationally recognized for successful detection and eradication techniques as demonstrated when the United States Department of Agriculture offered a \$91,700 grant in support of department RIFA strategies in FY 2003. 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 are steps 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 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 and Douglas ports and augments staffing at the San Simon and Sanders ports. This State-to-State agreement, worth \$1.47 million over three years, solidifies efforts to establish a regional approach to pest exclusion.

The Cotton (PLOWER) Program

Approximately 210,000 Arizona acres of cotton were planted during FY 2003. Cultural practices, such as tillage, timely planting and harvest play a critical role in the management of major cotton pests. Cotton growers in Arizona must maintain a gap, or host-free period, in the cotton production cycle. This host-free period is for protection against reestablishment of the eradicated cotton boll weevil and management of pink bollworm populations.

To provide a host-free period, cotton growers are required to meet a specific deadline to have the remnants of their cotton crop destroyed by plowing or other mechanical means. The State's PLOWER program serves as the basis for regulation to ensure this host-free period is abided by and no stub (cotton regrowth following harvest) is allowed to grow.

PLOWER Compliance

In FY 2003, 17 Arizona cotton producers failed to meet their PLOWER deadlines. Seventeen abatement notices requiring the out-of-compliance growers to take action within a specified time frame to bring fields into compliance were issued for plow-down violations and 4 notices were

issued requiring the abatement of stub/volunteer cotton. With the assistance of the Arizona Cotton Research and Protection Council (ACRPC) staff, complete compliance with the PLOWER program by all 17 Arizona growers was achieved.

It should be noted that the ACRPC collected \$1,016,022.00 in assessments on 615,228 bales of cotton produced for the FY 2002 growing season. Another \$14,382.00 in assessments, representing 4,794 bales of cotton, were collected throughout the cotton gins as penalties for noncompliance with the PLOWER program.

Noxious Weeds

“Biological invaders” are pest organisms capable of rapidly dominating places that were previously free of that adversity. “Weed” is a term used to designate a plant pest. 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 are to be controlled to prevent further spread.
2. Restricted noxious weeds found within the State are to 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, and shippers must have a permit to transport them through the State.

At the beginning of FY 2003, fifteen noxious weed/invasive plant abatement associations were actively pursuing control or eradication goals, mapping local weed distributions and conducting public information programs in Arizona. This is an increase of eight groups since FY 2000.

Giant Salvinia Survey

In June 2002, an aquatic weed survey was begun by Arizona Department of Agriculture. 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.

Nine Arizona counties were visited, however, the survey concentrated in western border counties south of the Grand Canyon including Mohave, La Paz and Yuma. Northern-most areas surveyed were located on Lake Mead’s south shore beginning at Pierce Ferry and continued down stream (west) to Boulder Dam; then south along the east shores of the Colorado River to the Somerton area southwest of Yuma. These counties were given priority due to a known infestation of Giant Salvinia in the Colorado River beginning near Wolter’s Camp, California, west of the Cibola National Wildlife Refuge. Furthermore, these counties have extensive water recreation sites and associated transportation industries, both of which increase chances of introducing new noxious weed species and dispersing pests already established in the region.

Limited surveys were done in the urban/agricultural counties of Maricopa (Phoenix area), Pinal and Pima (Tucson area) plus short trips to forest/rangeland counties of Gila, Navajo and

Yavapai. Agriculture and urban regions will be the predominate areas targeted in future funded surveys.

Specific sampling sites on lakes, reservoirs and streams were selected based on their public accessibility. It was assumed that aquatic areas subject to frequent human visits are more susceptible to aquatic weed contamination. Fishing piers, boat launch ramps and picnicking/swimming facilities with automobile access were purposely chosen as sampling sites since these locations are likely spots for discarding unwanted aquatic plants, aquarium stock or bait bucket contents.

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).

Five *Azolla* populations were found, but infestations were confined to nurseries and an educational greenhouse at a research facility. These populations were located in Maricopa, Pima and Pinal counties. Two nurseries were selling *Azolla* as aquarium and home pond plants. The nursery elevations ranged from 1100 to 2600 feet. No *A. pinnata* populations were observed in natural aquatic sites or constructed waterways.

One *Hydrilla* infestation was confirmed in an east Tucson golf course pond. Eradication efforts are underway and Arizona Department of Agriculture inspectors are working with grounds maintenance supervisor at this site.

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, 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. 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 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.).

One non-river Salvinia population was identified during survey in a retail nursery. Since 2000 – 2001, five to six retail sources of Giant Salvinia have been identified in Phoenix, Tucson and Yuma. Stop sale orders were issued to all of these businesses and the plants were destroyed.

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.

Noxious Weeds For Sale

As each spring flower season approaches, weed dispersal can happen from businesses such as grocery, drug, pet or hardware stores. 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 each year including several morning glory varieties.

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.

Why is Purchasing and Growing Morning Glories Prohibited?

Arizona has dozens of plants that qualify as weeds. Some of our weeds are native to the State but many weeds were introduced from other countries. Occasionally, non-native plants are extremely dangerous pollutants to cropland, grazing land, water resources or native plant communities. Non-native plants on Arizona's noxious weed list are regulated because of their destructive nature. Morning glories are severe cropland pests.

Morning Glories—A Pretty Pest

Non-native morning glory species (sold commercially) invade and persist in Arizona cotton fields. They grow so abundantly and are so competitive that their vines entangle, cover and smother cotton plants. In fact, morning glory infestations become so dense that it becomes extremely difficult to harvest the cotton crop. Obviously, these situations become an economic disaster for the farmer. Therefore, morning glory species that originated in other parts of the world are prohibited in Arizona.

Environmental Services

The Arizona Department of Agriculture Environmental Services Division continues to protect public health, agricultural workers, consumers and the environment. The department's creation of centralized licensing within the Environmental Services Division now provides for uniform customer service and appropriate cash handling. The creation of the Office of Review and Investigation within the division ensures effective investigation of agricultural crimes. The division's Pesticide Use Compliance Program continues to enforce proper use of crop protection products while its inspectors specifically enforce compliance with environmental laws and rules by monitoring the agricultural use of pesticides. The Nonfood Product Quality Assurance Program inspects, takes samples of and tests feed, fertilizer, pesticide and seed in the marketplace to safeguard product quality. The division's worker safety programs protect agricultural workers and pesticide handlers employed in agribusiness.

Staff Allocations

The Environmental Services Division had 33.5 full-time employee positions as of June 30, 2003. 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 33.5 positions are assigned to the State Agricultural Laboratory for analysis of the nonfood products sampled. Because of legislatively imposed budget cuts, a reduction of eight positions appeared necessary since last fiscal year; however, Governor Napolitano's line item veto restoring approximately \$600,000 of budget cuts permitted the division to forestall additional staff reductions.

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 will be 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 <http://agriculture.state.az.us>.

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. Prior to the move to centralized licensing, the Department maintained 12 separate licensing units. That fragmented approach led to a number of inefficiencies, not the least of which was poor customer service. As a part of the department's strategic plan, supported by recommendation of the Auditor General, a centralized Licensing Section was formed to streamline performance of the department's various licensing functions.

One major benefit realized by the centralized Licensing Section is the implementation of appropriate cash-processing controls including segregation of duties, restrictive endorsement of checks and money orders immediately upon receipt, the making of daily deposits, and timely reconciliation of receipts to deposits.

This year the Meat, Dairy, Egg, Aquaculture and Certificates of Free Sale licensing programs have migrated into the centralized Licensing Section. Most recently, the Native Plant permitting program has arrived, thus allowing the centralized Licensing Section to accommodate department customers with a one-stop feature for all of their licensing, permit and certificate needs.

Statutory changes to the equine registration requirements accounted for a sharp decline in the number of equine registrations processed by the Licensing Section. This reduction was offset by

opposite effects of the Livestock Self-Inspection Program, which became mandatory in April 2003, and the addition of the Native Plant Permit Program. The overall result was a relatively uniform workload throughout the year but for the exception of the primary license renewal periods of March 31, September 30 and December 31.

Proposed Arizona Administrative Code changes for the 2004 license year will effectively move 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 current renewal dates of March 31 and September 30 occur in the middle of their two busiest seasons. It is anticipated the new renewal dates will allow approximately 2,300 licenses to be transitioned in the 2004 licensing year.

License Fees Protect Industry and Consumers

The annual \$10 commercial feed license fee and the \$0.20 per ton commercial feed inspection fee make possible enforcement of Arizona's protective commercial feed laws. The Fertilizer Materials Act enforcement funds come from 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. Revenues for the enforcement of Arizona's pesticide registration law come from a \$100 per product pesticide registration fee. Seed quality assurance programs are funded from an annual seed license fee of \$25 for dealers and \$40 for labelers. Approximately one-half of all seed fees collected fund a portion of a staff position at the State Agricultural Laboratory to perform seed quality analysis.

One hundred dollars of the fee paid for each fertilizer license and \$75 of the pesticide registration fee help support the Arizona Water Quality Assurance Revolving Fund (WQARF), which is administered by the Arizona Department of Environmental Quality (ADEQ) to be used for ground water cleanup projects. In 2003, \$1,059,100 in fees was collected for the WQARF: \$55,000 in fertilizer fees and \$1,004,000 in pesticide registration fees.

Licensing Requires Continuing Education

The Environmental Services Division continuing education courses are designed to regularly inform pesticide credential holders of current laws, rules and the latest integrated pest management techniques for protection of the environment through efficient utilization of pesticides.

Individuals holding commercial certification and pest control advisor licenses are required to earn six continuing education units each year (commercial certification allows pesticide application on any agricultural property). Those holding private certification are required to earn three units each year (private certification allows an individual to apply restricted-use pesticides on land owned or rented by themselves or their employer).

During fiscal year 2002 - 2003, the Environmental Services Division approved 150 training courses, including 282 separate sessions. These courses were held to provide credential holders the opportunity to earn training credits.

Testing Center

With the implementation of the centralized Licensing Section, tests administered by the Environmental Services Division have expanded. Exams are administered to milk haulers, cottonseed samplers and myriad pesticide use applicants. Testing protocol has changed as well in that applicants are not only required to show identification before taking an exam, but the identification is held during testing in order to prevent what occurred in one situation when the individual walked out with the exam. Individuals are no longer allowed to bring materials into the testing room. These procedures were necessary to help eliminate 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. For people not in the Phoenix metro area, the local inspector will provide information on testing options.

Exams Administered in FY 2003

TYPE OF EXAM	Total Exams	Number Passed	Number Failed	Passing Rate
Commercial Applicator (PUC)	153	138	15	90%
Custom Applicator (CAA)	14	13	1	93%
Pest Control Advisor (PCA)	94	57	37	60%
Private Applicator (PUP)	101	90	11	89%
Milk Sampler & Hauler	117	102	15	88%
Cottonseed Sampler	5	2	3	40%
TOTALS	484	402	82	83%

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 participation 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 and varying the training levels required for different pesticides based on toxicity and potential to cause harm. The latter issue relates directly to Homeland Security efforts.

Licenses and Registrations issued in 2003	
Pesticide – Total Pesticides Registered	10,713
Agriculture	1,310
Non-Agriculture	9,403
Fertilizer – Licensed Fertilizer Companies	250
Specialty Fertilizers	1,454
Feed – Licensed Feed Companies	481
Seed Dealers	744
Seed Labelers	144
Dairy/Milk Industry Licenses	338
Aquaculture Licenses	72
Egg & Egg Products	96
Meat Industry Licenses	252
Livestock Brand Certificates (approx)	2,400
Equine Certificates Issued	7,230

Pesticide Use Related Credential Summary	
Grower Permits (PGP)	1,188
Pesticide Sellers (PSP)	214
Ag Aircraft Pilots (AAP)	50
Custom Applicators (CAA)	56
Equipment Tags	662
Pest Control Advisors (PCA)	231
Private Applicators (PUP)	490
Commercial Applicators (PUC)	264

Fertilizer Tonnage FY 2003			
Dry	Liquid	Misc.	Total
202,455	294,411	14,544	511,410

Feed Tonnage FY 2003	Total 816.239

Pesticide Use Compliance

The department aggressively monitors pesticide applications and activities related to mixing and loading pesticides, storage and disposal of pesticides and empty pesticide container disposal. These regulatory actions are taken to ensure the safety of pesticide workers and handlers and to protect the public from unlawful pesticide exposure.

Reporting Pesticide Misuse

Reports of pesticide misuse should be made to the Pesticide Emergency Hotline at 1-800-423-8876. This number is monitored regularly, including weekends and holidays, during the summer use season. This line is also used by pesticide applicators to request an inspector to monitor an application when spraying in pesticide management areas or in sensitive areas where agricultural and urban areas interface. Complaints may also be reported by calling department offices located in Phoenix, Tucson, Yuma and Safford.

Misuse Taken Seriously

Complaints alleging pesticide misuse are promptly and thoroughly investigated. Once an investigation is complete, if violations are found, a formal citation is prepared. Negligent parties may negotiate a settlement with the department or request a hearing with the State Office of Administrative Hearings. Payment of penalties established by law may be ordered.

Restricted Use Pesticides

Pesticide use compliance monitoring includes inspection of pesticide distributors to ensure pesticides are properly registered with the State and the Environmental Protection Agency. Inspections of pesticide dealer locations and agricultural establishments ensure that pesticides classified as *restricted use* are sold to and used by only persons who have demonstrated through certification their competency to manage the risks associated with pesticide use. These on site inspections further ensure that agricultural insecticides do not find their way into urban settings or residential use.

Department inspections are also designed to identify pesticides manufactured in foreign countries and illegally imported into Arizona. Many foreign-made pesticides are not subject to the strict quality control or child-safe packaging measures as pesticides manufactured in the United States and may pose serious health risks to people, animals and the environment.

Quality Assurance of Nonfood Products

During 2002-2003, the Environmental Services Division issued two federal Stop Sale, Use and Removal Orders on behalf of the United States Environmental Protection Agency to two Arizona companies who were offering for sale and distribution illegal pesticides with false claims they could kill anthrax. Currently, there are no registered pesticides proven to be efficacious against anthrax.

Bovine Spongiform Encephalopathy (BSE) Inspections (Mad Cow Disease)

In fiscal year 2003, the division, pursuant to a federal cooperative agreement with the Food and Drug Administration (FDA), began inspections of Arizona feed manufacturers and dealers to measure compliance with federal FDA regulations regarding animal feed ingredients fed to ruminants and their potential for ultimate harm to human health and safety. These inspections are conducted as a proactive, prudent measure to assure the United States remains BSE-free. The feed manufacturer inspections are designed to reveal the likelihood of contamination of animal feed supplies that could directly impact food for human consumption. There are many ways in which animal feed could become contaminated, creating possible threats to human food safety.

In May 2003, rendered material from the Canadian cow which had tested positive for BSE was thought to have possibly been used by a United States pet food manufacturer. When the Canadian government notified the United States Food and Drug Administration of this, the Environmental Services Division was alerted that the firm had a franchise located in Arizona. The division, through a BSE inspection at the local franchise, verified it had not received any of the suspected feed material.

U.S./Mexico Border Exchange

In 2002, federal funding was designated for an information exchange program concerning pesticide import and export issues. The Division's Compliance Manager and one inspector attended an exchange conference in El Paso, Texas at which the Compliance Manager gave a presentation on Arizona's role in regulation of pesticide sales, manufacturing, registration and border issues. The conference was attended by regulatory agencies from Texas, California, New Mexico and Mexico as well as representatives from United States and Mexico Customs, pesticide manufacturers and pesticide dealers.

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 State regulations and the federal Environmental Protection Agency 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, WPS requires the establishment must:

- Provide pesticide safety training to workers who will enter treated areas and to pesticide handlers (employees handling pesticides or pesticide application equipment);
- Notify workers about pesticide applications on the establishment and provide information about areas under a restricted entry interval;
- Provide a central posting location with specific pesticide application information about pesticide applications on that establishment and a pesticide safety poster with emergency information including the address and telephone number of the nearest medical facility;
- Provide the necessary personal protective equipment to pesticide handlers as required by the pesticide label;
- Ensure that employees stay out of areas where a restricted entry interval is in effect;
- Provide decontamination supplies (water, soap, single-use towels and sometimes eyewash) as required by WPS;
- Provide emergency medical transportation for any employee if there is a reason to believe the employee may have been poisoned or injured as a result of exposure to pesticides.

WPS prohibits retaliation against employees who attempt to comply with these regulations.

The Department of Agriculture's Worker Protection Standard (WPS) efforts predate federal standards and continue to be a benchmark for other states. Department activities serve to compliment EPA WPS inspections because department personnel remain in regular contact with the agricultural worker community, thereby gaining trust and credibility.

Train-the-Trainer

The WPS Train the Trainer Program qualifies individuals to be trainers of workers and handlers in pesticide safety. The Train the Trainer Program is reviewed internally through surveys received from all training seminars held throughout the year. The program is regularly updated to guarantee continued participant interest. The courses incorporate 50-question exam to test the participant's mastery of the information presented during the course. The courses are conducted in cooperation with Agricultural Consultation & Training staff, who usually follow the courses with pesticide handler training.

Evaluations received continue to give the program high marks. Training is held throughout the year in different agricultural regions of the State to allow easy access by the regulated parties. Training is conducted in both Spanish and English.

This year, WPS trainers were issued cards to train approximately 13,743 agricultural workers and 4223 pesticide handlers. Nineteen Train the Trainer courses were taught during this fiscal year, approximately one half in English and half in Spanish. 196 participants attended these sessions. One hundred seventy two of those participants passed the certification test to become certified trainers, which allows them to conduct pesticide training using the Worker Protection Standards.

Applying Worker Protection Standards

Each year, thousands of farm workers enter Arizona to work on the numerous agricultural establishments within the state. Department inspectors implement the Worker Protection Standard (WPS) through inspections, participation in the training courses and in developing training materials. Industrial hygienists assist agricultural establishments that need assistance to be in compliance with the WPS laws. All of the hygienists are bilingual and can readily communicate with the farm worker community to ensure workers 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, some in the evening and some on weekends, to allow outreach efforts to be extended to the worker community and employers.

CASE ACTIVITY FY 2003	
Cases Opened	99
Cases Still Open or Awaiting Recommendation	23
Total FY 2000 Cases Completed and Closed in FY 2003	3
Total FY 2001 Cases Completed and Closed in FY 2003	1
Total FY 2002 Cases Completed and Closed in FY 2003	24
Total Cases Investigated and Closed in FY 2003	104

PESTICIDE COMPLAINT ALLEGATION CATEGORIES and ACTIONS FY 2003			
07/01/02 - 6/30/03	Number of Cases Opened	Warnings Issued	Citations / Admin. Actions
Agricultural Safety - Multiple (WPS)	37	12	9
Pesticide Misuse / Label Violation	7	18	16
Drift - Health Effects	7	0	Cited under other categories
Expired License	6	6	4
Failure to Train Workers/ Pesticide Handlers (WPS)	5	11	4
Central Posting (WPS)	5	7	0
Illegal Pesticide Sales	5	2	1
Record Keeping	4	1	4
Personal Protective Equipment (WPS)	2	1	1
Unregistered Pesticide	2	4	0
Pesticide Misbranding	2	2	0
Re-Entry Interval (WPS)	2	1	1
Failure to Provide Emergency Transportation (WPS)	1	2	0
Dog Poisoning	1	0	1
Drift	1	3	7
Employee Retaliation (WPS)	1	0	0
Bee Kill	1	0	2
Health Effects	1	0	0
Drift / Damage (Fish Kill)	1	0	1
Container Disposal	1	5	0
Pesticide Application List (WPS)	0	5	1
Oral / Posted Warnings	0	2	0
Decontamination Supplies (WPS)	0	2	0
Failure to Issue Training Cards (WPS)	0	1	0
Total Cases	92	85	52

- 68 Cases Opened as a result of violations found during routine inspections

NON-PESTICIDE COMPLAINTS RECEIVED and INVESTIGATED

7/01/02 - 6/30/03	Number of Cases Opened	Warnings Issued	Citations / Admin. Actions
Quality Assurance – Seed	2	1	0
Unlicensed / Unregistered Fertilizer	2	0	0
Adulterated Commercial Feed / Aflatoxin	1	1	0
Unlicensed Seed Labeler/Dealer	1	5	3
Plant Variety Protection Act Violations	1	Referred to USDA	0
Misbranding – Fertilizer	1	0	0
Noxious Weed Seed	0	4	3
Unlicensed Commercial Feed Dealer	0	4	0
Total Non-Pesticide Related Complaints	7	15	6

2002-2003 ENFORCEMENT ACTIVITIES

LICENSE CATEGORY	Quantity		
WARNING LETTERS ISSUED			
Regulated Growers – PGP	45		
Commercial Feed Manufacturers	5		
Pesticide Manufacturers	7		
Seed Dealers	6		
Private Sector	7		
Private Applicators – PUP	7		
Pest Control Advisor – PCA	2		
Farm Labor Contractors	3		
Pesticide Sellers – PSP	1		
Custom Applicator	1		
Commercial Applicators – PUC	3		
Seed Labelers	9		
Total Warning Letters	97		
DEMINIMUS VIOLATIONS			
Commercial Applicators – PUC	2		
Private Applicators – PUP	1		
Regulated Growers - PGP	1		
Farm Labor Contractors	1		
Total Deminimus Violations	5		
NON-SERIOUS VIOLATIONS	Quantity	Penalties Assessed FY 03	Penalties Paid FY 03
Regulated Growers – PGP	36	20308.00	21660.00
Commercial Applicators	6	896.50	2616.50
Pesticide Sellers	5	536.50	1298.00
Seed Dealers – SDL	2	3000.00	3000.00
Private Sector	1	0.00	1089.00
Seed Labelers	3	0.00	0.00
Pest Control Advisors	2	193.50	151.00
Private Applicators – PUP	7	2682.00	1552.00
Farm Labor Contractors	3	1645.00	1325.00
Total Non-Serious Violations	65	29261.50	32691.50
NOTICE OF VIOLATIONS /CEASE & DESIST ORDERS			
Unregistered Pesticides	54		
Seed Label Violation	6		
Quality Assurance - Seed	89		
Prohibited Noxious Weed	11		
Unlicensed Seed Labeler	14		
Unlicensed Seed Dealer	5		
Unlicensed Feed Manufacturer	59		
Unregistered Specialty Fertilizer	22		
Label Violation – Feed	2		
Quality Assurance – Feed	21		
Seed Out of Test Date	70		
Label Violation - Fertilizer	6		
Quality Assurance - Fertilizer	34		
Quality Assurance / Pesticide	7		
Unlicensed Fertilizer Manuf. / Distrib.	5		
Label Violation – Pesticide	1		
Total Notices of Violation/Cease and Desist	406		

SAMPLE ANALYSIS FOR DEFICIENCIES Fiscal Year 2003

Sample Type	Number	Number of Reported				
	Collected	Analyses	Samples Reported	Sample Violation Rate	Analysis Violation Rate	Cancelled
Feed	207	437	181	14.4	6.8	1
Fertilizer	398	893	356	12.1	6.6	2
Mycotoxin	75	182	48	39.6	22.0	4
Pesticide Formulation	171	207	169	5.9	9.1	1
Pesticide Residue	44	158	77	49.4	48.7	12
Seed	767	1071	755	12.9	9.2	0

Office of Review & Investigation

Now under the auspices of the Environmental Services Division, the department’s Office of Review and Investigation (ORI) is responsible for the investigation of criminal acts involving agricultural laws. The ORI provides law enforcement support to the other divisions and programs within the department. It is comprised of individuals specially trained and statutorily certified to investigate criminal misconduct regarding native plants, livestock, food safety, and cultural resource protection.

Officer Certification & Training

Office of Review and Investigation investigators are certified peace officers who each possess experience and specialty proficiency in their respective fields. Investigators are required to maintain state training standards in investigation techniques, annual handgun qualifications and proficiency requirements. They routinely audit records of all departmental certified personnel for compliance with AZPOST requirements.

Annually, ORI investigators attend the Arizona Conservation Law Enforcement Association Conference. This year, conference training centered on state and federal archaeological resource protection law and interview and interrogation techniques.

ORI Enforcement Activity

During the year, ORI investigated seventy-one cases of alleged criminal misconduct of which twenty-two remain under investigation. Six cases were reviewed and returned with recommendations to the originating division. Nine cases were forwarded for prosecution to either county attorney offices or the office of the Attorney General. Five cases were closed with actions such as warning letters or assessment of civil penalties. Eight cases were successfully prosecuted to conviction and the court dismissed three cases. Two cases were referred to another agency for further investigation and sixteen cases were closed due to insufficient evidence.

ORI Enforces Arizona’s Native Plant Law

Arizona is unique in its Native Plant Laws, which were enacted to protect Arizona's wild-growing plants. Because of the increasing population and the cost of supplying water to desert cities, drought-tolerant native plants are in greater demand for landscaping purposes.

Native Plant Laws require that a person have a State permit to possess any protected native plant that has been removed from its habitat. Moreover, it is unlawful to destroy or mutilate any protected plant. To regulate the collection and movement of Arizona’s legally protected native plants, the department enforces the law through ORI investigations, legal action against violators, public awareness programs, and permit issuance.

This year, the ORI pursued twenty-five cases of native plant theft or destruction, of which three cases remain under investigation. Three cases are pending review by county attorney offices and two by the office of the Attorney General. Ten cases were closed as having insufficient evidence to prosecute. Five cases were closed with warning letters issued and one case was referred to local law enforcement for further investigation. One case presented to the Pima County Attorney's Office for prosecution was subsequently denied.

ORI assistance was requested by the State Land Department in two incidents involving theft of protected plants from State Trust land. A Memorandum of Understanding between the Department and the University of Arizona was drafted for threatened and endangered plant species studies under Section 6 of the federal Endangered Species Act. Federal aid has budgeted approximately \$80,000 to conduct plant studies on four different cactus species in Arizona.

Livestock Investigations

ORI investigation responsibilities include curtailment of the theft and killing of livestock and enforcement of laws and regulations closely associated with livestock inspection. Livestock operators who keep cattle or certain other animals on open range must have them marked with a registered brand to establish ownership. A volunteer equine ownership/hauling certification produces the same result. Both forms of registration help protect owners of livestock from having their animals stolen.

Of the fourteen cases involving the killing of livestock, four cases are still being investigated and three cases are pending prosecution in various County Attorney offices. Seven have been closed due to insufficient evidence.

Twenty-four cases were opened involving either theft or ownership disputes of livestock: twelve cases remain under investigation and one is pending. Five cases were closed due to insufficient evidence. One was referred to the local law enforcement agency for further investigation and one case was closed with warning letters issued. One case was closed due to the recovery of the animal, but no suspects were apprehended. Two cases involving ownership disputes of horses were closed by adjudication and one case was denied by the Maricopa County Attorney's Office.

There was one cruelty to animal case, which was closed due to insufficient evidence. One Exotic Newcastle Disease case was filed with the County Attorney's Office for quarantine violations. This case is still pending. One citation was issued for altering State documents involving the sale of cattle. A justice court in Navajo County dismissed this case.

Food Safety Investigations

The Office of Review and Investigation plays a role in the department's closing of illegal animal slaughtering operations. There were four cases involving food safety violations in which individuals sold non-inspected meat products to the general public. Three of the cases are under investigation and the fourth case was closed due to insufficient evidence.

Cultural Resource Investigations

Valuable evidence of past cultural heritage is located in many areas in Arizona. Ruins, burial sites and pictograph sites can never be renewed and, if destroyed, are gone forever. While no legal action involving Arizona cultural resources was necessary during the year, this office of the Arizona Department of Agriculture continues to work closely with federal, State and local agencies to reduce the threat of losing Arizona's rich cultural legacies.

Agricultural Consultation & Training

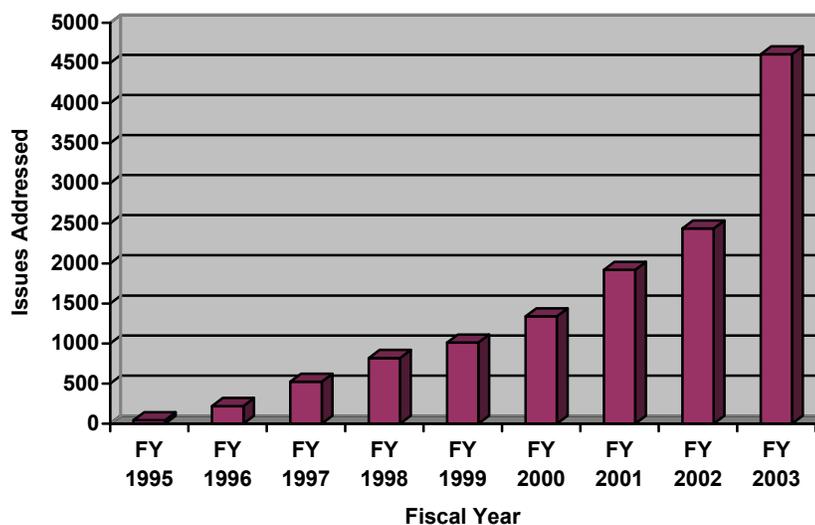
The Agricultural Consultation and Training Program (ACT) is an innovative compliance assistance program unique to an agricultural regulatory agency. ACT embraces the Arizona Department of Agriculture’s goal to encourage farming, ranching, and agribusiness while protecting consumers and natural resources utilizing a non-enforcement approach. Through a variety of programs, ACT serves Arizona’s diverse agricultural community by promoting agriculture, increasing voluntary compliance, providing training, and increasing awareness of regulatory requirements.

Compliance Assistance

The Agricultural Consultation and Training Program provides assistance to Arizona’s agricultural community in complying with state and federal regulations including worker protection safety and training requirements, waste water management regulations, and air quality regulations. ACT provides a formal means by which the regulated agricultural community may request compliance assistance without regulatory intervention because ACT is not affiliated with ongoing enforcement activity. Detected violations are not made available to regulatory personnel, except in cases of imminent danger where human health and welfare are in jeopardy. When a member of the agricultural community makes a subject-specific request, an ACT field consultant conducts an on-site visit of the agricultural establishment and completes a detailed evaluation tailored specifically to the customer. The report includes information gathered during the on-site visit and any corrective recommendations.

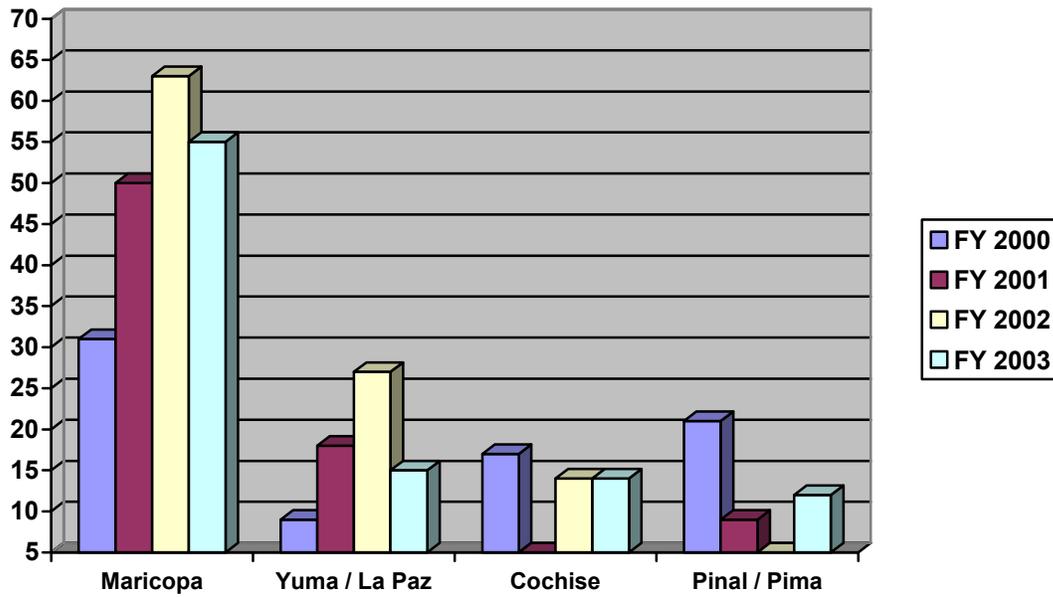
This year, the Agricultural Training Program staff addressed 4,606 compliance issues. Chart #1 displays the total number of compliance issues addressed by ACT field consultants since fiscal year 1995, demonstrating the growth of the ACT Program.

Chart 1. Total Number of Compliance Issues Addressed By ACT



ACT personnel travel the State conducting on-site visits for members of the agricultural community. Chart #2 depicts the demographic representation of the on-site visits conducted on a region-by-region basis. Also depicted is the percentage of the total issues addressed in relation to the particular region of the State.

Chart 2. ACT On-Site Visit Demographics

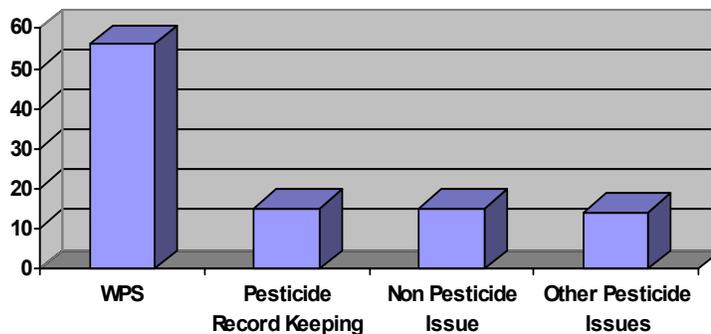


Worker Protection Standard Compliance Assistance

The Worker Protection Standard (WPS) is a federal regulation administered by the United States Environmental Protection Agency. It became effective in 1992 and is designed to provide protection for agricultural workers (individuals involved in the production of agricultural plants) and pesticide handlers (individuals involved in mixing, loading or the application of pesticides or in performing tasks involving direct contact with pesticides).

Due to the complexity of the federal regulation, WPS issues continue to occupy the highest percentage of compliance needs addressed by ACT personnel. Chart #3 depicts the number and types of WPS issues addressed by ACT during FY 03.

Chart 3. Percentage of Issues Addressed In Relation to the Worker Protection Standard



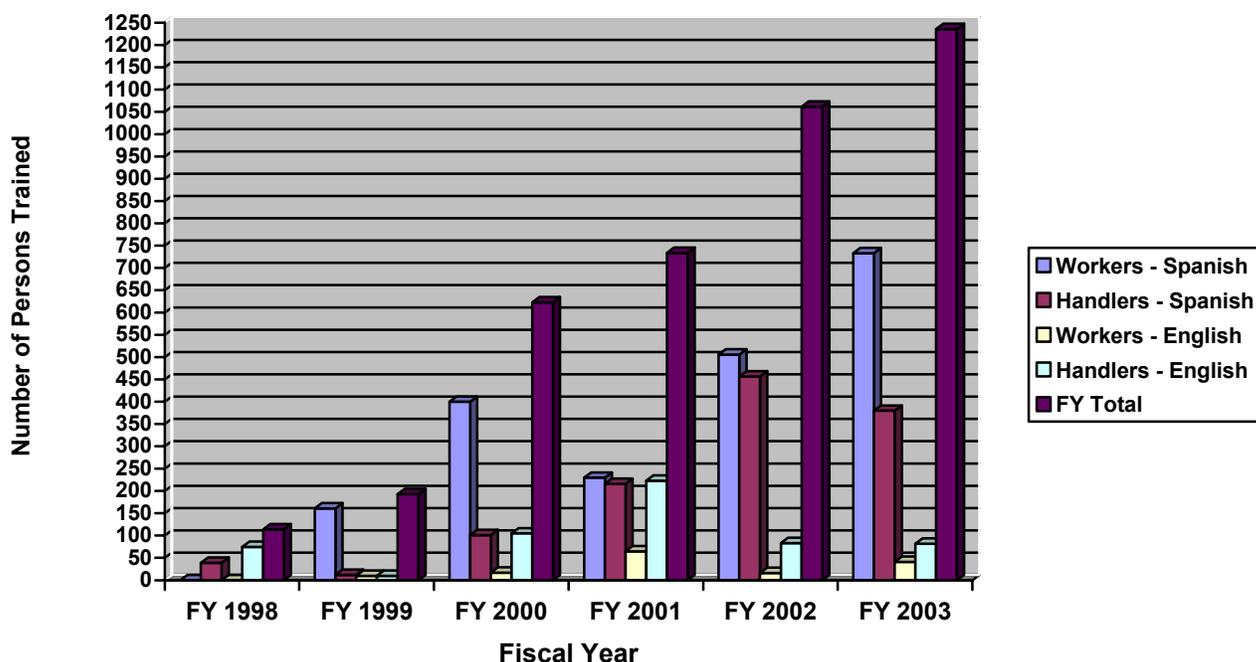
In conjunction with on-site visits, ACT conducts Worker Protection Standard pesticide safety training for agricultural employers and employees across the State as an additional source of training in order to promote compliance with WPS regulations.

In 2002-2003, ACT conducted 91 Worker Protection Standard training sessions, training 1,236 persons as either agricultural workers or pesticide handlers. Sixty-six of the training sessions were conducted in Spanish, resulting in over 1,100 persons trained in Spanish.

The size of each training session varies with the number of workers or handlers employed at the establishment. Since ACT has willingly conducted several follow-up “second rounds” and even some “third rounds” of WPS training at particular establishments, many agricultural employers consistently utilize the WPS training offered by ACT. Those employers have adopted a policy of providing ACT’s WPS training on an annual basis instead of waiting for the three and five-year expiration dates before requesting ACT WPS training. It is encouraging to witness several employees display one, two and, in some instances, a third valid Worker Protection Safety training verification card issued by ACT personnel during prior training classes.

Chart #4 shows the number of workers who received ACT’s WPS training since fiscal year 1998.

Chart 4. Worker Protection Standard Training



The Arizona Interagency Farmworker Coalition

The Arizona Interagency Farmworker Coalition (AIFC) is an alliance of individuals from county, state, and federal agencies, as well as representatives from various public and private organizations, who have organized to promote the needs of the farmworkers in Arizona. Rick Stillion, ACT WPS Field Consultant, is currently serving his second term as President of AIFC. Being an active member of AIFC has allowed Rick to remain abreast of functions across the State involving farmworker activity. Planning, organizing and presiding over the AIFC annual conference this year was a great way of getting the ACT message out to county, State and federal agencies.

Regulated Agricultural Activities Assistance Program (RAAAP)

RAAAP assists dairy and feedlot operators to understand and comply with federal and State regulations in order to reduce animal-waste contamination of surface and ground waters. The two primary objectives of RAAAP are:

- 1) To educate producers regarding federal and State regulations including; the federal National Pollutant Discharge Elimination System (NPDES) CAFO General Permit, the recently revised federal CAFO Regulations, and Arizona's Agricultural General Permits.
- 2) To assist producers with compliance with water quality regulations in order to help protect Arizona's waters.

As the result of an intergovernmental service agreement between the Arizona Department of Agriculture and the Arizona Department of Environmental Quality (ADEQ), RAAAP is funded 60% by ADEQ through an Environmental Protection Agency grant and 40% through the Arizona Department of Agriculture.

ACT's RAAAP Recognized as Model

The United States Environmental Protection Agency's Region 9 has discussed the possibility of utilizing ACT's RAAAP as a model for CAFO compliance assistance programs within other Region 9 States and other EPA regions. In addition, the Arizona Cattle Feeders' Association and many livestock producers have expressed support for RAAAP.

RAAAP's On-Site Visits

During on-site visits, ACT personnel assess the livestock facility waste containment structures and management practices utilized to determine if the facility is out of compliance with regulations. If a facility is out of compliance, ACT will notify the operator of the violations or compliance problems observed. Animal feeding operation operators are also informed of the regulations pertaining to their operations during on-site visits.

While ACT personnel never mention, or discuss, a particular operation, owner, or case by name with any regulatory agency, ACT staff may consult with the Environmental Protection Agency and/or Arizona Department of Environmental Quality to discuss generic compliance issues to obtain interpretations of the regulations.

During 2002-2003, ACT's RAAAP staff conducted twenty-six on-site visits, which represented an 86% increase in the number of CAFO-related on-site visits conducted from the previous year. As a result of those on-site visits, 2,548 compliance issues were assessed relating to manure and wastewater management. Of the 2,548 issues assessed, 233 rose to the level of being 'out-of-compliance,' or possessed the potential to lead to a violation.

ACT's RAAAP Educational and Promotional Efforts

ACT's RAAAP was invited to provide training in nutrient management planning at a recently held Nutrient Management Planning Certification workshop. ACT's RAAAP provided CAFO environmental regulation training at an Arizona Cattle Feeders' Association meeting and made a presentation on CAFO regulations to agriculture students at the University of Arizona.

This year, ACT's RAAAP promoted the compliance assistance program through displays at State and county Farm Bureau meetings and at Dairy Days. In addition, ACT's RAAAP has published several compliance assistance articles and has placed advertisements in producer publications.

RAAAP Expires in FY 04

Beginning in fiscal year 2004, the Agricultural Activities Assistance Program (AAAP) will replace the RAAAP and will focus on providing compliance assistance to medium and small-sized AFOs. AAAP's means of providing assistance will be similar to the compliance assistance efforts developed and provided by the RAAAP. A new intergovernmental service agreement between Arizona Department of Agriculture and Arizona Department of Environmental Quality will be used to co-fund the program.

Multi-Agency CAFO Education Group

ACT is an active member of a CAFO Education Group that provides education and compliance assistance for AFO owners. The CAFO Education Group consists of ACT, United States Department of Agriculture Natural Resources Conservation Service (NRCS), Natural Resources Conservation Districts (NRCDs), Arizona Department of Environmental Quality, University of Arizona Cooperative Extension Service, EPA Region 9, Arizona Cattle Feeders' Association, United Dairymen of Arizona, and several consulting companies. ACT has assumed leadership of the CAFO Education Group by chairing the group. Much of the educational outreach provided by the group is funded through a grant from the federal Environmental Protection Agency. The CAFO Education Group's objectives are to help CAFO operators understand State and federal regulations and to help producers achieve compliance through the publication of a producer's notebook, the Animal Waste Management Website, and training workshops.

One of ACT's successes with the CAFO Education Group has been the publication of a producer's notebook. The producer's notebook contains worksheets to assist record keeping, summaries and information on State and federal regulations, contact information for financial and technical assistance organizations, principles of nutrient management, sampling procedures, questions and answers, and other materials to assist producers with compliance. During 2001, approximately 200 notebooks were distributed to producers, producer organizations, and State and federal agencies. Periodically, the notebook is updated and updated materials are sent to the recipients of the producer's notebook. This year, a draft update to the notebook was written and will be finalized during the next fiscal year.

ACT has also assisted the CAFO Education Group and the University of Arizona Cooperative Extension in developing an animal waste management website to assist producers. Contents of the website include an electronic copy of the producer's notebook, copies of the National Pollutant Discharge Elimination System (NPDES) CAFO permit and other important documents, technical guidance regarding waste management and manure application to crops, summaries of the water quality regulations, links to information and agencies which can assist animal feeding operations, and other relevant information. The Animal Waste website address is: <http://ag.arizona.edu/animalwaste/>

New Programs Join ACT

Comprehensive Nutrient Management Plan (CNMP) Assistance Program

In December 2002, the Arizona Department of Environmental Quality received NPDES permit authorization from EPA Region 9, which gave authority to interpret and enforce the federal NPDES permit in Arizona. At the same time, the United States Environmental Protection Agency revised the Clean Water Act regulations and announced changes to the Concentrated Animal Feeding Operation (CAFO) Final Rule. Rule changes took effect in April 2002, and required all large CAFOs to apply for a NPDES CAFO General Permit and develop a nutrient management plan. In order to incorporate the new CAFO Rule and make the NPDES permit specific to Arizona, the Arizona Department of Environmental Quality is developing a new

permit called the Arizona Pollutant Discharge Elimination System permit (AZPDES) which is expected to be issued in late 2004.

The need for Nutrient Management Plan (NMP) development is critical as it will be required as part of the AZPDES permit. In Arizona, approximately 75% of animal feeding operations qualify as CAFOs. Of these, approximately 22% voluntarily submitted a Notice of Intent to be covered under the existing NPDES permit (which requires Nutrient Management Plan development by August 27, 2003). There are at least 86 additional CAFOs in Arizona that will be required to submit an NOI and have a complete Nutrient Management Plan by the due date included in the AZPDES permit which is expected to be between the permit issuance date and April 2006. Also, any AFO requesting conservation planning/cost-share assistance from USDA NRCS or funding assistance from the USDA Farm Service Agency will be required to have a Nutrient Management Plan as well.

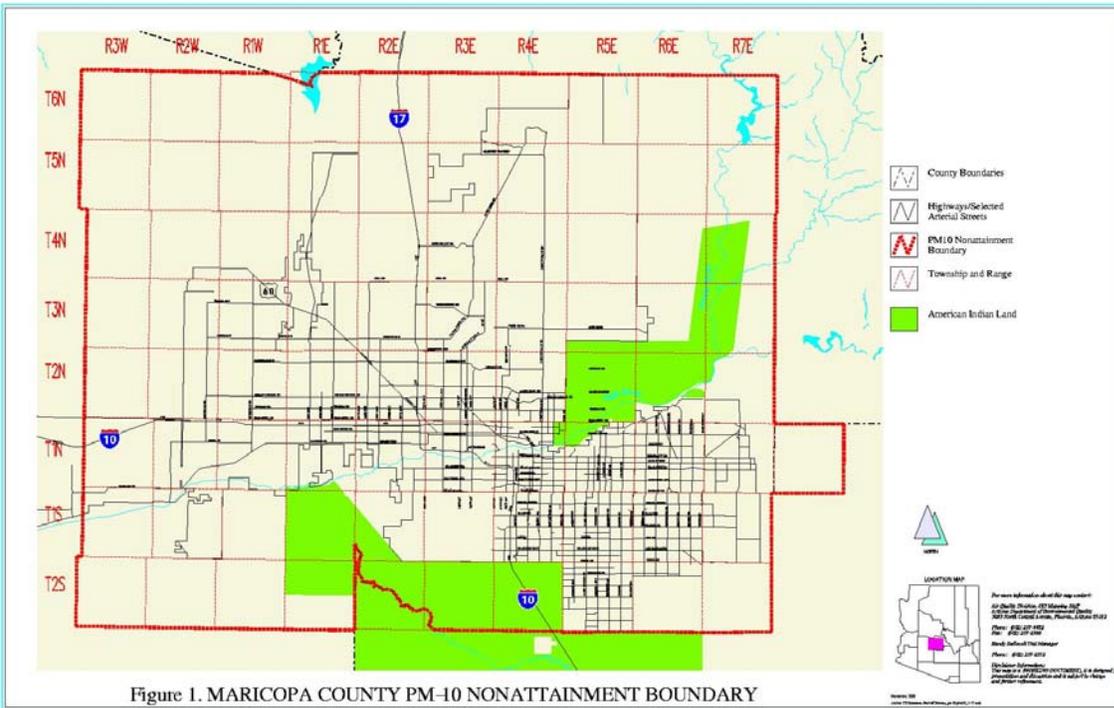
Last fall, in response to the increasing need for Nutrient Management Plan assistance, the Arizona Department of Agriculture Agricultural Consultation and Training Program (ACT) entered into a cooperative agreement with the United States Department of Agriculture Natural Resources Conservation Service to design a unique compliance assistance program. The program serves both organizations by addressing ACT's goal of increased non-regulatory compliance assistance to the agricultural community and USDANRCS' effort to maintain and improve environmental resources. Through this agreement, the Comprehensive Nutrient Management Plan (CNMP) Assistance Program was created in September 2002, to provide additional conservation planning assistance to AFOs throughout Arizona with the development of their comprehensive nutrient management plans.

A CNMP is a conservation plan that combines a Best Management Practices Plan and a Nutrient Management Plan (NMP) for the purpose of protecting environmental resources. The objective of a CNMP is to reduce transport of excess nutrients such as nitrogen and phosphorus to ground and surface water by properly managing manure and by-products. Implementation of conservation practices will protect or improve water quality and reduce potential impact to the environment in a manner that benefits the operation. CNMPs are developed in accordance with NRCS standards and specifications and assist the AFO in meeting all applicable local, tribal, State, and federal water quality goals or regulations. The Nutrient Management Plan portion of a CNMP is required by the new Environmental Protection Agency CAFO Final Rule.

Regulated Agricultural Best Management Practices Air Quality Compliance Assistance Program

The Governor created the Agricultural Best Management Practices Committee in 1998 to help meet the Federal Clean Air Act Standard for particulate matter (PM10) in the Phoenix metropolitan area. The committee was charged with the development and adoption of an Agricultural PM10 General Permit with practices to reduce and control PM10 emissions from agricultural operations.

In late 2002, in response to an appeal from the regulated agricultural community, the Agricultural Consultation and Training Program, in partnership with the Arizona Department of Environmental Quality, began developing the Regulated Agricultural Best Management Practices (RABMP) air quality compliance assistance program. The RABMP program administers assistance to commercial farmers who farm ten or more contiguous acres in the Maricopa County PM10 Non-attainment Area.



Even though the program currently targets Maricopa County PM10 Non-attainment Area where commercial farmers who farm ten or more contiguous acres are required to comply with the Agricultural PM10 General Permit, the RABMP compliance assistance program is available statewide.

The success of the RABMP program is the on-site visit during which a field consultant provides to the commercial farmer information on air quality regulation, assistance in the selection of practical, economical and feasible agricultural best management practices to reduce PM10 from regulated agricultural activities and solutions to meeting compliance.

ACT's Growing Smarter Open Space Reserve Grant Program

The Growing Smarter Open Space Reserve (Growing Smarter) Grant Program is part of the Proposition 303 Growing Smarter Statute that was passed by public referendum in 1998.

A.R.S. §41.511.23 provides that

The purpose of the Open Space Reserve Grant Program is to fund grants to individual landowners or grazing or agricultural lessees of state or federal land who contract with the Arizona State Parks Board to implement conservation based management alternatives using livestock or crop production practices or to reduce livestock or crop production, to provide wildlife habitat or other public benefits that preserve open space. Priority must be given to lessees of state and federal land who are required to reduce livestock production to provide public benefits, such as wildlife species conservation or wildlife habitat.

In late fiscal year 2002, the Growing Smarter grant program received 71 applications requesting a total of more than four million dollars. In approving 66 of those applications, the Arizona States Parks Board sought to allow for wider distribution of the funds by imposing a \$90,000 cap per individual applicant along with a graduated percentage award on individual applicants.

During fiscal year 2003, ACT received 61 grant participant contracts from the above-noted State Parks Board awards. Growing Smarter grant awards averaged \$30,876.88 and, with those grant dollars, recipients removed a total of 11,239 head of grazing livestock from more than 1.9 million acres of land (primarily United States Forest Service land).

In November 2002, the Arizona State Parks Board announced suspension of the Growing Smarter grant program after it received a petition requesting that the grant program undergo the official Arizona Administrative Rules process. As a result, no grants were awarded in the 2003 grant cycle.

A new law has been put into effect, which moved a portion of the Growing Smarter grant program from Arizona State Parks Board to the Arizona Department of Agriculture. The ACT Program is administering that grant program in preparation for the 2004 grant cycle.

State Agricultural Laboratory

The State Agricultural Laboratory provides quality agricultural and environmental laboratory analysis, identification, certification and training services to regulatory divisions of the Arizona Department of Agriculture and other entities as provided by law. To accomplish its mission, the laboratory is organized into two sections: Biology and Chemistry.

Section/Subsection	Summary of Activities
Biology	
Entomology	Provides insect identifications to assist in preventing harmful pests from becoming established in Arizona.
Plant Pathology	Provides plant disease identification for certifying Arizona products for export and aiding in the prevention and control of plant diseases.
Botany	Identifies weeds and other harmful species to assist in preventing the spread of these plants.
Nematology	Provides nematode identifications to protect the State from new infestations of these soil pests.
Malacology	Identifies snails and slugs to assist in preventing the spread of these agricultural pests.
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 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 analysis of samples resulting from misuse of pesticides.
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, Fertilizer & Meat Quality	Determines whether marketplace samples are at the quality levels stated on the labels.
Quality	Quality levels stated on labels are analyzed

Quality Assurance

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

Quality System

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 as proper use and maintenance of equipment. These procedures ensure uniformity of work and the accuracy and reproducibility of test results.

Internal Laboratory Audits

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

The Dairy Product Quality Subsection also undergoes on-site laboratory audits that are conducted every three years by the United States 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 Subsection.

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 Quality Test Results

Certified reference material and internal quality control, using secondary reference materials, are used regularly to monitor accuracy of test results. For example, the Biological Identification Section 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.

Quality assurance is validated in the Chemistry Section through voluntary participation in several proficiency check sample programs: feed analyses are evaluated by check samples from the American Association of Feed Control Officials. McGruder's Fertilizer Check Sample Data Program evaluates fertilizer analyses. The United States Department of Agriculture Food Safety Inspection Service Food Chemistry Check Sample program reviews meat analyses.

Biology

The Biology Section 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 regarding permits, phytosanitary certification, quarantines and pest control measures.

This year, the Biological Identification Unit completed 13,572 identifications on specimen submissions. Of that total, 88 were botany identifications; 11,556 were entomology identifications; 74 were malacology (snails and slugs) identifications; 1,424 were nematode identifications; 399 were plant pathology identifications and 1,347 were seed analyses.

In December 2002, the Biological Identification and Microbiology/Animal Disease Sections were merged to take advantage of overlapping strengths and to mitigate staffing shortages in both of those units of the laboratory. Disciplines such as Plant Pathology and Food Microbiology overlap in that they are each applied microbiological sciences. This merger has allowed increased cross-training, scientific and technological exchange and sharing of laboratory infrastructure and personnel. As technological advances in identification due to molecular

techniques become developed and more prominent in the laboratory's mission, merger of the two sections will result in additional benefits.

The State Agricultural Laboratory also consolidated its library holdings, combining volumes for entomology, plant pathology, botany, microbiology and chemistry in one high-density storage and retrieval system housed in a central laboratory area. The State Arthropod Collection was relocated to a more secure and safe site. Entomologists now have an improved working environment for this critical reference collection.

During the summer of 2003, the Biology Section hosted two university students as unpaid volunteers. The volunteers developed techniques for molecular identification of genetic markers in exotic pest species of ants and validation by classical morphological taxonomy. The Arizona Department of Agriculture stands to gain critical epidemiological tools through the use of these students as resources and intends to expand the use of student volunteers in the future.

Digital Imaging

The State Agricultural Laboratory digital imaging unit - established and developed as *the nation's first digital imaging system for remote identification of potential pests* - functions as part of a pest exclusion program in close partnership with the Department's Plant Services Division and the Department's Information Technology Program. With digital imaging systems in place at the State's ports of entry, high quality images of suspect insects, seeds, diseases and other potential pests can be sent electronically by port inspectors to the laboratory for rapid analysis. In most cases, laboratory staff can make identification in less than an hour thus reducing the interruption of a commercial load from, prior to digital imaging, days to now only hours.

The digital imaging system continues to be used for preparation of training materials for department inspectors and to send images to experts around the world, thus expanding the analytical ability of the Laboratory's Biological Identification Unit staff.

Because of the successful implementation and national status of the department digital imaging system, the California Department of Food and Agriculture has implemented an identical system at its ports. As a result, laboratory training and expertise is provided to both Arizona's port of entry personnel as well as to California port of entry inspectors. The State Agricultural Laboratory routinely develops and expands use for and efficiency of its digital imaging system.

Seed Quality

Seed analysts in the Biology Section report seed purity, rates of germination and weed seed content to Arizona's farmers, homeowners and seed export companies. These analyses ensure that seed labels match contents' performance and that package contents do not include harmful weeds. Our seed technicians are certified by the Association of Official Seed Analysts and can recognize at sight over 400 species of plant seeds.

Technical Assistance

The State Agricultural Laboratory provides technical assistance in data control, entomology, plant pathology, pest exclusion phytosanitary certifications and pest importation permits.

The laboratory also provides department personnel with mission-critical information through lectures and hands-on training in recognition, sample submission and field detection of pests and plant diseases.

These department functions are critical to Arizona industry for the reason that Arizona plant products, in order to qualify for export markets, are required to be certified for health by the department. Since other State and foreign markets require certificates which indicate plant

health, and the list of target diseases is dynamic and fluctuating in response to biological, economic and political factors beyond Arizona borders, 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 United States Food and Drug Administration (FDA) certifies the dairy microbiology unit of the laboratory 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 laboratory's dairy microbiology unit. Tests conducted include bacteriological analyses, enzyme activity tests for proper pasteurization of dairy products, antibiotic residue tests, fat and non-fat solids content analyses and other indicators of milk safety and quality. In 2002-2003, the laboratory performed 10,042 microbiological and 142 antibiotic residue analyses on Arizona-produced raw milk, pasteurized dairy products, dairy product containers and environmental dairy water samples for the department's dairy products inspection program.

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

Food Safety and Meat Microbiology

The Arizona Department of Agriculture's development of a vigorous food safety and quality assurance program utilizes the laboratory's testing of agricultural commodities for food-borne pathogens. Raw meat, ready-to-eat products, and animal carcass swab samples are tested in the Food Safety and Meat Microbiology Unit in support of the State's Meat and Poultry Inspection Program - a cooperative program of the United States Department of Agriculture Food Safety and Inspection Service Program.

Last year, the Food Safety and Meat Microbiology Unit was a cooperating laboratory for testing field vegetables from Mexico under contract with the FDA. A total of 464 tests for food-borne pathogens were performed in fiscal year 2003.

Animal Disease Detection

The Animal Disease Subsection tests animal blood and raw milk for evidence of the disease brucellosis, a severe reproductive animal disease. The disease is known in humans as undulant, or Malta fever, and in cattle the disease is also known as Bang's Disease. Brucellosis usually is 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 United States Department of Agriculture has sought to eradicate brucellosis resulting in the current Cooperative State Federal Brucellosis Eradication Program. The Animal Disease Subsection analyzed a total of 20,013 blood and milk samples from domestic and exotic animals for the Brucellosis Eradication Program in fiscal year 2003.

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 130,536 cattle blood samples were collected and shipped to the Lubbock laboratory for testing last year.

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. To date, no confirmed positive Arizona samples have been found.

Chemistry

This year, the State Agricultural Laboratory's Chemistry Section provided regulatory pesticide residue analyses to Arizona 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
- Arizona Structural Pest Control Commission
- Arizona Department of Environmental Quality
- Gila River Indian Community
- Navajo Nation

Technical and training support such as sample collection and preservation, chain-of-custody, test selection, sampling plan development and chemical safety also are services the laboratory provides to its customers.

Natural Toxins

The laboratory performs analyses for the presence of natural toxin residues in human food, animal feeds and pet food products. Natural toxin chemicals include 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 Arizona Department of Agriculture's regulatory focus shifts into the detection and prevention of contaminated products entering into the human and animal food chain.

The Natural Toxins Subsection plays a major role in the certification of three private laboratories to provide Arizona's dairy industries with necessary lab services. Cottonseed is commonly fed to Arizona's dairy cows but a natural toxin called aflatoxin can contaminate cottonseed. By assisting in the certification of the private laboratories, the State Agricultural Laboratory makes possible the safe use of cottonseed and cottonseed products as a feed substance for Arizona's dairy producers who, clearly, 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. 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 statutes to protect dairy producers from obtaining contaminated feeds. To further protect Arizona consumers, milk products also are diligently tested both by industry and the laboratory. Raw and finished milk products are tested for aflatoxin as a final line of defense.

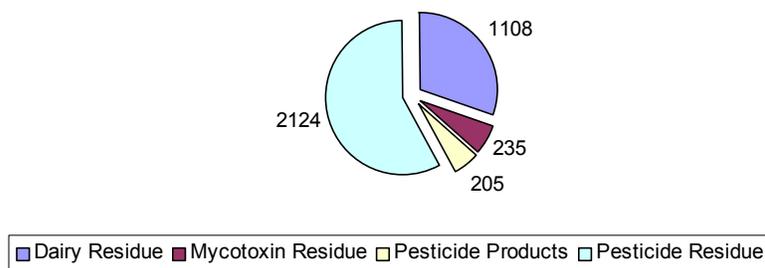
Threat of Pesticide Residues

Pesticide residue testing is conducted for the department's food safety and quality assurance program. The Chemistry Section tests samples collected as a result of any alleged pesticide misuse.

The primary pesticide of concern 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 illustrates the department's regulatory role in preventing significant levels of contamination from reaching Arizona's dairy product consumers.

Other examples of pesticide residue testing may involve off-target spraying of pesticides during agricultural use, incorrect application of pesticides to homes for the prevention of termite infestations, illegal discharge of pesticides into the environment or failure to take necessary actions to protect industry workers.

Chemistry Section



Pesticide residue samples received include water, soil, produce, foliage, animal tissues, air, clothing and surface swabs. Complicating the variety of samples are the estimated 11,420 pesticide products registered for use in Arizona. Analysis of these samples requires advanced scientific tools and experience.

Laboratory personnel expertise in the chemistry of pesticides protects Arizona consumers and industry through the provision of analysis of home-use, commercial and agricultural pesticide products. The Arizona Department of Agriculture 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 actually appear on, and are correctly displayed on, the product label. This regulatory testing not only protects the end-user from potential financial losses, it also plays a key role in protecting pesticide applicators and farm workers against harmful exposure.

The Arizona Structural Pest Control Commission collects similar samples to ensure proper labeling, mixing and application of pesticides used in the home building process. Without this regulatory sampling and the testing performed by the State Agricultural Laboratory, poor quality products or incorrect applications could leave a new home defenseless against harmful termites.

Formulations

This chemistry subsection analyzes commercial feed, fertilizer and pesticide formulations to confirm the guaranteed analyses on the product's labels. Such testing ensures that consumers receive quality agricultural products that meet label guarantees. The Formulations Subsection

also analyzes soil, water and vegetation samples for heavy metals; and meat samples for protein, fat, moisture and salt.

The Formulations Subsection, in fiscal year 2003, analyzed a combined total of 1,371 agricultural products. In all, 418 feed and feed-ingredient analyses, 829 fertilizer analyses and 124 meat analyses were performed for nutrient constituents such as the amount of protein, nitrogen, urea, potassium, phosphorus, sulfur, fiber, calcium and fat. Both raw meat and processed meat were analyzed for the amount of protein, fat, added water and total water. Processed meat was analyzed for salt content. As explained above, all tests are run to confirm the accuracy of the guaranteed analysis printed on each product label.

Conclusion

The State Agricultural Laboratory maintains highest standards in order to protect the safety and the quality of Arizona's food supply and Arizona's environment.

Commodity Development and Promotion

Arizona agriculture industries are recognized national leaders in the nation in crop diversity and self-reliance. As such, marketing and trade assistance are two requests for service the Arizona Department of Agriculture frequently receives. The Department's Office of Commodity Development and Promotion (CDP) supports the Arizona agriculture industry by providing a number of marketing and outreach services. This office promotes Arizona agriculture to local consumers and potential trading partners in cooperation with the State's farmers, ranchers and agribusinesses.

CDP services are delivered through two programs, one of which focuses on domestic channels of trade and the other focuses on international trade opportunities. Both of the CDP programs develop and enhance markets for Arizona agricultural products, increase consumer awareness and educate the public about the quality items produced in Arizona. CDP staff host targeted promotions designed to increase consumer awareness and increase sales of *Arizona Grown* products. CDP staff responds to consumer inquiries regarding local agriculture, distribute educational materials to Arizona school children and work with industry representatives to streamline product movement.

Fiscal year 2003 was a year of tremendous change in CDP, as the office met the challenge of how best to support and promote Arizona agribusiness with only a shell staff.

Arizona Grown

The centerpiece of the Commodity Development and Promotion is the *Arizona Grown* logo program. *Arizona Grown* is a licensed trademark of the Arizona Department of Agriculture and is used to differentiate high quality food and fiber products produced in the Grand Canyon State.

The *Arizona Grown* logo is used to increase awareness, use, and consumption of locally grown agricultural products. CDP showcases ways *Arizona Grown* products benefit the consumer and the agriculture industry, and educates consumers about the availability, freshness, quality and variety of the products grown in our State.

Since the legislature chose to eliminate the appropriation for the Logo-Recognition Program in fiscal year 2002, CDP has, in the alternative, put into place various programs designed to increase recognition of the logo brand such as the Arizona Department of Agriculture's sale of *Arizona Grown* merchandise to the general public. Funds generated from these sales will be invested and used in subsequent years for future marketing efforts. Steps have been taken to offer this merchandise for sale in Arizona airports, State parks and other appropriate venues.

As a result of CDP efforts, and in conjunction with those of other State's departments of agriculture, federal legislation appropriated \$3.93 million to the Arizona Department of Agriculture expressly for the promotion of Arizona specialty crops and general agriculture products. The federal funding enabled CDP to make numerous grant awards directly to Arizona's farming and ranching communities for projects that develop important research, expand markets for *Arizona Grown* products and educate Arizonans about the value of Arizona agriculture. These grants included television, radio, billboard and newspaper advertisements, promotional literature and educational materials for school children.

In addition to the grants, \$50,000 of the federal funds targeted small farming operations specifically aimed at using the *Arizona Grown* logo. Small producers were encouraged to use the

logo in all of their promotional activities from the bags used at their fruit stands to signs on the sides of their farm vehicles.

International Marketing Program

The International Program was absorbed into the Department's Office of the Director at the end of fiscal year 2003 when the legislature and Governor eliminated general funds for the program. Because of the significant financial return on investment from the program, the department continues to fund the program through other sources.

The International Program works to promote and support Arizona agriculture and agribusiness throughout the world and uses various promotional activities in targeting foreign buyers for Arizona agricultural products. As foreign nation markets embrace free trade, Arizona agriculture will capitalize on exporting many *Arizona Grown* commodities. In 2002-2003, CDP continued its focus on Japan and Mexico and added a new program in the European Union.

Funding for CDP international marketing services is entirely from sources within the United States Department of Agriculture Foreign Agricultural Service Market Access Program. Funding awards are made on the strength of the strategic planning, market potential and industry support for each promotional activity. Although funding is limited, CDP has successfully initiated a number of quality international promotions on behalf of various Arizona farmers, ranchers and agribusinesses.

A most effective avenue through which the Arizona Department of Agriculture informs and educates international buyers about the wealth of *Arizona Grown* products is by participation in international trade shows and missions. In participating in these events, the department first works in preparation with industry representatives and companies and then accompanies them to international locales in order to secure buyers interested in their products.

A new area of concentration for the International Program this year was implementation of the government's international policy. The International Program is working closely with the Governor's Office to guarantee adequate representation in the Arizona Mexico Commission and in the Border Governors' Conference. CDP's facilitation of the department's active participation in these organizations will strengthen Arizona's economic relationship with its southern neighbor in the coming year.

ExpoGan Chihuahua, Chihuahua, Mexico, October 2002

Funding awarded by United States Livestock Genetics Export (USLGE) allowed CDP to represent Arizona at the ExpoGan Chihuahua, one of Mexico's largest shows dedicated to the sale and promotion of cattle. Arizona ranchers took advantage of this grant and attended the show. Several made excellent connections thus increasing the likelihood of selling steers to Mexico in the near future.

ExpoGan Jalisco, Jalisco, Mexico

In October 2002, Arizona participated for the first time in ExpoGan Jalisco, the largest livestock show and auction in Mexico. The existence of an Arizona office in Jalisco makes it very easy for Arizona ranchers to have significant connections to and make sales to Mexican ranchers. Several Arizona producers who participated expect to sell animals to Mexican ranchers within 18 months and they have expressed great interest in attending ExpoGan Jalisco in the coming year.

Trade Mission to Okayama, Japan

As a follow-up to a preliminary trip made by Okayama, Japan officials to Arizona, Arizona Department of Agriculture representatives traveled to Okayama, Japan in October 2002. Okayama is known as a Japanese "agricultural" province and its citizens prefer quality produce

and are willing to pay more for that quality. In Okayama, department representatives were shown retail establishments and the wholesale market, and toured farms in the area. In January 2003, Okayama officials returned to Arizona for a second meeting with Arizona producers of greenhouse tomatoes.

Fruit Logistica, Berlin, Germany

In January 2003, the Arizona Department of Agriculture initiated a new program to promote Western Tree Nuts in Europe. The focus of this CDP promotion was the Fruit Logistica event in Berlin, Germany. Several Arizona companies participated under the auspices of the Arizona Department of Agriculture. Two companies secured particularly good contacts and, as a result, expect to sell their products within a year to various new importers and distributors.

This was the first year Arizona tree nut growers were invited to participate in a trade show, which particularly met their market requirements. It is intended that continued participation in this show will result in significant retail promotion for western United States tree nuts as well as an increase in international consumer demand.

FoodEx, Tokyo, Japan

March 2003 took an Arizona Department of Agriculture delegation of greenhouse tomato growers to Tokyo, Japan for FoodEx 2003. The group opened its booth at FoodEx in a premier location. In addition to exhibiting at the show, the Arizonans traveled to the Okayama Prefecture in southwestern Japan as the culmination of the earlier October mission of department representatives. The Arizona greenhouse tomato growers obtained vast amounts of information about the Japanese market and the taste preferences of Japanese consumers.

The Japanese were impressed with the “on the vine,” or cluster-ripened, tomato varieties grown in Arizona. Several Japanese importers stated they would like to purchase the Arizona tomatoes, as vine-ripened tomatoes are currently not sold in Japan. The Arizona growers succeeded in finding a niche market for their commodities, which promises to be fruitful.

Great Expectations

CDP’s successful marketing activities have resulted in the distribution of marketing literature around the world about the quality and freshness of *Arizona Grown* commodities. CDP programs will continue to build upon these foundations and explore new international markets, such as South America, in which Arizona producers of both processed foods and bulk commodities can successfully compete.

In the next year, CDP will extend consumer awareness of *Arizona Grown* products by partnering with a variety of industries. Watch for the “office to work” collaboration with restaurants, hotels, retailers, wholesalers, the media, and community-based organizations as CDP expands the value of the *Arizona Grown* logo.

Councils and Commissions

Pursuant to Arizona Revised Statutes 3-109.02(B), the Department of Agriculture provides authorized or contracted administrative functions for 4 councils and commissions established by law.

Arizona Citrus Research Council

The Arizona Citrus Research Council was created by statute to support the development of citrus research programs and projects within the Arizona citrus industry. 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 from District I (including Yuma County), two from District II (Maricopa, Pima and Pinal Counties) and two producers at large. The Council may:

1. Disseminate reliable information including the results of research studies, surveys and information obtained as a result of the research.
2. Provide grants to research agencies for appropriate studies or for purchase or acquisition of equipment and facilities consistent with the citrus industry.
3. Cooperate with local, State or national organizations or agencies engaged in work or activities similar or related to those of the council and enter into contracts with such organizations or agencies for carrying on joint programs.

In fiscal year 2003, the Council continued its work with research institutions to coordinate industry research needs. Council members, under the direction of Chairman Michael White, approved more than \$93,000 in research grants. The Council filed a notice of Rulemaking Docket opening at the end of the fiscal year and will file proposed rules during the first quarter of fiscal year 2004.

Financial Status - Arizona Citrus Research Council

Revenue	\$64,452.08
Expenses	\$78,541.64

Arizona Iceberg Lettuce Research Council

The Arizona Iceberg Lettuce Research Council conducts research for an Arizona industry that produces more than 35 million cartons of iceberg lettuce at a value of \$240 million annually. Council members are appointed by the Governor and consist of seven producers: four from District I (including Yuma and La Paz Counties), one from District II (including the remainder of iceberg lettuce producing areas in the State) and two at large. The Council, which meets quarterly, reviews and awards a wide range of research proposals on topics such as variety development and lettuce pest eradication. Awards are also made for programs relating to production, harvesting, handling and hauling lettuce from fields to markets. During fiscal year 2003, for example, the Council approved more than \$72,000 for research grants on projects relating to managing lettuce disease, breeding high quality lettuce for arid climates and evaluating strategies for lettuce drop.

In addition, the Council received five specialty crop grants from the Arizona Department of Agriculture totaling more than \$350,000. Funded projects included “The Evaluation of Lettuce Cultivars for Resistance to Wilt” and “Thrips Management in Desert Lettuce: Understanding Crop Insect Interactions.”

Financial Status-Arizona Iceberg Lettuce Research Council

Revenue	\$338,138.81
Expenses	\$274,006.48

Arizona Wine Commission

The Arizona Wine Commission promotes the Arizona wine industry through research, trade promotions, marketing, advertising and the sale or dissemination without charge of wine produced in Arizona. This Commission administers the Wine Fund established by the Arizona State Legislature to promote the wine industry. Monies provided by the fund enabled participation in the 2003 Grape and Wine Symposium and ongoing viticulture research by the University of Arizona. The Commission is made up of seven Governor-appointed members: The Director of the Department of Agriculture, two producers, two growers, one retailer and one wholesaler. By statute, the Commission will:

1. Develop and implement a comprehensive research, promotional and educational campaign to investigate and ascertain the needs of producers of wine in this State, market conditions and the degree of public awareness of wine products produced in this State.
2. Encourage favorable media coverage of Arizona wines and wineries.
3. Promote the discovery and development of new and improved vines for reliable and economical production of wine grapes in Arizona.

During fiscal year 2003, the Commission authored six rules that clarify its administrative organization and completed a partial Sunset Review that continues its operation.

Currently, Arizona boasts 16 vineyards and wineries generating \$20 million in economic development for the State. Interestingly, since 1989, Arizona wines have been served at the White House.

Financial Status - Arizona Wine Commission

Revenue	\$25,583.97
Expenses	\$13,924.42

Arizona Grain Research and Promotion Council

The Arizona Grain Research and Promotion Council utilizes grower check-off funds to aid in marketing for wheat and barley, to participate in research projects and other programs to assist in reduce freshwater consumption, to develop new grain varieties and to improve grain production, harvesting and handling methods. The Governor appoints the nine Council members who meet quarterly. Research continues to be a top priority of the council with continuing support for the research activities of the University of Arizona.

Projects focus on production management of durum wheat and barley for yield, quality and water use efficiency, the study of herbicides for improving weed control, development of new limited-input small grain varieties, crop coefficients for estimating small grain water use and methodologies to support tissue testing as a predictive tool to prevent low grain protein content in durum. Annually, the Council funds the small grain variety test trials used by producers to evaluate the varieties available. Approximately \$29,000 was used to fund these projects this year.

The Council supports the activities of United States Wheat Associates, the export market development arm of the United States wheat industry. Council support 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 globe.

The Council amended its rules effective December 11, 2002. Subsequently, the Council sought an extension of its 2003 Five-Year Review Report, as provided in Title 41 if rules are adopted within the prior two-year period. The next Five-Year Review will be due in January 2008. In 2003, the Council was granted a 10-year continuation by the Arizona State Legislature upon successful completion of its Sunset Review.

Financial Status - Arizona Grain Research and Promotion Council

Revenue	\$143,794.50
Expenses	\$105,885.52

Agricultural Employment Relations Board

The Agricultural Employment Relations Board (AERB) was established in 1993 to provide a means to collectively bargain which is fair and equitable to agricultural employers, labor organizations and employees. The Board oversees a process to provide a means by which the agricultural community may engage in labor organization activities and fair elections and by which declaration may be made whether certain acts are unfair labor practices and therefore subject to legal intervention.

The Board is comprised of seven members (and two alternates): Two agricultural employers/management, two organized agricultural labor representatives and three public members, from which a Chairman must be selected. The Board has an annual budget of \$23,300.

During 2002-2003, the Board rewrote its administrative rules at 4 Arizona Administrative Code 2 with extensive public participation in the rulemaking process. The rulemaking was in response to commitments made in the Board's Five-Year Review of Rules, accepted by the Governor's Regulatory Review Council the previous year. In 2003, the Board's successful completion of its legislative Sunset Review resulted in it being granted a 10-year continuation.