

# Arizona Agriculture Reaches the World

*Promotion*



**Arizona  
Department  
of Agriculture**

**Annual Report  
FY 2001-2002**

*Consumers*



*Farmers & Ranchers*



*Regulation*

*Quality...from the land to you*

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September 30, 2002

The Honorable Jane Dee Hull  
Governor, State of Arizona  
1700 West Washington  
Phoenix, Arizona 85007

Dear Governor Hull:

It gives me great pleasure to present to you and the people of Arizona, the Arizona Department of Agriculture's Annual Report for FY 2002. The Annual Report represents our agency's service to our community both domestically and abroad. The title says it all, *Arizona Agriculture Reaches the World*.

We are proud to fulfill our mission of regulating and promoting Arizona's multi-billion dollar agriculture industry in a manner that encourages farming, ranching and agribusiness while protecting consumers and natural resources. Through valuable partnerships and other interactions with the regulated industry and public at large, the Department continues to meet its mandates with integrity and consistency.

The theme of this annual report is *Quality—from the land to you*. Throughout the report you will learn how the Arizona Department of Agriculture has preserved and, often times, improved the quality of its services, the quality of agricultural products grown in Arizona, and the quality of life that millions of Arizonans have come to enjoy.

The Arizona Department of Agriculture has implemented many improvements and successes in FY 2002. From consistently and fairly regulating the agriculture industry and promoting *Arizona Grown* products to rewarding employee dedication and hard work, the Department is constantly seeking ways to improve service.

The following report summarizes the FY 2002 accomplishments of the Department in its effort to serve the public.

Sincerely,

A handwritten signature in cursive script that reads "Sheldon R. Jones".

Sheldon R. Jones  
Director

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# Arizona Agricultural Advisory Council

The Arizona Agriculture Advisory Council is made up of five members appointed by the Governor to five-year terms. By statute, two members are actively engaged in animal production as their major source of income, two are in plant production and one in agribusiness. Members may continue to serve until a successor is appointed and assumes office. A member may not be appointed to more than one full-term plus appointment to fill a vacancy for the remainder of the unexpired term.

The advisory council reviews agricultural policy in Arizona as established by law and as administered in all functional areas of the Department. The advisory council assists the director in formulating administrative rules and the proposed budget allocations among the administrative units of the department. The council also reviews and makes recommendations to the director on proposed rules prior to adoption.



**Glenn Hickman**  
*Agribusiness*  
Chairman



**Earl Petznick**  
*Animal Production*  
Vice Chairman



**Robert Barkley**  
*Plant Production*



**Ben Gingg**  
*Animal Production*



**Doug Mellon**  
*Plant Production*

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# Department of Agriculture Leaders

## Mission

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

### **Director Sheldon R. Jones**

Director Jones is a down-to-earth dignitary who leads a staff of 400 dedicated department employees. Growing up on a Payson ranch, Director Jones developed a deep personal appreciation for Arizona agriculture that continues to play a role in his management of this cabinet-level agency. Locally, regionally, nationally and internationally, Jones represents Arizona's agricultural heritage.



### **Associate Director Jack Peterson**

Jack Peterson manages the Department's Environmental Services Division. He grew up on a Minnesota farm. Peterson started working with environmental issues as a pesticide inspector and over time has achieved national recognition as an expert in the fields of pesticide regulation and worker protection.



### **Associate Director John Caravetta**

John Caravetta brings extensive industry experience to the Plant Services Division. In the private sector, he held sales and marketing positions for agricultural chemical companies after beginning his career as a county extension agent in the Midwest.



### **Associate Director Dr. John Hunt**

John Hunt joined the Arizona Department of Agriculture as the Associate Director of the Animal Services Division in November of 2001. He served as the State Veterinarian Director of the Animal Health Division at the Missouri Department of Agriculture for eight years prior to coming to Arizona.



## Vision

**Quality...  
from the land to you.**

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**Assistant Director Jim Nowlin**

Jim Nowlin is responsible for the State's fresh citrus, fruit and vegetable quality assurance program. A science educator by trade, Nowlin joined the Department as an inspector and has brought his field experience to leadership of the Citrus, Fruit and Vegetable Standardization program.



**Assistant Director Brett Cameron**

Brett Cameron has served Arizona agriculture in many capacities. He is responsible for the Agricultural Consultation and Training program which received the Agency's first-ever Governor's Spirit of Excellence Award.



**Assistant Director Dwight Harder**

Dwight Harder directs the activities of the State Agricultural Laboratory. He is active in various regional, national and international scientific and regulatory organizations. He has led the effort to keep the laboratory at the leading edge in technological innovation.



**Assistant Director Nicole Waldron**

Standing on a firm foundation of experience with national, state and local public policy, Nicole Waldron serves Arizona's agricultural industry well. As Commodity Development and Promotion Assistant Director, Waldron has a stellar, innovative approach to marketing and promotions. She is opening doors for Arizona's farmers and ranchers by developing new markets at home and abroad for *Arizona Grown* commodities.



# **Arizona Agriculture Reaches the World**

The vast majority of Arizona's leading agricultural products are traded on the world market. Arizona's cotton, cattle products, citrus, wheat as well as various specialty crops are sold abroad. Primary trade partners include Mexico, Canada, Japan, Australia, Argentina, Chile and China. Each year Arizona's farmers and ranchers contribute a great deal to the nation's highest quality food and fiber products. With a year-round growing climate and relatively low cost of water, Arizona's agricultural industry brings an estimated \$10 billion into the Grand Canyon State's bustling economy.

## ***Agriculture in the Desert?***

Despite Arizona's dry climate, the river valleys and desert lands where irrigation is used are brought to life for farming. Arizona's agriculture is as diverse as its landscapes. From apples to citrus, cattle and cotton to lettuce and freshwater shrimp, Arizona's agricultural industry is among the most innovative and environmentally conscious industries in the country.

## ***Arizona Agriculture at a Glance***

Arizona ranks first in the nation in the average farm size at 3,560 acres. In 2000, Arizona had nearly 27 million acres of land in farms and ranches. Beef is our leading agricultural product, producing enough beef annually to feed more than 4.6 million Americans.

Arizona is among the leading producers of lemons, lettuce and melons. Upland cotton, cattle and cattle products continue to be mainstays for Arizona's agricultural industry.

Renowned nationwide as a specialty crop state, Arizona's farmers grow many specialty crops including vegetables, citrus, nursery plants, nuts, herbs, peppers and even wine grapes. For Arizona's producers, international market access is the key to a solid future.

# **The Evolution of a New Arizona Department of Agriculture**

## **Legislative Year in Review**

The Department was successful in accomplishing its two main legislative priorities in the First Regular Session of the 45th Legislature.

## ***Sunset Legislation***

Arizona law requires all state agencies to be reviewed every ten years as part of a process known as a Sunset Review. This process includes an audit by the Auditor General to determine the Department's effectiveness and necessity. Legislative hearings are followed by a recommendation of the legislative Committee of Reference to continue the Department for ten years. The Department sought, and gained legislative approval to continue the Department until July 1, 2011.

## ***Omnibus Bill***

The Department requested an omnibus bill to address statutes that needed to be modified or repealed, and to implement changes suggested by the Auditor General. These changes were consistent with the Department's goals of embracing change and promoting fiscal responsibility.

The Department's Omnibus Bill this year made several changes to benefit the agricultural industry:

- **Eliminate pre-transit inspections**  
By modifying livestock movement statutes, the Department can now permit a livestock owner to ship livestock going to auctions, feedlots, sale barns or slaughter under a previous inspection certificate, thus eliminating the requirement that inspections must occur immediately before and after shipping.
- **Deregulate hay brokers**  
The Legislature repealed statutes requiring hay brokers to be licensed and bonded through the Department. Because the Department hasn't had to enforce this statute for more than six years, brokers no longer need to have a bond on file with the Department. Hay producers are agreeable to releasing the mandate for a bond.
- **Allow the Grain Research and Promotion Council to earn and retain interest on their account**
- **Repeal the Date and Pecan Standardization Program**  
The change was made because both the Department and the industries felt that market-based quality assurance mechanisms were more stringent than the statutorily established guidelines.

## ***Domestic Farm Wineries Bill***

The Department helped Arizona wineries with legislation that enables them to sell wine from each other's wineries. This will allow Arizona wineries to cross sell and to promote other *Arizona Grown* wine, not just their own.

## **Department Restructuring**

Both the Omnibus Bill and the Sunset Legislation were major steps in promoting changes that have lead to a new Arizona Department of Agriculture. Prior to the formation of the Agency, several boards and commissions enforced Arizona's agricultural laws. New leadership of the Department is breaking down the old walls and recreating the Arizona Department of Agriculture. Times have changed, resources are limited and the Department is reforming to reflect these challenges.

## ***Improved Customer Service***

One of the recommendations of the Auditor General was to combine licensing functions to provide better use of limited resources, improve cash handling practices and cross train employees. The formation of a Licensing Section has resulted in improved customer service.

## ***Licensing Section***

We pooled personnel with licensing expertise into one office to form the Licensing Section. Working together in one location allows uniformity in licensing forms, a single customer database, and uniform cash handling. Customers can now send a vast majority of their licensing questions to one office.

## ***Office of Review and Investigations***

The Office of Review and Investigations is designed to be another tool in the Department's efforts to enforce agricultural laws. The Unit is made up of investigators selected from across divisional lines who are experts in conducting criminal investigations.

This Office has been charged by the Director to identify and site individuals responsible for illegal processing or sale of adulterated or contaminated food; individuals responsible for damage, destruction or theft of native plants; and those responsible for cruelty and the unlawful killing or theft of livestock.

## ***Citrus, Fruit and Vegetable Standardization Joins Food Safety and Quality Assurance Program***

Citrus, Fruit and Vegetable Standardization (CF&V) and Federal State Inspection Service (FSIS) offices were relocated to the third floor of the Agriculture building. The move signifies the Department's intent to unify food quality and food safety functions under the Food Safety and Quality Assurance Program.

## ***Food Safety—a Top Focus***

Meat, milk, egg, poultry, vegetable and fruit inspections are now the responsibility of one division. This is a continuation of the department-wide effort to break down existing barriers, to improve utilization of limited resources, and focus attention on food safety and quality.

In addition to creating efficiency through cross-training, the Department is focusing more on food safety by training inspectors to perform third party audit functions within the food production HACCP plans. HACCP plans are detailed on page 11.

## **Department Achievements**

### ***Legislature Funds Desperately Needed Lab Replacement Equipment***

The Arizona Legislature funded the State Agricultural Laboratory an additional \$90,000 to continue the annual replacement schedule of 9% of the laboratory's equipment each fiscal year beginning in FY 2002. Inflationary costs for the replacement of the scientific equipment account for the increased funding.

This much-needed financial support means our lab can continue to respond to emergency situations and can maintain its scientific integrity. We use scientific equipment to provide appropriate analyses for health-related, regulatory and environmental samples. The legislature approved a conservative 12-year replacement schedule for equipment valued at \$3,500,000. The newly budgeted amount helps assure that the Laboratory's testing results are defensible in court when regulatory action is taken on the basis of the analyses.

### ***Cibola Quarantine Lifted***

An aggressive, two-year Red Imported Fire Ant eradication project at Cibola High School in Yuma was completed in FY 2000. Over 8,200 mounds were initially identified across the 25-acre property and within several school buildings. Eradication of the pest was costly—over \$200,000 was expended by the Yuma school district. Our nationally recognized success in detection and eradication of this pest was the impetus for the USDA to fund our efforts with a cooperative agreement worth \$59,000.

### ***California Leans on our Success***

We successfully negotiated a continuation of the California Department of Food and Agriculture agreement to protect Arizona's Eastern border from Red Imported Fire Ants for a period of three years. This agreement solidifies efforts to establish regional approaches to pest exclusion, and will be the seed for further partnering.

Continuation of this agreement, worth up to \$1,475,000 over the next three years, will enable us to continue operations at the Duncan and Douglas ports and provide expanded staffing at the high-volume, interstate ports of Sanders and San Simon.

### ***ACT Yuma Field Consultant***

The Yuma area has a vast agricultural community with numerous crops grown year round and an extensive farm-labor force. During the winter months, October through April, Yuma is known as the *Salad Capital* of the nation. In an effort to provide a higher level of service to the community, an office and a full-time ACT Field Consultant position were established in Yuma. Frank Zamudio, a former Environmental Services Division Industrial Hygienist, has filled the position and is already working to help train the Yuma Agricultural Community.

### ***2000 Governor's Spirit of Excellence Awards***

One of only two non-regulatory programs, Agriculture Consultation and Training (ACT), received the Department's first Governor's Spirit of Excellence Award. Requirements to achieve this prestigious award include strong leadership, a commitment to continuously improving customer service, increasing productivity and/or decreasing costs in state government.

This award is representative of the Agency's efforts to the overall improvement of programs and services. Since the inception of ACT in 1994, the program has grown from one of waiting for the phone to ring and handling 44 compliance assistance issues per

year, to one of constantly being on the road and handling more than 1,900 compliance assistance issues per year.

## **Foot and Mouth Disease**

### ***A World Crisis***

During the spring of 2001, the U.S. moved into crisis prevention mode when an outbreak of an economically devastating livestock disease was discovered in the United Kingdom. Although Foot and Mouth Disease, or FMD, occurs in many, primarily underdeveloped countries throughout the world, it had not been seen in the U.K. for two decades.

Many in the U.S., including members of the cattle, sheep, goat and swine industries, as well as state and federal animal health officials, were alarmed. This is due, in part, because of the occurrence of such a contagious disease in a country with an extremely sophisticated animal disease protection system. Because of the close ties with the U.K., both through trade and passenger traffic, the U.S. had to prepare for the worst. The U.S. has not faced this disease for decades. The last outbreak was in 1929 in California.

### ***Increasing Animal Disease Threats***

With the ease of international travel and relaxed trade restrictions, comes the threat of a major economic crisis. Our animal industries are now more vulnerable than ever to a foreign animal diseases. Foot and Mouth Disease could compromise the health of this country's animal industries and the welfare of a nation dependant on an abundant supply of reasonably priced, safe and wholesome food.

News of the U.K. outbreak, with losses estimated to be as high as 10 percent of the total livestock population there, initiated a number of activities in the U.S. at both the state and federal levels to improve the protection of our animal health populations.

### ***Arizona's Efforts to Protect Our Livestock***

While Foot and Mouth Disease is not a human health threat, the Arizona Department of Agriculture undertook a number of activities to improve its ability to protect, or safeguard the health of livestock. The Agency has a Foreign Animal Disease Emergency Response plan.

### ***Animal Disease Emergency Response***

The Agency's emergency response plan encompasses many local and state government emergency response officials. Tabletop exercises are held to insure that whatever animal disease outbreak occurs, local, state and federal entities can work together to decrease its overall impact. Collaboration with the United States Department of Agriculture Animal Plant Health Inspection Service, is another way we've worked to protect Arizona from FMD. We have trained our inspection staff to work with federal officials at our International Airports and at state and federal border stations.

## ***Training to Recognize the Symptoms***

The State Veterinarian has trained our livestock officers and inspectors, other certified veterinarians and interested industry personnel to identify the symptoms of FMD and how to implement biosecurity measures to prevent a local outbreak. These group sessions and other educational materials were disseminated through public meetings and media outreach efforts.

## ***Regional Approach***

Arizona hosted a border FMD meeting with Mexican border officials and several other border states including California, Texas, New Mexico and Florida. The goal of the meeting was to discuss the threat from a regional approach. Early detection and comprehensive communication were accepted as the best approach. The region remains on alert for signs of animal disease threats.

## ***SECC Together - We Win***

The State Employees Charitable Campaign, or SECC, is an integral part of the Agency under Director Jones' leadership. Participating as a Pacesetter Agency for the last five years means our campaign starts a little earlier and hopefully sets the pace for other agencies within state government.

From hot dog cookouts, cow milking contests, sight-seeing train rides, multi-agency trap-shooting competitions and golf tournaments to the enormous generosity evidenced in Arizona Department of Agriculture employee payroll donations, we have definitely lived up to the spirit of SECC's motto, *Together—We Win*.

## ***We Strive to Succeed***

Through our personal, professional achievements, the Arizona Department of Agriculture is poised to serve its customers and the public into the future. The mission of the Arizona Department of Agriculture is to regulate and support Arizona agriculture in a manner that encourages farming, ranching and agribusiness while protecting consumers and natural resources.

## ***NFACT and National Agricultural Policy***

Creating a dialogue at the federal level, five state departments of agriculture formed a coalition to bolster their efforts aimed at protecting and promoting specialty crops, livestock, poultry and aquaculture in their respective states. The departments of agriculture from New Mexico, Florida, Arizona, California and Texas (NFACT) represent 26 percent of American agricultural cash receipts as well as 27 percent of the U.S. congressional delegation. Leveraging this significant representation into meetings with high-ranking federal officials has brought much needed attention to NFACT issues.

NFACT is known for its strong stance on issues such as animal and plant health, food safety, conservation, international and domestic marketing, research and risk management.

### ***Congressional Impact***

NFACT has used its unified voice to highlight both national and international agricultural issues of importance. Now that the 107th Congress and Bush Administration are preparing to develop the 2002 farm policy legislation, NFACT has set as a major goal to have specific recommendations available for their consideration. In order to capture diverse agricultural, environmental and regional needs, NFACT hosted 14 listening sessions from November 2000 through February 2001.

### ***Listening to Farmers and Ranchers***

The forums provided an important opportunity for the agricultural, environmental and academic communities—as well as other concerned stakeholders—to have a strong voice in crafting the NFACT recommendations. Transcripts of these sessions included thousands of pages of written and oral testimony, which were both comprehensive and well presented. (Transcripts are available for review on the Internet at [cdfa.ca.gov/nfact](http://cdfa.ca.gov/nfact).)

### ***Farm Policy Influence***

The NFACT coalition sorted through the hundreds of good ideas and critical issues to arrive at a number of key findings and recommendations. Included in this report are the consensus recommendations endorsed by the NFACT coalition. NFACT was pleased to present our recommendations to Capitol Hill as federal farm policy for the new century.

In the coming months, the NFACT coalition is looking forward to working with members of the 107th Congress, the Bush Administration and U.S. Secretary of Agriculture Ann Veneman to help America's farmers and ranchers meet the present and future challenges facing production agriculture in America. Ultimately, NFACT is working hard so that the men and women responsible for our nation's food and fiber can achieve their dreams of continued innovation, productivity and future prosperity.

## **About Our Leader**

### ***Director Sheldon R. Jones***

Sheldon R. Jones, Director of the Arizona Department of Agriculture, serves the Governor, the public and the agriculture industry as the steward of responsible public policy relating to agricultural, rural economic development, the environment and natural resources. Director Jones sits on numerous committees and boards where his dedication to Arizona's producers and citizens is illustrated by his positions on land, water and agriculture related issues. Jones represents an increasingly diverse and growing industry. Through the Department, Arizona agriculture is given a voice that is heard at all levels of government.

Throughout the year and across the state, Jones promotes agriculture and the role it plays in Arizona's burgeoning economy. After all, agriculture is the bedrock of human civilization and Arizona's economy, from its earliest point, has relied on the unique and innovative agricultural producers of our state. From his roots as a cattleman and his experience as an agribusiness banker, Jones makes every effort to educate the community on the prosperous past and future of Arizona agriculture.

From hosting foreign leaders interested in trading with Arizona producers, to his involvement on the Governor's Water Management Commission, Director Jones ensures that Arizona's agriculture industry and its unique interests are adequately represented. Formal speaking engagements for agricultural enthusiasts and grassroots debates signify his passion for the community he serves.

With callused hands from a rural upbringing, Jones knows the value of working with farmers and ranchers. However, he understands the benefit of breaking the mold and meeting with young people, urban communities and business leaders to find innovative ways for Arizona agriculture to continue growing.

Future Farmers of America students, 4-H students and citizens participating in festivals and events are all audiences who have learned that Jones is more than a government official; they have learned he is a leader who enjoys talking about Arizona agriculture's successes and challenges.

He holds the title for *fastest celebrity cow milker* at the Annual Arizona Ag Day event, tosses up *Arizona Grown* salad at the Annual Yuma Lettuce Days and duels fellow Cabinet members for the State Employee's Charitable Campaign. Jones is truly a hands-on director.

## ***National Ag Policy***

U.S. Agriculture policy development is usually dominated by issues and concerns of the citizenry in the Midwest, South and East. Generally, the policies and the programs they create have limited applicability to Western states, like Arizona. Presently, many agricultural and environmental organizations are framing the major issues for national Farm Policy. In fact, the Arizona Department of Agriculture has partnered with organizations like the National Association of State Departments of Agriculture and the Western Governors' Association to develop a national agriculture policy that addresses the needs of American agriculture and not just the concerns of colleagues in the Midwest, South and East.

Internationally, Director Jones is strengthening the channels of trade with our neighbors to the South as Chairman of the Agribusiness Committee for the Arizona-Mexico Commission. The Arizona-Mexico Commission promotes the importation and exportation of all food products in Arizona and Mexico. In an effort to break down border trade barriers, the Commission focuses on ensuring a quality food supply, disease free animal trade, as well as continuing to foster sound business relationships.

Jones credits his entire staff in facilitating the Department's accomplishments in serving Arizona agriculture at home and abroad.

# **Environmental Services**

## **Overview**

The Environmental Services Division changes in responsibility have slowed. Through the strategic plan implementation of a licensing section and the Office of Review and Investigation, the division now provides uniform customer service, appropriate cash handling and follows up on agricultural related crimes. The Division continues to protect public health, agricultural workers, consumers and the environment. This Division is responsible for ensuring the proper use of crop protection products. The Department inspectors ensure compliance with environmental laws and rules by monitoring the agricultural use of pesticides. Division inspectors also inspect and sample feed, fertilizer, pesticide and seed in the marketplace to protect consumers.

## **Staff Allocations**

The Environmental Services Division had 41.5 full-time employee positions as of June 30, 2002; 13 were field inspectors, who are responsible for sampling the various products and assuring compliance with pesticide, feed, fertilizer and worker protection statutes and rules. One and one-half of these positions are assigned to the laboratory to help in product analysis. This number reflects the additional staffing for the licensing section and five investigator positions in the Office of Review and Investigation (ORI), with most positions coming from the Animal Services Division. Because of the tight and unknown budget situation, approximately 25 percent of the division's positions were held vacant during the year. Four positions will remain vacant within current reduced budget levels.

## **Registration and Licensing Section**

### **Customer Service**

The licensing section allows customers to stop at one location and take care of all licensing needs. In 2001, the Aquaculture, Meat and Dairy and Egg Licensing programs were added to the list of services provided. Then in April, Certificates of Free Sale were added to the Licensing Section. October of 2001 saw the beginning of a mail-in registration process for equine which created a virtual doubling of walk-in customers and transactions performed, while maintaining the same customer turn-around times. During this time, technology came within the section to allow actual pictures of a person's horse to be placed on hauling cards. This provided a more professional registration card and was met with approval from our customers. The Licensing Section is committed to providing excellent customer service to both our internal and external customers.

### **Combining Resources**

By combining resources from these divisions, we not only provide better customer service while issuing licenses, but also comply with Generally Accepted Accounting Practices for cash handling.

## ***Agricultural Licenses***

The Licensing Section processes approximately 50 percent of the different types of licenses issued by the Department, which accounts for about 96 percent of the total quantity of licenses issued. The 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.

Funds for enforcement of the Commercial Feed Laws come from an annual \$10 license fee and a \$0.20 per ton inspection. Fees are paid by licensees and collected by the Department. Fertilizer Materials Act enforcement funds come from an annual \$125 license fee, a \$50 per brand and grade specialty fertilizer registration fee and a \$0.25 per ton inspection fee. Revenues for the enforcement of the state Pesticide Registration Law come from a \$100 per brand registration fee. Seed programs are funded from an annual license fee of \$25 for dealers and \$40 for labelers. Approximately one-half of the seed money is utilized to fund a portion of a position at the State Agricultural Lab to do the seed quality analysis.

One hundred dollars of the fee paid for each fertilizer license and \$75 of the pesticide registration fee help support the Arizona Water Quality Assurance Revolving Fund (WQARF), which is administered by the Arizona Department of Environmental Quality (ADEQ) and pays for ground water cleanup projects. In 2002, \$834,900 in fees was collected for the WQARF. Fertilizer license fees contributed \$29,100 while pesticide registration fees made up the remaining \$805,800. The table following this section covers the number of companies licensed, products registered and various credential holders.

## ***Training and Certification***

After passing tests for competency, private and commercial pesticide applicators receive certification, they can then re-certify through participation in training sessions. In addition, the Division offers training sessions throughout the year in English and Spanish to qualify individuals to train workers and pesticide handlers on pesticide safety and encourage worker protection and safety across the state.

## ***Continuing Education***

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

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

During FY 2002, 159 training courses including 251 separate sessions approved by the department provided credential holders an opportunity to earn credits.

## Testing Center

With the implementation of the Licensing Section, tests offered by the Environmental Services Division have expanded. Exams include milk haulers, cottonseed samplers and a myriad of pesticide use related credentials. With additional exams, a new processes has been implemented. Individuals are now required to show identification before taking an exam and the Identification is collected. Individuals are no longer allowed to bring materials into the testing room. These procedures were necessary after individuals were caught bringing materials into the exam. In one situation, the individual walked out with the exam. 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 advice on testing options.

### Exams Administered in FY 2002

TYPE OF EXAM	Total Exams	Number Passed	Number Failed	Passing Rate
Commercial Applicator (PUC)	115	101	14	88%
Custom Applicator (CA)	7	4	3	57%
Pest Control Advisor (PCA)	74	43	31	58%
Private Applicator (PUP)	140	116	24	83%
Milk Sampler & Hauler	87	82	5	94%

Cottonseed Sampler	4	2	2	50%
TOTALS	427	348	79	87%

### **National Pesticide Certification**

Nationally, the Pesticide Certification Program is undergoing assessment. A national group of regulatory and extension people are looking at improving the overall quality of the National Pesticide Training and Certification Program. With the goal of ensuring professionalism within the pesticide application industry, this will require changes in some states. Arizona is already ahead of the curve. For certification, Arizona requires closed book monitored exams for initial certification and continuing education credits for renewal. The Department continues to play an active role in these national meetings to develop and discuss ways to improve the federal program. The current areas for revision nationally include mandatory testing, age limits on who can be certified, closed book monitored exams and varying the training levels required for different pesticides based on their toxicity and potential to cause harm. The last issue ties into helping in the national security effort.

### **Auditor's Report**

We conduct in-house auditing of feed and fertilizer tonnage reports, perform random visits to selected and identified feed and fertilizer licensees, and offer on-site reviews of feed and fertilizer tonnage and pass-through reporting. Additionally, programs that handle monies are subject to review for accuracy and timeliness of handling.

The auditor's office issued 102 Feed, Fertilizer, Pesticide and Seed Quality Assurance-Cease and Desist Orders. It assessed 22 Fertilizer Deficiency Penalties totaling \$5,120.98 to 15 different companies.

With guidance from MIS, an ESD Compliance Auditor wrote and installed an MS-Access program, which monitors and reports deposits made by Animal Services Division field staff.

Through the guidance of our MIS Division and DeVry student teams, ESD installed and implemented their **Revenue Inventory Tracking System (RITS)**. Regardless of type or source, the RITS program enables ESD License/Registration to track all revenues from the time of receipt to their disposition. To assure timeliness, all items, can be queried and reviewed. Additionally, the tracking program can verify deposits for each respective program.

### Licenses and Registrations Issued 2002

Pesticide	
Total Pesticides Registered*	10,263
Agriculture	1,253
Non-Agriculture	9,010
Fertilizer	
Licensed Fertilizer Companies	473
Specialty Fertilizers	1,239
Feed	
Licensed Feed Companies	817
Seed Dealers	679
Seed Labelers	173
Dairy/Milk Industry Licenses	62
Aquaculture Licenses	76
Egg & Egg Products	93
Meat Industry Licenses	256
Livestock Brand Certificates	2,400 (Approx.)
Equine Certificates Issued	17,689

\*\*\*\*\* Calendar Year

<b>Pesticide Use Related Credential Summary</b>	
Grower Permits (PGP)	1,218
Pesticide Sellers (PSP)	201
Ag Aircraft Pilots (AAP)	61
Custom Applicators (CAA)	55
Equipment Tags	466
Pest Control Advisors (PCA)	240
Certified Applicators	742
Private Applicators (PUP)	490
Commercial Applicators (PUC)	252

# **Pesticide Use Compliance**

The Department aggressively monitors pesticide applications and activities related to mixing and loading pesticides, offers storage and disposal of pesticides and empty pesticide container disposal to ensure the safety of pesticide workers and handlers and protects the public from unlawful pesticide exposure.

## ***Monitoring Pesticide Use***

As part of a cooperative agreement with the Environmental Protection Agency (EPA), department inspectors monitor pesticide applications. Inspectors monitor applications of pesticides in agricultural areas to ensure that pesticides are handled and applied in accordance with state law and federal pesticide labeling requirements. Monitoring efforts are also intended to ensure that pesticides are applied in a manner that avoids off-target movement of the pesticide into areas that might create a hazard to humans, animals or the environment. Inspectors ensure that protective equipment is used by the applicator and cautionary measures are followed. Cautionary measures may include proper temperature, humidity and wind conditions and that the pesticide is only applied by certain methods.

## ***Restricted Use Pesticides***

Inspections are conducted at pesticide distributors to ensure that pesticides are properly registered with the State and the Environmental Protection Agency. Pesticides classified as *restricted use* are sold and used only by persons who have proven their competency to handle the associated risks through certification. This ensures that agricultural insecticides do not find their way into urban settings for residential use. Inspections are also designed to identify pesticides that have been manufactured in other countries and illegally imported into Arizona. Generally, such pesticides are not subject to the same strict quality control or child-safe packaging measures as pesticides manufactured for use in the United States and may create undue health risks to people, animals and the environment.

## ***Pesticide Application Record Keeping***

Department inspectors conduct records inspections of pesticide applications made on an agricultural establishment. Inspectors conduct records inspections of agriculture pesticide applications to assure the applicator is properly certified to handle restricted use pesticides, keep records of those pesticide applications, store unused pesticides safely and dispose of empty pesticide containers in a manner that does not present a risk to humans, animals or the environment.

## ***Misuse is Taken Seriously***

Complaints alleging pesticide misuse are promptly and thoroughly investigated. Once an investigation is complete, a recommended disposition is prepared. No recommended disposition can take place without a review and approval by the Associate Director, the Director and an attorney from the Office of the Arizona Attorney General. If all parties agree, a complaint can be issued. Negligent parties may negotiate a settlement with the Department, request a hearing with the Office of Administrative Hearings or pay a penalty established by law for their actions.

## **Report Pesticide Misuse**

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

## **Pesticide Use Compliance Rules**

The Department continues the process of rewriting the Pesticide Use Compliance rules. Throughout the year, the Department met extensively with an adhoc group to update the rules and a final draft was developed for public comment. After the rules went through the public hearing process and received no negative responses, the package went to the Governor's Regulatory Review Council (GRRC). Here the package was required to be revised extensively to meet their format. The Auditor General's Office, EPA and GRRC indicated that a section requiring further review was Article 5, the penalties section, because it does not adequately address the statutory requirements. As a result, a supplemental package was opened.

## **Non-Food Quality Assurance**

Feed, fertilizer, pesticide and seed samples are collected by inspectors from products distributed in Arizona to determine compliance with labeling and quality requirements. State Agricultural Laboratory staff analyze the samples and report the findings. Enforcement action is initiated when analysis is found to vary from label guarantees or when labels are misleading, unclear or are not in compliance with appropriate laws. Actions may include warning letters, cease and desist orders and/or license cancellations. In some instances requests for criminal prosecution may be necessary because there is no civil penalty authority in the Non-food Quality, feed, fertilizer or pesticide programs. Expenses for enforcement of the feed, fertilizer and pesticide statutes are paid by licensing, tonnage inspection or registration fees applied to the commodity or product involved.

Department inspectors are also charged with ensuring that persons who sell or distribute feed, fertilizer, seed and pesticides are properly licensed and that their products are lawfully registered in the state. In addition, the State Agricultural Laboratory routinely collects samples of these products for analysis. Analysis ensures that manufacturer label-represented guarantees are met, ingredients have not degraded and the product is not adulterated with anything harmful. This sample analysis ensures that the consumer receives a quality product. The table below summarizes these sampling activities.

<b>SAMPLE ANALYSIS FOR DEFICIENCIES for FY 2002</b>						
	<b>Received</b>		<b>Reported</b>			
<b>Sample Type</b>	<b>Collected</b>	<b>Analyses</b>	<b>Samples Reported</b>	<b>Sample Violation Rate</b>	<b>Analysis Violation Rate</b>	<b>Cancelled</b>
Feed	307	705	336	14.6%	9.6%	4
Fertilizer	553	1372	577	10.6%	6.0%	6
Mycotoxin	32	130	35	17.1%	4.6%	11
Pesticide Formulation	201	226	213	7.0%	6.5%	13
Pesticide Residue	143	176	126	Not Applicable	Not Applicable	32
Seed	752	1129	799	5.9%	-----	6

## **Agricultural Worker Safety**

The Department's Worker Protection Standard (WPS) efforts predate federal standards and continue to be a benchmark for other states. The Department complements WPS inspections by remaining in regular contact with the agricultural worker community, thereby gaining trust and credibility.

### ***Train-the-Trainer***

The Train-the-Trainer program was reviewed internally by looking at the surveys received for training seminars held during the year. The program was revised to ensure continued interest on the participants' part. The new program is conducted in cooperation with Agricultural Consultation & Training staff, who generally follow the courses with pesticide handler training. The course test has been rewritten and expanded from 25 questions to 50 questions to test participants' basic knowledge. Reviews continue to give the program high marks. Meetings are held throughout the year in agricultural regions of the state to allow easy access by the regulated parties. These sessions are offered in both Spanish and English.

## ***Make the Grade***

Twenty-two Train-the-Trainer courses were taught during this fiscal year, half in English and half in Spanish. More than 150 people attended these sessions, 110 participants passed the certification test to become certified trainers for pesticide handlers and field workers.

## ***Worker Protection Standard***

Department inspectors cover the Worker Protection Standard (WPS) through inspections, participation in training courses and developing training materials. Industrial hygienists help agricultural establishments who need assistance to be in compliance with the WPS laws. All hygienists are bilingual and can communicate with the farm worker community to ensure they are provided the protections required.

The Department continues to play an active role in various organizations from identifying and coordinating mutual agency requirements to assisting farm workers to become aware of the laws created for their protection. Periodic meetings are offered to allow outreach efforts to be extended to the worker community and employers.

## ***US/Mexico Border Exchange***

The Department continues participation in the United States/Mexico Border Exchange Program. The program is coordinated by the Texas Department of Agriculture and involves all states along the Mexican border. The intent of the program is to educate people from Mexico and the United States on pesticide issues on both sides of the border. The goal is to develop an infrastructure and set standards within Mexico to create uniformity on both sides of the border as it relates to pesticide use, safety and environmental protection. Consistency on both sides of the border benefits Arizona.

In 2001, funding was used for an inspector exchange program. Arizona hosted two inspectors from Mexico and introduced them to Arizona agricultural practices and how we implement pesticide compliance and worker safety programs. Two Arizona inspectors spent a week learning of their programs and farming practices in Mexico.

## ***National Leadership***

Nationally, the federal worker protection program continues to undergo assessment to ensure its effectiveness. A meeting was held in Orlando, Florida with a broad representation from the worker, employer and regulatory communities. The Department was active in the meeting and follow-up conference calls in trying to set up plans for change. Nationally, the goal is to ensure the safety of workers through quality inspections. If several Arizona requirements were adopted nationally by the Environmental Protection Agency, it would help balance worker protection and employer responsibility. Three examples include worker record keeping requirements, issuance of training cards and required information exchange between contractors and farms. These requirements clarify responsibilities as well as allow for training verification by the employers. These issues are being discussed nationally in addition to the current notification system, the training requirements and how inspections are done.

Arizona is also part of the national effort to evaluate the Worker Protection Program. EPA regional offices are reviewing various state programs to ensure the program is being implemented correctly. Arizona is part of this as this year representatives from the EPA

Region 9 Office traveled to the Yuma and Phoenix areas to conduct WPS Assessments with local industrial hygienists. The purpose was to review the Department's program and enforce a national uniformity of the WPS.

<b>CASE ACTIVITY FY 2002</b>	
Cases Opened	95
Cases Still Open or Awaiting Recommendation	39
Total FY 2001 Cases Completed and Closed in FY 2002	29
Total FY 2002 Cases Completed and Closed in FY 2002	52
<b>Total Cases Investigated in FY 2002</b>	<b>95</b>

<b>PESTICIDE COMPLAINTS OPENED / INVESTIGATED FY 2002</b>	
<b>07/01/01 - 6/30/02</b>	<b>Number of Cases</b>
Agricultural Safety	28
Expired License	12
Drift - Health Effects	7
Drift / Overspray	6
Drift - Property Damage	2
Drift - Fish Kill	2
Illegal Sales	4
Label Violations	4

Avian / Animal Poisoning	3
Unregistered Pesticide	2
Illegal Application	2
Quality Assurance	1
Container Disposal	1
<b>Total Cases</b>	<b>74</b>

<b>Non-Pesticide Related Complaints Received / Investigated FY 2002</b>	
Seed – Voided Test Dates	9
Prohibited Noxious Weed	3
Hay Quality	2
Unlicensed Seed Labeler / Dealer	2
Seed Quality Assurance	1
Unlicensed Feed Manufacturer	1
Unregistered Specialty Fertilizer	1
<b>Total Non-Pesticide Related Complaints</b>	<b>19</b>

# **Office of Review & Investigations**

The Office of Review & Investigations (ORI) is primarily responsible for the investigation of criminal activities involving agricultural laws. The unit is comprised of special investigators trained to investigate criminal wrongdoing involving native plants, livestock, food safety and cultural resource protection. The unit was formed to investigate allegations of criminal activities and review selected departmental inspections. This approach makes the Department's ORI program more efficient and cost effective.

## ***Officer Certification***

ORI investigators are certified peace officers and maintain training standards in investigation techniques, annual handgun qualification and various proficiency requirements.

Annually, ORI investigators attended the Conservation Law Enforcement Association Conference held in Prescott and the Archaeological Law Enforcement Workshop conducted in Camp Verde.

## ***FY 2002 Enforcement Activity***

During the fiscal year the unit investigated 78 cases of alleged misconduct. Of this amount, 34 cases are still pending. Five cases are pending review by County Attorney Offices and the Attorney General's Office to determine what criminal charges should be filed against the responsible individuals. Twenty-seven cases were closed due to insufficient evidence. Six cases were from actions such as warning letters or civil penalties assessed, 3 cases were closed by conviction and 4 cases were referred to another agency for further investigation.

## ***Native Plants Investigations***

The Arizona Native Plant Law was established in 1929 to protect wild growing plants. The law has been amended several times, but increased population and water costs have placed drought tolerant native plants in greater demand for landscaping purposes. The law requires a State permit to possess any protected native plant taken from its habitat. Moreover, it is unlawful to destroy or mutilate any protected plant. To regulate the collection of protected native plants, the Department enforces the law through investigations, legal action against violators, public awareness programs and permit issuance. Without a system to enforce legal removal and transportation of protected native plants, their existence would be vulnerable.

There were 36 native plant cases of theft and destruction with 10 cases still under investigation. One case is pending review by the County Attorney Office and two by the Attorney General's Office. Fourteen cases were closed as having insufficient evidence to prosecute. Five cases were closed after issuing warning letters and one case was closed by conviction. One case was referred to the U.S. Fish & Wildlife Service for further investigation. Department assistance was requested by the State Land Department in two cases involving reckless destruction of a protected plant.

## ***Livestock Investigations***

ORI investigator responsibilities include curtailing the theft and killing of livestock and enforcing the laws and regulations closely associated with livestock inspection. Livestock operators who keep cattle or certain other animals on open ranges must have them marked with a registered brand to establish ownership. Equine ownership/hauling certification has the same function. Both types of registrations help protect livestock owners from having their animals stolen.

There were twenty-seven livestock cases involving theft or questionable ownership. Fifteen cases are still being investigated and two cases are pending prosecution through the County Attorney's Office. One case involving 131 head of cattle was closed by conviction. Eight were closed due to insufficient evidence. One case was closed due to the recovery of the animals, but no suspects were apprehended.

There were ten cases involving livestock killing or cruelty to animals. Six are still under investigation and two were closed due to unfounded or insufficient evidence. Two cases were closed by conviction in which four defendants plead to violations involving either the cruelty or killing of livestock. One of the cruelty cases was referred to the Maricopa County Health Board for further investigation.

## ***Food Safety Investigations***

ORI investigators assist with illegal animal slaughtering operations. Under Federal and State standards, public health requirements are fulfilled by enforcing laws and assuring that Arizona consumers have a safe supply of meat and meat products.

There were 3 cases involving food safety violations. Two are still under investigation and 1 was deemed to be unfounded.

## ***Cultural Resource Investigations***

Material evidence of past cultural heritage is found in many areas in Arizona. This includes ruins and burial and pictograph sites, none of which can be renewed and when destroyed, they are gone forever. While no legal action was taken during the fiscal year, the Department continues to work closely with other agencies to reduce the threat of losing one of Arizona's richest legacies.

One case involving theft of artifacts from tribal gravesites on State Trust land is under active investigation.

**Major Case Summary**

**Protected Theft:**

<i>Cases</i>	<i>Species</i>	<i>No. of Plants Impacted</i>
3	Saguaro	72
1	Pima Pineapple	30
1	Ocotillo	349
1	Barrel	10

**Livestock Cases:**

<i>Theft</i>	<i>No. of Head</i>
23	216

<i>Cruelty</i>	<i>No. of Head</i>
4	13

<i>Killing</i>	<i>No. of Head</i>
6	17

<i>Ownership Disputes</i>	<i>No. of Head</i>
4	210

<b>FY 2002 Enforcement Activities</b>	<b>Quantity</b>	<b>Penalties Assessed During FY 2002</b>	<b>Penalties Paid During FY 2002</b>
<b>Warning Letters</b>			
Regulated Growers – PGP	29	Not Applicable-----	- Not Applicable ----
Fertilizer Manuf. / Distrib.	10	Not Applicable ----	Not Applicable -----
Pesticide Manufacturers	9	Not Applicable -----	Not Applicable -----

Seed Dealers	7	Not Applicable -----	Not Applicable -----
Private Sector	4	Not Applicable -----	Not Applicable -----
Private Applicators – PUP	3	Not Applicable -----	Not Applicable -----
Pest Control Advisor - PCA	2	Not Applicable -----	Not Applicable -----
Farm Labor Contractors	2	Not Applicable -----	Not Applicable -----
Pesticide Sellers – PSP	1	Not Applicable -----	Not Applicable -----
WPS Trainer	1	Not Applicable -----	Not Applicable -----
Commercial Applicators - PUC	1	Not Applicable -----	Not Applicable -----
Seed Labelers	1	Not Applicable -----	Not Applicable -----
<b>Total Warning Letters</b>	<b>70</b>	Not Applicable -----	Not Applicable -----
<b>Deminimus Violations</b>		Not Applicable	Not Applicable
Commercial Applicators - PUC	4	Not Applicable	Not Applicable -----
Private Applicators – PUP	1	Not Applicable -----	Not Applicable -----
<b>Total Deminimus</b>	<b>5</b>	Not Applicable -----	Not Applicable -----
<b>Non-Serious Violations</b>			
Regulated Growers – PGP	7	\$6629.50	\$5048.50
Commercial Applicators	3	\$2398.00	\$398.00
Pesticide Sellers	3	\$542.00	\$1340.00
Seed Dealers – SDL	2	\$500.00	\$500.00
Private Sector	1	\$1160.00	\$71.00
Seed Labelers	1	\$1500.00	\$1500.00
Private Applicators – PUP	1	\$57.00	\$57.00

Farm Labor Contractors	1	0	\$292.50
<b>Total Non-Serious</b>	<b>19</b>	<b>\$12787.50</b>	<b>\$9207.00</b>
<b>Notice of Violations</b>			
Unregistered Pesticides	84	Not Applicable -----	Not Applicable -----
Seed Label Violation	57	Not Applicable -----	Not Applicable -----
Quality Assurance Seed	22	Not Applicable -----	Not Applicable -----
Prohibited Noxious Weed	17	Not Applicable -----	Not Applicable -----
Unlicensed Seed Labeler / Dealer	14	Not Applicable -----	Not Applicable -----
Unlicensed Feed Manufacturer	15	Not Applicable -----	Not Applicable -----
Unregistered Specialty Fertilizer	9	Not Applicable -----	Not Applicable -----
Quality Assurance / Pesticide	6	Not Applicable -----	Not Applicable -----
Unlicensed Fertilizer Manuf. / Distrib.	3	Not Applicable -----	Not Applicable -----
Label Violation – Pesticide	2	-----	-----
<b>Total Notices of Violation</b>	<b>229</b>	-----	-----

# **Animal Health and Welfare Program**

A high priority of the Arizona Department of Agriculture remains the prevention, rapid identification and response to devastating diseases of livestock, poultry and commercial fish, some of which may be transmitted to people, as well as ensuring the humane treatment of our livestock resources. The Foot and Mouth Disease crisis in the United Kingdom and Europe, in 2001 and the events of 9-11, underscore the importance of the Department's emphasis on animal health prevention and maintenance of animal health emergency response capability.

## ***Program Changes Implemented***

In early 2002, the Livestock Inspection Subprogram and Animal Disease Control Subprogram of the Animal Disease, Ownership and Welfare Program were merged into one, the Animal Health and Welfare Program. This occurred as a result of budget shortfalls resulting in a reduction in force in field personnel in the Livestock Inspection Subprogram and a need to focus remaining personnel resources on animal health and welfare issues. With that merger, the State Veterinarian was charged with the added responsibility for the oversight of the expanded program in addition to the already established responsibilities for livestock, poultry and commercial fish disease issues, livestock welfare, and oversight of livestock slaughtering and processing.

## **Disease Prevention, Rapid Identification, Response, and Eradication**

The prevention of imported diseased animals from other states and countries and the rapid identification and containment of infected animals that slip through the safeguarding net is one of the primary goals of the animal health and welfare program. Animal Health and Welfare officers and inspectors work toward this goal by assisting the State Veterinarian with the following:

- Monitoring the health of animals moving in interstate commerce including those moving through interstate and international ports of entry.
- Monitoring the health of livestock at points of concentration such as auctions, feedlots and dairies.
- Enforcement of laws governing the importation of animals.
- Investigation and control of disease outbreaks.
- Application of quarantines when necessary.

- Enforcement of laws pertaining to the heat treatment of meat garbage fed to swine (improperly treated meat garbage can spread swine diseases including diseases foreign to the U.S.).

Additionally, the State Veterinarian collaborates with other state and federal government agencies in the U.S. as well as Sonora, Mexico, to enforce laws and control livestock and poultry diseases. Some of these diseases include Foot and Mouth Disease, Bovine Spongiform Encephalopathy (BSE or Mad Cow Disease), tuberculosis, brucellosis, rabies, pseudorabies in feral and domestic swine, scrapie in sheep, chronic wasting disease in deer and elk and other animal diseases foreign to the United States.

## **Disease Threats**

Because an outbreak of a foreign animal disease is high due to increased international trade (85 percent in the last two years) and passenger traffic along with an escalating threat of agro bio-terrorism, the State Veterinarian began working on a Foreign Animal Disease Response Plan in 1998. The plan was completed in 1999 and incorporated into the State of Arizona Emergency Response and Recovery Plan. It guides the Department as well as other supporting state, federal and private agencies in the event of an actual disease emergency. The U.S. Department of Agriculture announced in late FY 2002 that the Arizona Department of Agriculture would receive a grant totaling nearly \$155,000 to enhance its animal disease surveillance activities and emergency response capability.

### ***Livestock Disease Prevention and Control***

Animal Health and Welfare officers and inspectors working in the field are vital in the initial recognition of unusual animal health events. In order to enhance disease surveillance and response efforts, all field personnel complete a 40-hour comprehensive animal disease-training module. The intensive course on animal health, prevention and control of animal diseases was designed to enhance the ability of Department field personnel working in the livestock inspection subprogram to recognize the symptoms of livestock diseases and determine its regulatory significance. In addition, it enhanced the Department's ability to investigate and take action on cases involving livestock neglect. This new knowledge on animal diseases and welfare concerns will assist the Department as it transitions to an animal health and welfare focus.

### ***Aquaculture Disease and Control***

Arizona is well suited to produce warm water fish species such as catfish, tilapia and shrimp. In addition, production of cold water species such as trout occurs in cooler parts of northern and eastern Arizona.

Aquaculture statistics for FY 2001/2002 indicate 68 licenses were issued to aquaculture facilities, transporters and processors including eight for educational or research purposes. The scope of regulation covers those involved in the growing, transporting and processing of commercially raised fish and shrimp for human consumption.

When transported, live fish must be accompanied by a certificate of aquatic health. Because the Department does not have a fish health inspector on staff, the University of Arizona assists the Department by conducting the fish farm inspections and sample testing in order to complete the health certifications.

## **Animal Health Programs**

In addition to 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 field veterinarians have new responsibilities. These include TSE's Bovine Spongiform Encephalopathy (mad cow disease) in cattle, scrapie in sheep, Johne's Disease in cattle and West Nile Virus in horses. To address Johne's Disease issues, a Department Advisory Committee was formed and meets regularly to discuss implementation of a state voluntary program. New rules for individual identification of sheep and goats in interstate commerce for scrapie control purposes were implemented in 2001 and will be expanded for sheep and goats in intrastate commerce in 2003. The Animal Health and Welfare Program is ready to address emerging diseases as they arise.

### ***Inspection Activities***

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.

### ***Self-Inspection Expansion***

Because of reduced field personnel and the need to focus on animal health activities, the Director suspended several of the ownership inspection duties while relying on the existing voluntary self-inspection program until a mandatory program could be established. In order to trace infected animal movements in the absence of inspection documentation generated by Department employees, self-inspection participants were urged to continue using the program. In addition, expanded use of the program by livestock owners that previously had not utilized self-inspection was encouraged.

### ***Out-of-State Movement Inspections and Inspections of Custom Slaughter Animals Continue***

While details of the self-inspection program are being ironed out, our Animal Health and Welfare officers and inspectors have continued to provide inspection services to ranchers wishing to ship their livestock out-of-state and when cattle are sold to another. This

ensures the continued marketability of their animals. Continuation of this activity will depend upon availability of field personnel and possible additional budget cuts. While the Department considers ownership inspection to be important, animal health threat reduction is a higher priority. Discussions to determine whether this type of ownership inspection will continue are ongoing.

Livestock owners who have their animals slaughtered at facilities but do not have regular inspection service by Department or USDA employees must still have their animals inspected by an Animal Health and Welfare officer or inspector. This inspection is conducted to ensure the safety of the meat product even though it will not be used for sale to the general public.

### ***Internal and External Stakeholder Meetings to Revamp Self-Inspection***

Before legislation passed in 2002 and gave the Department the authority to design and implement a mandatory self-inspection program, the Department put together an internal and external stakeholder group to review the program. While the proposed rules governing mandatory self-inspection work through the promulgation process, discussions will be held with ranchers to obtain their input into the program design. It is expected that the mandatory program will be fully implemented in early 2003.

### ***Theft and Stray Issues Continue to be Addressed***

The Animal Health and Welfare Program also works in concert with the Office of Review and Investigations to follow-up on reports of livestock theft. On the other hand, strays are handled as they historically have been. 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.

### ***After-Hours Service***

The Animal Health and Welfare Program further refined the after-hours answering system. Rather than paying for a costly answering service, local and 1-800 contact numbers were maintained and tied to a voice mail box that would immediately notify a veterinary professional on duty. If the matter is deemed an emergency, the appropriate field personnel are contacted for response. In addition, cellular telephone numbers for the field personnel are available to the ranching industry. The after-hours contact numbers are (602) 542-0872 or (800) 294-0305.

### ***At Your Service***

As the program has evolved, communications between the Animal Health and Welfare Program officers/inspectors and their ranching customers has improved. All animal health and welfare officers and inspectors are equipped with cell phones with voice messaging and maintain regular contact with headquarters using two-way radios. If the

officer/inspector cannot be reached when a call is received, the customer is now able to leave a voice message.

### ***Livestock Industry Services***

Animal Health and Welfare officers and inspectors serve the citizens and livestock industry of Arizona by protecting livestock from contagious and infectious diseases, ensures that animal movements are tracked and inspect custom slaughter animals for health. 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, inspect the animals for health or to confirm their humane care.

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 cadre of part-time deputies that help during increased inspection demands. Two officers have received advanced training in equine welfare issues and take the lead in complicated welfare cases.

### ***Foot and Mouth Disease: A World Animal Disease Crisis***

During the spring of 2001, the U.S. was knocked into crisis preparation mode when an outbreak of an economically devastating livestock disease was discovered in the United Kingdom. Although Foot and Mouth Disease, or FMD, occurs primarily in underdeveloped countries throughout the world, it had not been seen in the U.K. for two decades.

Many in the U.S., including members of the cattle, sheep, goat and swine industries as well as state and federal animal health officials were shocked. This was due in part, because the outbreak occurred in a country with a sophisticated animal disease protection system. Because of our close ties through trade and passenger traffic with the U.K., the U.S. prepared for the worst. The U.S. has not faced this disease for decades. Our last outbreak was in 1929 in California.

### ***Threat of Agro-Terrorism Increases***

On September 11<sup>th</sup> 2001, our country was rocked by the purposeful destruction of life and property by a terrorist organization bent on disrupting countless American freedoms. Undeniably, these events underscored our country's vulnerability to terrorist acts on people and property. In addition, it became apparent that we had numerous types of vulnerabilities including the potential for intentional terrorism acts on the agriculture industry. This horrible event demonstrated that the Department's move to protect the health and vitality of the livestock industry was wise. The threat of an intentional introduction of a foreign animal disease has never been greater. The Animal Health and Welfare Program is positioned to make the most of limited resources to prevent, identify, contain and eliminate diseases which would have a major economic impact on not just the livestock industry, but also the public in general.

## ***Increasing Animal Disease Threats***

With the ease of international travel and relaxed trade restrictions, there comes the threat of a major economic crisis. Our animal industries are now more vulnerable to a foreign animal disease. Foot and Mouth Disease could compromise the health of our country's animal industries and the welfare of a nation dependant on an abundant supply of reasonably priced, safe and wholesome foods.

With losses estimated to be as high as 10 percent of the total livestock population there, news of the U.K. outbreak initiated a number of activities in the U.S. at both the state and federal levels to improve the protection of our animal health populations from a similar calamity.

## ***Arizona's Efforts to Protect Our Livestock***

While Foot and Mouth Disease is not a human health threat, the Department undertook a number of activities to improve its ability to protect and safeguard the health of its livestock. In addition to outreach activities to raise the level of awareness of foreign animal diseases, the Department worked with the state's Division of Emergency Management to prepare an incident action plan in the event that Arizona becomes the site of an animal health emergency. This plan supplements the existing Animal Disease Emergency Response Plan that was put in place several years ago.

## ***Animal Disease Emergency Response***

The emergency plan encompasses various local and state government emergency response officials. Tabletop exercises have been held to ensure that whatever animal disease outbreak occurs, local, state and federal entities work together to decrease its overall impact.

Collaboration with the United States Department of Agriculture Animal Plant Health Inspection Service is another way we have worked to protect Arizona from FMD. We have trained our inspection staff to work with these federal officials at our International Airports as well as interstate and international border stations.

## ***Training to Recognize the Symptoms***

Our State Veterinarian has trained Animal Health and Welfare officers and inspectors, private veterinary practitioners and interested industry to identify the symptoms of FMD and how to implement biosecurity measures to prevent a local outbreak. These group sessions and other educational materials were disseminated through public meetings and media outreach efforts.

## ***Homeland Security Grant***

In June 2002, the U.S. Department of Agriculture announced the distribution of funds to each state's Departments of Agriculture to augment their surveillance and emergency response capabilities. The Department's work plan includes purchasing equipment to

improve the communication with field personnel and hiring an emergency-planning veterinarian. This specialist veterinarian will devote their entire time to emergency planning and preparedness and outreach activities on the recognition of foreign animal diseases. In addition, this individual will expand the animal health emergency planning process to include the counties.

### ***Response to Rodeo-Chediski Fire***

In June 2002, the Department was asked to provide support to the Rodeo-Chediski fire in northern Arizona. The Animal Services Division Associate Director and State Veterinarian were called upon to provide full-time animal issue support to the State's Emergency Operations Center located at the Papago Park Military Reservation. In addition, several Animal Health and Welfare officers/inspectors and an investigator from Office of Review and Investigations provided valuable assistance at the disaster site on livestock related issues. One happy story demonstrating the dedication of these field staff was the rescue of several ostriches that were located on a burning property.

### ***FMD—A Foreign Threat to U.S. and Arizona Livestock***

Foot-and Mouth disease is a severe, highly communicable viral disease of all cloven-hooved animals are susceptible to. Virtually 100 percent of animals in exposed herds will become infected and younger animals may die from the disease. FMD does not affect cats, dogs or horses and is NOT a threat to human health.

### ***How FMD is Spread***

- The virus can become airborne and breathed in by nearby susceptible animals.
- While the disease is not considered a threat to humans, it is possible for a person to mechanically spread the virus to susceptible animals, especially on contaminated shoes or clothing.
- The disease can be spread when susceptible animals come into contact with feed, feeding utensils, vehicles or holding facilities that have been contaminated with the virus.
- The FMD virus can be carried in raw meat, animal products or milk from FMD-exposed or infected animals.

### ***Prevention and Control***

Animals and animal by-products from infected areas are prohibited entry into the U.S. A single infected animal or a contaminated meat product could carry the virus to our livestock.

Animals in this country are highly susceptible to FMD. They have not developed immunity to it because FMD has not occurred in the U.S. since 1929. If an outbreak were to occur, this disease could spread rapidly to all sections of our country by routine livestock movements unless detected early and eradicated immediately.

If FMD were to spread unchecked, the economic impact could reach billions of dollars in the first year. The nation's deer and other wildlife populations could also rapidly become infected and contagious.

### ***Keep FMD Out! Do Your Part!***

The U.S. has restrictions in place to prevent the introduction of FMD-infected animals and animal products.

- If you suspect a disease problem, report it immediately to your local veterinarian or regulatory animal health official.
- FMD spreads fast! Early detection and reporting are critical. Don't move animals that may be affected. If you suspect a problem, stop all visitors from entering your premises.

### ***Traveling Abroad? Take Precautions:***

- Avoid contact with animals or areas where animals have been held for at least five days before returning to the U.S.
- Before returning to the U.S., launder or dry clean all clothing, jackets and coats and disinfect your shoes.
- If you have visited a farm abroad and live, work or plan to visit a farm in the U.S., shower, shampoo and change into clean clothing and wait at least five days before contacting any livestock in the U.S.
- Remove all dirt or organic material from shoes, luggage, personal items, etc. and wipe them with undiluted table vinegar or other disinfectant approved for FMD virus.
- Don't bring animal products home.
- Avoid contact with livestock or wildlife for at least five days after you get home.

### ***Economic Impact of FMD***

The at-risk livestock population in Arizona is worth more than \$600 million and over \$1.4 billion worth of products are produced yearly.

- The primary impact of FMD is drastic loss of production of meat, milk, wool and offspring.
- Although not a food safety problem, consumers may lose confidence in the safety of meat food products. Economic impact includes reduction in meat supply as well as increase costs of meat.
- The sale and international shipment of animals and animal products would be drastically restricted. This impact alone is worth \$5 billion per year in the U.S.
- Eradication costs are very high. All animals exposed to the virus, and those nearby, must be destroyed to prevent the spread of disease.

For more information on Foot and Mouth Disease visit [www.agriculture.state.az.us](http://www.agriculture.state.az.us) or [www.aphis.usda.gov](http://www.aphis.usda.gov) or contact (602) 542-4293.

# Commodity Development and Promotion

The Office of Commodity Development and Promotion (CDP) supports Arizona's agriculture by providing a number of marketing and outreach services. While our agriculture industry continues to be among the leaders in the nation in crop diversity and self-reliance, trade and marketing assistance are two requests we receive frequently.

## **Outreach and Promotion**

We work to promote Arizona agriculture to local consumers and potential trading partners in cooperation with the state's farmers, ranchers and agribusinesses through various marketing and outreach opportunities.

Our services are organized into two programs focused on domestic channels of trade and the other focused on international trading opportunities. Both programs develop and enhance markets for Arizona agricultural products, increase consumer awareness and educate the public about quality products raised in Arizona.

FY 2002 was a year of tremendous change in CDP, with more than half of its staff and operating budget eliminated by specific legislative funding reversions.

## **Serving Arizona's Agricultural Industry**

Throughout FY 2002 several targeted promotions were held to increase consumer awareness and increase sales of *Arizona Grown* agricultural products. Additionally, we assisted the agriculture industry by answering consumers' questions regarding local agriculture, provided educational materials to school children and teachers for curriculum development, marketed Arizona's products at national tradeshow and worked with the agriculture industry to improve the logistics involved in product movement.

## **National Marketing Program**

Unfortunately, the Arizona State Legislature eliminated the funding for the National Marketing Program, which included *Arizona Grown* appropriation and the National Marketing Program Manager position.

## **Arizona Grown**

The centerpiece of CDP's marketing and outreach tools 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.

Overall, the logo is used to increase the consumption and use of locally grown agricultural products. We showcase how *Arizona Grown* products benefit the consumer and our agriculture industry, as well as work to educate consumers about the availability, freshness, quality and variety of the products grown in our state.

While the appropriation for the Logo-Recognition Program was eliminated, CDP has developed a number of strategies to increase brand recognition of the logo. For example,

CDP was successful in obtaining the passage of legislation in FY2002, which authorizes items labeled with the *Arizona Grown* logo to be sold. As a result, all funds raised from the effort will be invested and credited toward future marketing activities. Additionally, CDP was successful in its efforts to advocate for the passage of federal legislation that appropriated \$3.93 million to the ADA for promotion of Arizona specialty crops and agriculture in general.

As a result of the federal legislation, CDP was able to award 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.

### **Ask for Arizona Grown**

You can find a variety of *Arizona Grown* products year-round in seven retail supermarket chains representing 350 stores. That makes up 75 percent of the supermarkets in Arizona. In fact, more than 140 agriculture businesses use the *Arizona Grown* logo to differentiate their high quality, locally grown products from the competition.

You'll find the logo on everything from carrots and citrus to onions and tomatoes in a number of retail and wholesale operations around the state. Be sure to ask your local retailer to carry *Arizona Grown* food and fiber products.

## **International Marketing Program**

The International Program of the Marketing and Outreach Office works to promote and support Arizona agriculture and agribusiness throughout the world. The International Program uses various promotional activities to target foreign buyers of Arizona agricultural products. As new markets continue to embrace free trade, Arizona agriculture will capitalize on exporting many Arizona Grown commodities. In 2001-2002 we continued our focus on Japan, Canada, and Mexico. These countries are the leading markets for Arizona's agricultural products and remain our largest trading partners.

Funding for our international marketing services is allocated entirely from a range of sources from the USDA Foreign Agricultural Service's Market Access Program to the Western United States Agricultural Trade Association (WUSATA) to the United States Livestock Genetics Export, Inc. Awards are based on strategic planning, market potential and industry support for each promotional activity. Although funding is limited, we have been able to initiate a number of quality promotions internationally for various Arizona farmers, ranchers and agribusinesses.

### **Trade Shows and Missions**

One successful avenue the Arizona Department of Agriculture informs and educates international buyers about the wealth of Arizona Grown products is through international trade shows and missions. In these programs, the Department works with industry representatives and companies and accompanies them to international locales to find buyers interested in their products.

### **Obregón, Mexico, November 2001**

In November 2001, the Arizona Department of Agriculture accompanied five industry members to Ciudad Obregón, Mexico for an agricultural tour of the region. The delegation toured Estación Don, the quarantine station leading into Sonora. In addition to this tour, the delegation met with several growers, toured farms and visited a biological control research farm. This research farm is growing predator insects that will help contain pests in the agricultural fields. This research benefits both Arizona growers and consumers by offering an organic method of controlling pests without pesticides in similar climates.

### **Agribition, Regina, Canada, November 2001**

In November 2001, an Arizona Department of Agriculture representative traveled to Regina, Canada to attend one of Canada's largest livestock shows, Agribition 2001. During this mission, the representative handed out flyers and cattle directories detailing Arizona's ranching industry. Several important contacts were made at the International Reception, with not only the Canadian officials, but with officials as far away as the United Arab Emirates and as close as Mexico. From this trip, the Department has been working with the Arizona Cattlemen's Association to follow up on leads and disseminate information.

### **FoodEx, Tokyo, Japan, March 2002**

In March 2002, the Arizona Department of Agriculture took a delegation of greenhouse tomato growers to Tokyo, Japan for FoodEx 2002. The group had a booth at FoodEx in a premier location. In addition to exhibiting at the show, arrangements were made to tour tomato import houses, wholesale markets and retail stores. The participants obtained vast amounts of information about the Japanese market and the preferred taste 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 wanted to purchase the tomatoes, as vine ripened tomatoes are currently not sold in Japan. Arizona successfully found a niche market for their commodities, which promises to be fruitful.

### **FMI, Chicago, May 2002**

The Arizona Department of Agriculture attends the Food Marketing Institute (FMI) Show each May in Chicago. While the show has a domestic location, it highlights international visitors. This is the second consecutive year that the Arizona Department of Agriculture attended the show. In 2001, two Arizona companies chose to exhibit in the Arizona booth. Both companies reported a positive experience and will participate with Arizona again.

## **Foreign Delegations**

Because of Arizona's title "land of perpetual harvest," foreign delegations often visit Arizona in the hopes of obtaining information about our successful agricultural industry. This past year, the Arizona Department of Agriculture hosted four separate delegations from four countries.

### **Japan, September 2001**

The Arizona Department of Agriculture hosted a group of Japanese importers interested in importing prickly pear cactus products. The Japanese were interested in health benefits that might be derived from eating such products and if there were any side effects. After meeting at the Arizona Department of Agriculture and hearing about Native Arizonans that have eaten cactus for years, the Japanese were assured the product was safe. As a result, the natural desert product companies that were involved in this program have sold over \$25,000 of prickly pear juice to the Japanese since the visit.

### **Israel, December 2001**

The general director of the Israeli Ministry of Agriculture visited Arizona in December 2001. This small delegation was interested in learning about our water resources and how a predominantly desert state manages water. The group toured water reclamation plants, Salt River Project and met with officials from the Arizona Department of Agriculture and the Department of Water Resources.

### **Namibia, March 2002**

The Secretary for Development and Agriculture from the African country of Namibia visited Arizona in February, 2002. Interested in promoting trade and investment between Arizona and Namibia, the Secretary also visited Arizona's biggest shrimp farm. The shrimp farm presents itself to foreign countries as an unusual commodity and as such often attracts international visitors who wish to see a shrimp farm "in the middle of the desert."

### **Macedonia, April 2002**

A group of Macedonian marketers were hosted by the Arizona Department of Agriculture for one day. The group toured through Arizona to learn about how Arizona markets agribusiness and agricultural commodities to the public. Macedonia has a large agricultural sector and these professionals were interested in learning about successful techniques used by both the public and private sectors in Arizona. The Arizona Department of Agriculture explained the genesis of the successful 'Arizona Grown' program, along with other promotional campaigns conducted by the Office of Marketing and Outreach.

## **Support Programs**

In addition to working directly with industry to promote Arizona Grown agricultural goods, the International Programs office offers support throughout the industry to overcome challenges and take advantage of opportunities.

### **Export Readiness**

Six companies took advantage of the Department's Annual Export Readiness Program, set up through WUSATA. Part of the Branded Program component at WUSATA, the Department brought in an international trade consultant with over 20 years experience in pioneering and developing overseas markets. The companies registered for a one-on-one two hour session with the consultant to discuss their market plans, products and labeling. These sessions provided insight for the companies and exposed them to new marketing

ideas. After meeting and discussing their marketing plan, one company reported new sales over \$40,000 in Canada. This is a true example of how export readiness can work for growing agricultural based companies.

### **Douglas Crossing Pens**

Under the auspices of the Arizona Mexico Commission, the Department is continually working with Cochise County, the Arizona Department of Transportation and the City of Douglas to find ways to pave roads from cattle crossing pens in Douglas. Arizona cattlemen are interested in exporting their breeding cattle to Mexico and the crossing pens can offer them the means to facilitate that. The ADA has promised to continue working towards a successful resolution of this issue.

### **ACCORD**

In May 2002, Arizona hosted the 12<sup>th</sup> annual Tri-National ACCORD meeting in Rio Rico, Arizona. This annual meeting started during the NAFTA negotiations in the early 90s. Officials from the three signatory countries of the NAFTA agreement meet to discuss agricultural trade issues. This high level meeting had directors and secretaries from most of the U.S., Mexican States and Canadian Provinces. In fact, the International Program was instrumental in arranging accommodations for the Mexican delegation.

### **What to Expect in FY 2003**

As a result of marketing activities in 2002, CDP successfully distributed marketing material throughout the world. The programs will continue to build upon these foundations and add new international markets where Arizona producers of both processed foods and bulk commodities can successfully compete. In addition to these programs, we will explore new opportunities in both Europe and South America. We hope to implement these programs within two to three years.

### **Marketing Successes**

As a result of these marketing activities, Arizona successfully distributed marketing literature around the world about the quality and freshness of *Arizona Grown* commodities. The programs will continue to build upon these foundations and add new international markets where Arizona producers of both commodities and fresh products can successfully compete.

### **Expanding Consumer Awareness**

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

Throughout the next fiscal year, the Department will continue to build upon the challenges of FY 2002 while adding new domestic and international markets in which Arizona's agricultural producers and processors are well-suited to compete.

# Citrus, Fruit and Vegetable Standardization

Growers, shippers, dealers and commission merchants in Arizona's citrus, fruit and vegetable industries rely on the Arizona Department of Agriculture Citrus, Fruit and Vegetable Standardization (CF&V) program. The Standardization Program ensures product quality standards are maintained.

Product quality standards are established for each commodity produced or marketed in Arizona. Inspections encompass quality (such as color, shape and condition factors like bruising and decay), size, maturity, processing and labeling. Inspections take place in fields, packinghouses, coolers and warehouses. Industry uses the program for quality control to help in the marketing of their products.

## **Customer Satisfaction**

Arizona has an immense variety of citrus, fruits and vegetables available to consumers throughout the year. Arizona ranks third in the nation for production of fresh market vegetables. Citrus, Fruit and Vegetable inspectors ensure product quality. For example, lemons are tested for their maturity and size, which is important to fruit 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 are important to choosy customers.

Arizona's top five commodities rank second nationally and account for 68 percent of the State's produce production. The following are the cartons shipped for each commodity in order of their volume:

- Head lettuce 34,978,189
- Romaine 9,420,357
- Cantaloupe 8,826,465
- Broccoli 6,069,386
- Leaf lettuce 4,917,738
- 

## **Federal-State Partnership**

The Citrus, Fruit and Vegetable Standardization program successfully completed the sixth year of managing the Federal-State Inspection Service fresh produce inspection and terminal market programs in Nogales, Phoenix and Yuma under cooperative agreement with the USDA. USDA inspections are given by 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).

The program also enforces U.S. import requirements and marketing order restrictions at Arizona's border with Mexico. Nogales, Arizona is the second busiest port-of-entry for

produce in the United States. Last year over 20.2 million packages of tomatoes and 11.7 million lugs of table grapes imported from Mexico were inspected.

In FY 2002, the Citrus, Fruit and Vegetable program and the shipping point inspection program in Yuma and Phoenix developed cost-reduction efficiencies for the agriculture industry through the cross-training of inspectors to handle both state and federal inspections.

### ***Third Party Audit***

The Fresh Produce industry requested that the Arizona Department of Agriculture develop and implement a Third Party Audit Program. Representatives from the Arizona Department of Agriculture along with other western states' Departments of Agriculture and the United States Department of Agriculture, met several times during the year to develop a Third Party Audit Program within the framework of USDA Agricultural Marketing Service/Federal -State Inspection. The audit program is designed to audit the Good Agricultural Practices and Good Handling Practices for the produce industry and will operate for one year as a pilot program. Some Federal-State inspectors in Nogales, Yuma and Phoenix are training to be licensed by USDA as auditors.

### ***Industry Funded***

Both the state and federal programs are entirely self-funded and have no general fund allocations. Industry supports the Citrus, Fruit and Vegetable program through license fees, inspection fees and industry assessment, which are reviewed monthly and adjusted yearly. The two programs together conducted 88,385 inspections this past year. Citrus, Fruit and Vegetable issued 489 licenses and Arizona acreage produced over 94 million cartons of fresh produce.

### ***Industry Support***

The Citrus, Fruit and Vegetable Standardization Advisory Council is Governor-appointed and represents the citrus, fruit and vegetable industry in Arizona. This group is comprised of leaders in their respective fields. The Citrus, Fruit and Vegetable Advisory Council meets quarterly with the program to review and make recommendations on policy and budgetary items.

### ***Statewide Gleaning Project***

Gleaning is harvesting surplus crops for the hungry. The Arizona Department of Agriculture plays an integral role in the statewide gleaning effort. The Statewide Gleaning Project is an Executive Order of Governor Jane Dee Hull. Citrus, Fruit and Vegetable inspectors notify key food bank officials of upcoming seasons and identify potential crop donations. Participating producers donate food instead of discarding it. Volunteers, inmate labor and food banks harvest the fields. In addition, many other state agencies support other portions of the program. As a result of this combined effort, more than 32 million pounds of produce was collected and distributed to food banks and other organizations during FY 2002.

# **Food Safety and Quality Assurance**

## ***Animal Products***

The Arizona Department of Agriculture's Food Safety and Quality Assurance Programs are established to protect consumers, both in terms of public health and in getting what they pay for.

We serve consumers by providing food safety inspection and grading services for dairy farms and processors, dairy products, egg and egg products and meat and poultry products. We also provide inspections and grading services for shipments of food products to other states and countries.

## ***A Renewed Focus on Food Safety***

After the September 11, 2001 incident, the Food Safety and Quality Assurance programs have a greater focus on food safety. In particular, a focus on the deliberate contamination of our food supplies. In cooperation with federal, state and county agencies, ADA is doing its part to establish a food safety net for Arizonans.

## **HACCP—A Plan for Safe Foods**

### ***Meat and Poultry Industry***

Hazard Analysis and Critical Control Point (HACCP) is a methodology, originally established by NASA and Pillsbury to produce safer food products for astronauts who cannot afford to be sick in space. HACCP procedures have significantly impacted the food processing industry, especially for meat and poultry. Meat packers are responsible for establishing their own HACCP program in compliance with federal and state laws.

### ***Implementing into Dairy***

The HACCP concept is currently expanding into other areas of food safety. In dairy programs nationally, the National Conference on Interstate Milk Shipments (NCIMS) has implemented a pilot HACCP project. We have participated in this conference, in furtherance of consumer protection and safety.

### ***Expanding into Eggs***

A similar project is being implemented in egg inspection. USDA and the Food and Drug Administration (FDA) formed a national food safety committee with a number of states participating. The Arizona Department of Agriculture was asked to participate in this important movement to bring all egg packers under sanitary standards and testing.

### ***The Seven HACCP Principles***

The National Advisory Committee on Microbial Criteria outlined the latest version of HACCP in the International Journal of Food Microbiology in 1992. The Committee defined the HACCP process with seven principals.

1. Conduct a hazard analysis. Prepare a list of steps in the process where significant hazards can occur and describe the preventive measures.
2. Identify the Critical Control Points (CCPs) in the process. That is, items in a plan where it can reasonably be expected that food safety might be compromised.
3. Establish critical limits for preventive measures associated with each identified CCP. Determine how high a temperature might be allowed on a food product when receiving or processing, limits for pH, etc.
4. Establish CCP monitoring requirements. Establish procedures for using the results of monitoring to adjust the process and maintain control. This might include recording thermometers or other equipment designed to take temperatures and how that information might be used to maintain control of product.
5. Establish corrective actions to be taken when monitoring indicates that there is a deviation from an established critical limit. Establish how to deal with the results of non compliance with the HACCP plan to ensure food safety.
6. Establish effective recordkeeping procedures that document the HACCP system.
7. Establish procedures for verification that the HACCP system is working correctly.

## **Dairy Products Inspection**

Agency dairy inspectors are charged with providing food and facility inspections at every level within the dairy industry. The consumer is served by this general fund program that provides microbiological sampling, physical inspections of dairy farms, plants and proper label usage of animal drugs and dairy products. Dairy products that do not meet microbiological, labeling or other standards are removed from sale.

### ***Dairy Product Inspections***

We conduct routine sampling of dairy products, both in raw (not heat treated to pasteurize and kill microorganisms) and consumer ready forms of milk products. These samples are collected at dairy farms, from dairy tankers, holding facilities and in finished product form. The samples are tested by State Agricultural Lab microbiologists, who conduct food safety tests to ensure consumers get wholesome products.

### ***Bacteria Checks***

Dairy products are commonly checked for Coliform bacteria, Listeria and Salmonella. Coliform bacteria often serve as indicators of the quality of milk, and the conditions it was produced under. Both Listeria and Salmonella can cause vomiting and diarrhea.

### ***Egg Inspection***

Egg inspection staff regulate the production and sale of eggs and egg products sold in Arizona. A staff of six inspectors perform state and federal inspections and grading at

packing plants, wholesalers and retailers. The program enforces both federal and state quality and grade standards.

### ***School Lunch Protection***

Part of the USDA cooperative agreement includes sampling poultry products shipped to Arizona for the USDA school lunch program. Annually, millions of pounds of poultry are distributed to Arizona schools. Inspectors ensure that product received is safe and in good condition prior to acceptance by the State.

### ***Meat and Poultry Inspection***

The Meat and Poultry program is charged with the regulation of all meat and poultry products under the state inspection program. Under a cooperative agreement with USDA-Food Safety Inspection Service (FSIS), processing plants under state inspection are administered by

the State of Arizona. The cost for this program is borne equally by the state general fund and the USDA.

### ***Live Animal Inspections***

Meat inspectors are charged with both live and post mortem inspections of animals presented for slaughter. Inspectors check for the condition of the animals upon their arrival at the slaughter facility and the sanitary conditions during slaughter. Inspectors examine carcasses to ensure they are disease-free and wholesome prior to further processing. Inspectors also ensure the humane treatment of animals presented for slaughter.

### ***Plant Sanitation Inspections***

Our inspectors also oversee plant sanitation and check to be certain that all meat-processing facilities adhere to HACCP procedures developed in accordance with state and federal law. In further processing, formulations (mixtures of water, sugar, salt, spices, etc.) are checked.

### ***Check the Label***

Labels are approved for ingredients and clarity prior to the triangular mark of state inspection being granted. Products are microbiologically sampled and tested at the State Agricultural Lab. Testing is also performed for fat, moisture and other types of economic analysis that affect consumers. This way, consumers do not have to pay for fat in excess of the label amount or for excessive water in some meat.

### ***State/Federal Inspections***

Arizona, as well as several other state governments, looks forward to the passage of a federal law that will allow interstate shipment of meat and meat products produced under supervision of state meat inspection programs. This enables facilities producing meat products under state inspection the same ability to ship meat and meat products interstate as under federal inspection. Without this bill, state inspected plants are not authorized to ship meats interstate.

# **Agricultural Consultation and Training**

## ***A Unique Approach to Compliance Assistance***

The Agricultural Consultation and Training program (ACT) is an innovative compliance assistance program unique to an agricultural regulatory agency. ACT's primary goal is to provide worker safety and environmental compliance assistance to Arizona's diverse agricultural community.

The ACT program focuses on two main areas of compliance assistance: the Worker Protection Standard (WPS) and the Regulated Agricultural Activities Assistance Program (RAAAP).

## ***Growers Receive Assistance with Complicated Pesticide Laws***

ACT offers consultation in the WPS program, which is designed to provide protection for agricultural workers and pesticide handlers. We also help growers with state regulated pesticide issues.

## ***Assistance for Feedlots and Dairies on Complicated Environmental Laws***

ACT provides compliance assistance to animal feeding operators. We help ranchers and dairymen to better understand and comply with state and federal water quality regulations to reduce animal-waste contamination of water.

## **Compliance Assistance On-Site**

Upon request, ACT field consultants will conduct an On-Site Visit (OSV) of a farm, feedlot or dairy, to identify potential compliance problems. If deficiencies are found, corrective measure recommendations and/or training are provided to the producer in order to correct potential compliance problems.

## ***Corrective Measures***

The agricultural producer receives a report, generally within 15 working days, which outlines corrective measures. A target date is set to have all corrective measures implemented at the facility. After the target date, a follow-up visit is conducted to determine if all corrective measures are in place.

## ***Five Steps to Ensure Your Farm or Livestock Operation is in Compliance***

1. Self-Evaluation Checklist (WPS). Request a free checklist for self-evaluation of a farm or animal feeding operation from the Arizona Department of Agriculture website, [www.agriculture.state.az.us](http://www.agriculture.state.az.us)
2. On-Site Visit (WPS and RAAAP). Contact ACT to schedule an OSV of your farm or livestock operation. During the OSV, the ACT consultant will provide

information and/or recommendations on compliance-related problems observed during the OSV. ACT is required to keep all compliance problem information confidential, therefore no regulatory or enforcement action will be taken based on information acquired during an OSV. However, in extreme situations of imminent danger, referral to a regulatory agency can be made.

3. **Written Report.** Within 15 days of the OSV, a report with supplemental materials will be mailed. The report details compliance deficiencies and corrective measures to address those deficiencies.
4. **Implement Corrective Actions.** Implement the corrective actions provided in the OSV report for facility compliance.
5. **Follow-up Visit.** Schedule a follow-up visit to ensure corrective measures have brought the operation into compliance with state and federal regulations.

### ***Worker Protection***

The WPS is a federal regulation, administered by the Environmental Protection Agency (EPA). It is designed to provide protection for agricultural workers and pesticide handlers. The WPS is a federal regulation administered by the EPA which became effective in 1992. It 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 performing tasks involving direct contact with pesticides). Each year ACT'S personnel addresses various WPS issues specifically pertaining to the agricultural community. The WPS was the initial focus of the ACT program.

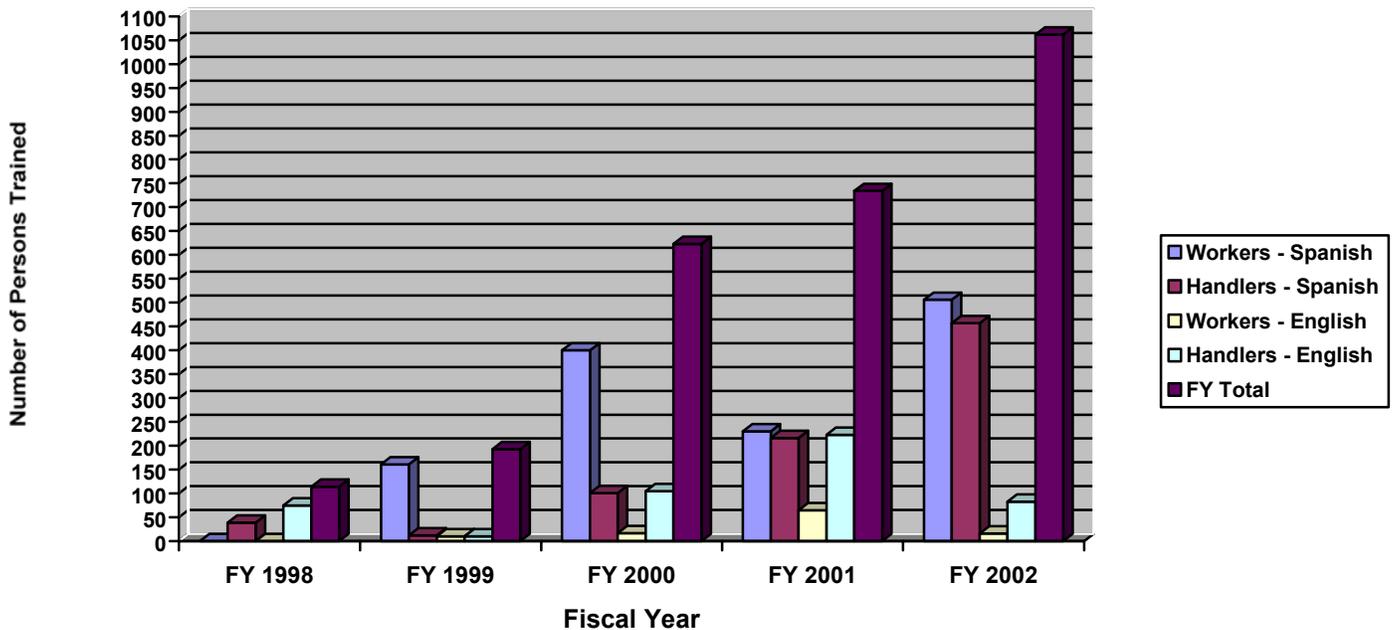
### ***Focus on Training***

In order to provide the best possible compliance assistance to the members of Arizona's Agricultural industry, we have focused on the "T" for "Training" in our acronym, ACT. ACT conducts WPS pesticide safety training for agricultural employers across the state in conjunction with On-Site Visits. Since the WPS, requires all agricultural employers on a state and a federal level who apply pesticides to provide pesticide safety training for their employees, it is our hope that by providing this service that more employers will attain compliance.

### ***WPS Training at a Glance***

During Fiscal Year 2002, ACT conducted 113 WPS training sessions, and trained 1,062 persons as either agricultural workers or pesticide handlers. Of the 113 WPS training sessions, 82 were conducted in Spanish, resulting in over 900 persons trained in Spanish. The State of Arizona requires that pesticide handlers be recertified every three years and agricultural workers be recertified every five years. As a result, the demand for WPS training remains constant. For example, WPS agricultural worker pesticide safety training was conducted for nearly 110 employees of a single local produce grower in Phoenix. Many employees that participated in training classes were still in possession of their original training verification card previously issued by ACT personnel. The size of each training session varies with the number of workers or handlers employed by the

Chart 1. Worker Protection Standard Training



employer. ACT has conducted several “second rounds” of training and in one case even a “third round” of training was conducted for a local agricultural employer. It has been encouraging to see several employees provide one and even two previously valid WPS training verification cards during the recertification training classes. Many agricultural employers are adopting a policy of providing WPS training on an annual basis instead of waiting for the three and five year expiration dates. Agricultural employers want their employees to know what chemicals are being applied around them and they want the workplace to be as safe as possible.

Chart #1 indicates the training conducted by ACT’s WPS personnel since Fiscal Year 1998.

Nurseries, farmers and other members of the agribusiness community receive assistance by complying with state and federal regulations, such as pesticide application record keeping, signage requirements and worker protection safety and training requirements. This unique program provides a formal means by which the regulated agricultural community may request compliance assistance without regulatory repercussions. The ACT program is not affiliated with ongoing enforcement activity. Detected violations are not made available to regulatory personnel except in the cases of imminent danger to human health and welfare.

After an interested member of the agricultural community makes a subject specific request, a field consultant provides a detailed evaluation report tailored specifically to the customer. The report details information discussed during the on-site visit as well as any

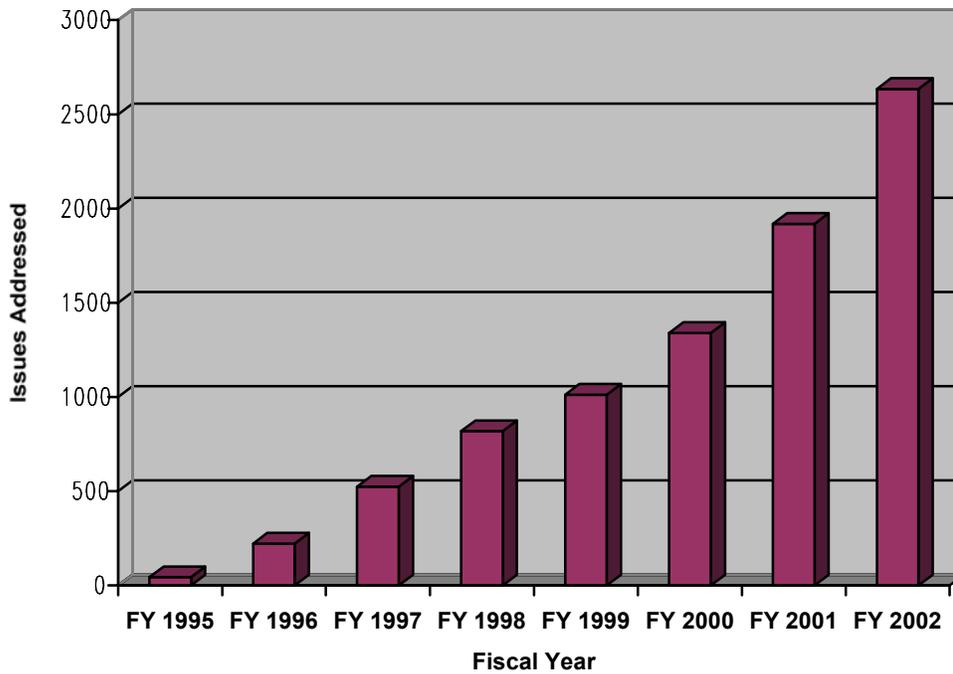
applicable corrective recommendations. Generally, a follow up visit date is set within three months. At this time, the field consultant reviews the progress of the customer in implementing the corrective actions recommended.

### ***Success in Succession***

Providing compliance assistance is the primary goal of the ACT program. Responding to the requests from industry members across the state is the driving force behind the continued success that the ACT program has experienced. Since ACT's inception, the number of customers assisted by ACT's compliance programs has increased each year. The past year was no exception. The Agricultural Community's usage of the ACT program increased approximately 37 percent during Fiscal Year 2002, with a total number of compliance-related issues addressed at 2,634.

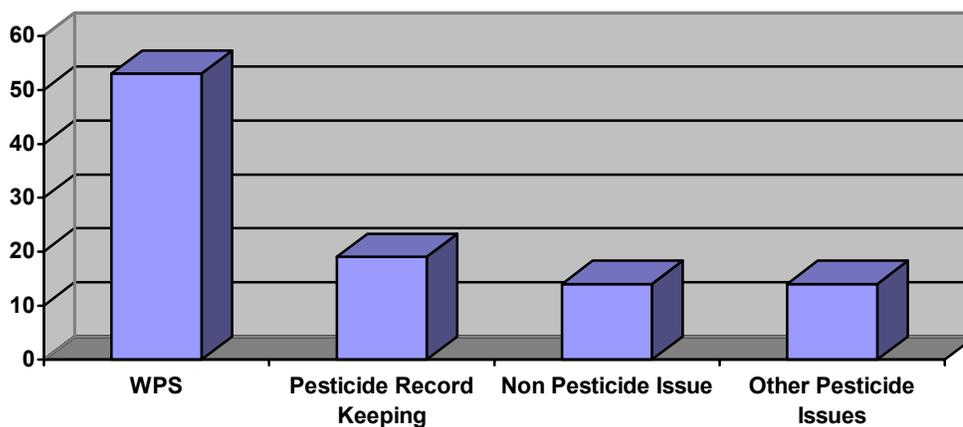
Chart #2 displays the increase in the number of compliance issues addressed by the ACT program.

**Chart 2. Total Number of Issues Addressed By ACT**



Due to the complexity of federal WPS laws, the number of WPS-related issues occupy the largest percentage of compliance issues addressed by ACT personnel. Chart #3 depicts the percentage and types of issues addressed Statewide, ACT personnel conduct OSVs of agricultural facilities. Chart #4 indicates the counties where OSV's were conducted and the number conducted in each county.

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



## **Arizona Interagency Farmworker Coalition**

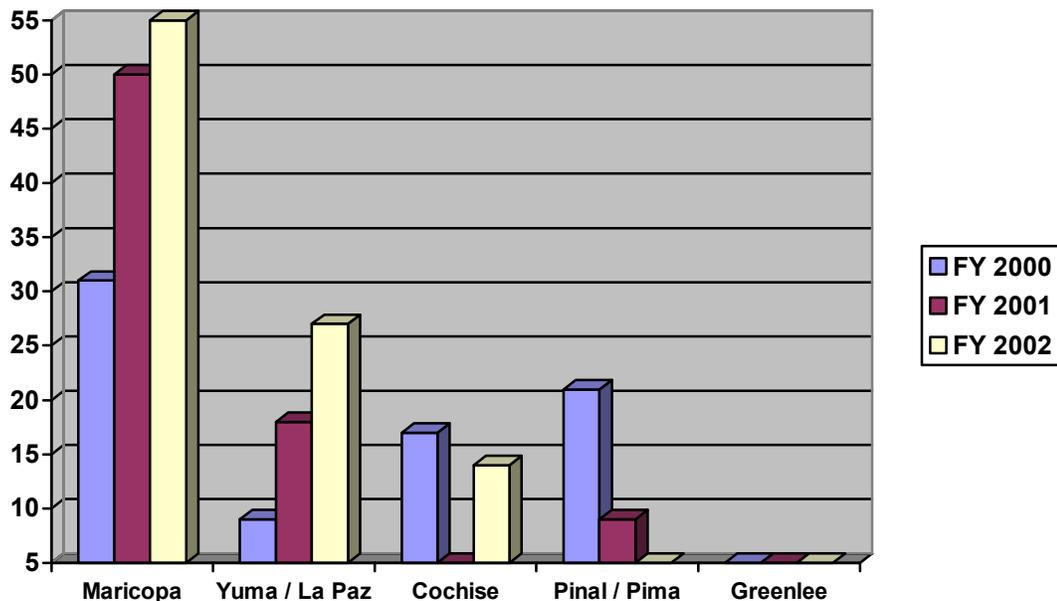
The AIFC is a coalition of individuals from public and private agencies and organizations which promote the needs of farmworkers in Arizona. Members of the AIFC include individuals from federal, state and county agencies as well as representatives from various public and private organizations.

ACT Field Consultant Rick Stillion served as a Vice President of AIFC and is now serving in his second term as President. Rick's leadership in AIFC has allowed ACT to remain abreast of farmworker issues, statewide. As a result, promotion of ACT's programs has been enhanced and Federal, State and County agencies have become more aware of ACT's programs.

## **Regulated Agricultural Activities Assistance Program (RAAAP)**

### **RAAAP Targets Water Quality Compliance to Assist Livestock Producers**

Chart 4. ACT On-Site Visit Demographics



In FY 2001, animal feeding operation (AFO) compliance was added to ACT's compliance assistance efforts. 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 the requirements of the Federal, National Pollutant Discharge Elimination System (NPDES) CAFO General permit and Arizona's Agricultural General permits
2. To assist producers in compliance efforts to protect water quality.

In support of obtaining educational and compliance assistance goals for AFOs, the Arizona Department of Environmental Quality (ADEQ) and ADA developed the RAAAP. An intergovernmental service agreement (ISA) between ADA and ADEQ has been used to co-fund the RAAAP. As a result, RAAAP is funded 60 percent by ADEQ through an EPA grant and 40 percent through ADA monies.

### ***RAAAP has Support of EPA and Livestock Producers***

EPA Region 9 has expressed support for the RAAAP. EPA Region 9 is hoping to utilize the 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 various livestock producers have expressed support for the RAAAP.

### ***RAAAP AFO/CAFO Compliance Assistance***

#### ***On-Site Visits (OSVs)***

ACT field consultants conduct assessments of livestock production facilities. Before and after the OSVs, field consultants assist AFO operators in understanding animal-waste management regulations. ACT also informs the facility's owner/operator if any waste-control systems and practices are out of compliance. In addition, ACT field consultants make recommendations on how to bring the facility into compliance with federal and state laws.

ACT never mentions, nor discusses a particular operation, owner or case by name with regulatory agencies. However, ACT may consult with EPA and the ADEQ, to discuss a specific issue or question to obtain interpretations of the regulations.

During the Fiscal Year 2002, the RAAAP program conducted fourteen OSVs and mailed 31 consultation letters. Through OSV and letters, 236 issues relating to animal manure management issues were addressed.

#### ***Multi-Agency AFO Education Group***

In order to provide education for AFO owners, an AFO Education Group has been established. The AFO Education Group consists of ACT, Natural Resource Conservation Service (NRCS), Natural Resource Conservation Districts (NRCDS), Arizona Department of Environmental Quality and University of Arizona Cooperative Extension Service. The AFO Education Group's objectives are to help AFO operators understand the AZ NPDES general permit and Arizona's rules and to help producers to achieve compliance. The AZ NPDES CAFO general permit is a permit under the Clean Water act, which regulates the discharge of animal wastewater to waters in the United States. ACT has taken a leadership role in the AFO Education Group. The AFO Education Group's chairperson is from ACT. Much of the educational outreach is funded through a \$90,000 grant from EPA.

### **Accomplishments of the AFO Education Group include:**

- Website ([ag.arizona.edu/animalwaste](http://ag.arizona.edu/animalwaste)) which contains important information on animal waste management and links to other agencies
- Livestock producer's notebook covering federal and state regulations and resources
- Nutrient management software
- Educational workshops including the education session at the 2002 Dairy Days
- Compliance assistance workshops, including the Nutrient Management Plan (NMP) workshop to assist producers in development of NMP, a required component of the NPDES CAFO general permit

### **Water Quality and Animal Feeding Operations in Arizona: A Producer's Notebook**

One of the successes of ACT and the AFO Education Group has been the compilation of the producer's notebook. ACT took the lead in compiling the notebook. The producer's notebook contains worksheets to assist record keeping, information on state and federal regulations, contact information for financial and technical assistance organizations, principles on nutrient management, sampling procedures, questions and answers and other materials to assist producers in compliance. Approximately 200 notebooks have been distributed to producers, producer organizations and state and federal agencies. Periodically, the notebook is updated and sent to the recipients of the producer's notebook.

### **Training Provided by RAAAP during FY 2002**

RAAAP provided training at workshops for NPDES CAFO permit education, nutrient management planning and Dairy Days. RAAAP gave presentations at three workshops for CAFO permit outreach. The presentations addressed the worksheets in the producer's notebook, which provided compliance assistance and helped producers meet several record keeping and documentation requirements of the CAFO permit. RAAAP also gave a compliance assistance presentation on nutrient management record keeping as required by the CAFO permit at the workshop and gave an educational presentation at Dairy Days, summarizing the NPDES CAFO permit requirements.

### **Waste Management Assistance Program Promotion**

RAAAP has promoted the compliance assistance program through speaking engagements at Farm Bureau meetings and other livestock industry events. In addition, *Cattlelogue*, Arizona Farm Bureau's monthly periodical and United Dairymen of Arizona's magazine have published articles on RAAAP and NPDES CAFO permit information.

## ***Working for You***

### ***Donald Hall, ACT Field Consultant***

With previous regulatory experience at the ADEQ, Donald Hall provides AFO owners accurate compliance and technical assistance regarding Arizona's regulations and federal rules. During FY 2002, the NPDES CAFO General permit for Arizona was issued. Also, EPA published the proposed changes to the national CAFO Rule, which affects how AFO are regulated nationwide. Mr. Hall can inform AFO owners of these regulations and how the CAFO permit and proposed CAFO rules will affect their facilities.

Livestock operations are subject to a myriad of regulations, which can be confusing to producers. Additionally, Mr. Hall can explain the regulations to producers during on-site visits and workshops during the upcoming year. The compliance assistance ACT provides can help livestock producers concentrate more on the operation of their facilities instead of regulatory issues. Please contact Donald Hall at (602) 542-0972 to arrange an on-site visit.

### ***The Problem with Improper Handling of Animal Waste***

Manure runoff or manure wastewater contamination of surface or ground water can cause algal blooms, fish kills and illness. Surface water contamination by manure can cause fish kills and algal blooms due to excessive concentrations of nitrogen and phosphorus. Manure contains fecal coliform and E. coli bacteria in high concentrations. When manure contaminates surface or ground water, illness may result from bacterial contamination.

If a manure wastewater discharge occurs, the ADEQ may issue a violation to the discharging animal feeding operation (AFO). One of the purposes of the RAAAP is to help prevent livestock facility discharges of manure-contaminated water to surface or ground water.

### ***State AFO Regulations***

Arizona AFOs are subject to two state agricultural general permits: the Concentrated Animal Feeding Operation (CAFO) permit and the Nitrogen Fertilizer General permit. The CAFO permit primarily regulates animal waste discharges prior to a 25-year, 24-hour storm event. It also regulates manure storage runoff. The Nitrogen Fertilizer General permit regulates the application, leaching and runoff of nitrogen-containing fertilizers (including manure) on cropland.

In addition, the State's Numeric and Narrative Water Quality standards apply to AFO discharges. The Aquifer Water Quality standards also regulate AFO discharges. The ADEQ conducts inspections of livestock operations to determine whether they are in compliance to the state and federal regulations.

## **Federal AFO Regulations**

The Clean Water Act (CWA) of 1972 sets the parameters for regulating pollutant discharges to waters of the U.S. AFOs are a type of facilities regulated under the CWA. The National Pollutant Discharge Elimination System (NPDES) CAFO General permit for Arizona was issued under the authority of the CWA. The CAFO permit was issued during August of 2001.

## **25-Year, 24-Hour Storm Event**

Containment of rainfall up to a 25-year, 24-hour storm event is required by AFO owners through the State's CAFO General permit and the NPDES CAFO General permit. The 25-year, 24-hour storm event means the maximum 24-hour precipitation event with a probable recurrence interval of once in 25 years, as defined by the National Weather Service. In Maricopa County, a 25-year, 24-hour storm event ranges from 2.8 to 3.2 inches of rain. RAAAP helps livestock operators determine their wastewater containment capacity deficiencies and helps operators obtain proper storage capacity.

## **Growing Smarter Open Space Reserve Grant Program**

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

The Arizona State Parks Board (ASPB) designates up to \$2 million annually to GSOSR. Under the enabling statute, A.R.S. §41.511.23:

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 wildlife species conservation or wildlife habitat.

The ASPB is designated by statute as the overall administrator of the program. ASPB has entered into an intergovernmental agreement with the Arizona Department of Agriculture (ADA), ISA # 00-124, on October 4, 2002, to administer the program.

The intent of the program is to reduce the fragmentation of open spaces in rural areas. In the 2002 grant cycle, ASPB and ADA contracted with ranching families that have been required to reduce cattle on public land leases to provide public benefits. As the public continues to demand more benefits from open spaces in rural areas, the pressure for ranching families to sell privately held land to a multitude of buyers eventually becomes their most feasible option for financial relief. The GSOSR has provided these families with the alternative of contracting with the ASPB and ADA to receive funding that will allow these families to retain their privately held land.

The ADA and the ASPB worked together to develop suitable criteria for the 2002 grant program. The approved 2002 criteria were as follows:

1. Percentage of cattle (in head) required to be removed from public land leases
2. Length of time the reduction will be required

The ADA developed the grant manual and application packet. The materials were distributed at four workshops in early January, through the mail and on the ADA website. The workshops were held in Benson, Globe, Springerville and Camp Verde. More than 160 ranchers, land management agency representatives and others attended. The ADA, State Parks and Arizona Cattle Growers Association hosted the workshops, where the ADA gave a page-by-page presentation of the grant manual and application packet. The deadline for applications was March 1, 2002.

In its first year, the GSOSR program received 71 applications requesting more than \$4 million. Sixty-six applications were deemed eligible by a grant evaluation team. ADA compiled a grant award recommendation for the ASPB that included a \$90,000 cap with a graduated percentage award on individual requests to allow for a wider distribution of funds. The ASPB approved the ADA's grant award recommendation on May 16, 2002, with minor mathematical calculations. The total approved funding for 2002 was just under \$2 million. The applicants approved for grant awards will have removed a total of 12,014 head from more than 1.9 million acres of land, primarily U.S. Forest Service land.

### ***ACT Receives Industry and State Recognition Awards***

***In September 2001***, ACT was the recipient of the Arizona Nursery Association's (ANA) Outstanding Service Award. The Outstanding Service Award recognizes organizations or individuals that have significantly contributed to the Association and the Nursery Industry over many years. The ANA expressed their appreciation of the ACT Program, citing ACT as a "successful and wonderful outreach program that is an example of government working in partnership with industry to achieve compliance".

***In November 2001***, ACT was the recipient of the Arizona Farm Bureau Federation's (AFBF) Outstanding Service to Farmers and Ranchers in Arizona Award. This award is not presented annually. This award is only presented when the State Farm Bureau Board deems it appropriate. The AFBF expressed their appreciation for the services that ACT provides and felt it appropriate to highlight the success of government and industry working together.

***In May 2002***, ACT was the recipient of the highest award through state government, the Governor's Spirit of Excellence, Excellence in Government Award. This award recognizes state agencies that contribute to the overall improvement of state programs and services. Specifically, ACT was recognized for its strong leadership, continuous commitment to improving customer service, increased productivity, and decreasing costs in state government.

**In June 2002**, ACT was the recipient of one of the ADA Director's Team Awards. The Director's Award is the highest award given by the ADA. As stated by Director Jones, "the ACT Team has set the bar the past two years on the pursuit of recognition for having taken measures to improve government (in this case the ADA) to the regulated community and the public". ACT has continued to look for ways to improve not only the service they provide through the use of program surveys, but also the scope of services provided. The ACT program has been characterized by industry representatives as a "new era of partnering with state government".

# Legislative Year in Review

## **Department Legislation**

The Department was successful in accomplishing four legislative priorities in the Second Regular Session of the 45th Legislature.

### **Livestock Inspections Bill**

In conjunction with the agricultural industry, the Department sought legislation to address the budget reductions to the Animal Disease, Ownership and Welfare Protection Program. This legislation was part of the Department's strategic plan to shift the priority from animal ownership to animal health. By permitting the Department to expand the self-inspection program by rule and allowing private treaty sales and out of state shipments to be included in the self-inspection program, this legislation allows the Department to have an increased focus on animal health.

### **Sale of Items with the Arizona Grown-Logo**

A creative solution to budget reductions in the Department's Commodity Development and Promotion division was approached legislatively this year. The Department approached legislative authority to sell items with the *Arizona Grown* logo and retain the proceeds for promotion of Arizona agriculture. The legislation also allows the Commodity Development and Promotion division to earn and retain interest on their account. This bill passed with an emergency measure and overwhelming support from state legislators. Watch for items with the *Arizona Grown* logo coming to you soon!

### **Omnibus Bill**

The Department identified several technical areas that needed to be updated or modified in Title 3:

- Repeal the organic program requirements due conflicts with the federal government's National Organic Program, which will serve as the organic program in Arizona.
- Give the Department the ability to suspend dairy licenses. Previously, the Department could only *revoke* a license, which was too harsh for the majority of violations that the Department enforces.
- Modify the poultry definition to include ratites and squabs in order to comply with changes in federal regulations.
- Correct statutes that contained incorrect references to sections of law that were deleted or renumbered in previous years.
- 

### **Wine Commission Membership**

A small but important change to the Wine Commission was sought this year in legislation and enabled the Department and Wine Commission to work together on. This legislation recognized the work of the Department's work in promoting and supporting Arizona's wine industry by replacing the Director of the Department of Commerce with the

Director of the Department of Agriculture. The Department will now have a seat on the Wine Commission and will continue to team up with the Arizona's wine growers in their support of Arizona agriculture.

## **Other Legislation**

While the Department did not seek this legislation, it was proud to support several pieces of legislation that were beneficial to Arizona agriculture.

### ***Agricultural Water Best Management Practices***

The agricultural industry, municipalities and the water community sought legislation to signify an historic agreement over a best management practices program for agricultural use of water. The legislation establishes the agricultural Best Management Practices (BMP) program as an alternative to the conservation program contained in the third management period of Arizona's 1980 groundwater code. The concept of this BMP program has been debated for ten years.

### ***Homeland Security for Agriculture***

The Department offered support for a bill that addressed the issue of agroterrorism. The legislation creates the crime of knowingly introducing into Arizona an animal or poultry disease or parasite that constitutes a threat to the livestock or poultry industry or to human health or life. Depending on the type of threat, the offense is a class 2, 4 or 5 felony.

# **Increasing Threat of Pests**

## ***Pest Exclusion and Management***

Execution of various trade agreements has resulted in a greater emphasis on trade into and out of the U.S., and subsequently Arizona. Many of the plant pests, diseases and noxious or invasive weeds common to foreign countries present a significant threat to Arizona's 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 also increases.

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

Metropolitan Phoenix is one of 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 areas 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 some pests into the state. The desert climate also protects against the establishment of many 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 numerous pests that plague other areas, 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 control and eradication costs. Through the deployment of several safety nets to minimize the threat of exotic species establishment, the Department protects the quality of Arizona life. Components of these safety nets include Arizona's ports-of-entry, interior inspection operations, a comprehensive survey and detection program, and the enforcement of strict plant pest quarantines.

## ***Arizona's Most Unwanted***

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

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

**Gypsy Moth**—defoliation 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, 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.

**Glassy Wing Sharpshooter** – vector for several harmful bacterium. Insect feeds on a wide variety of ornamental and crop plants of particular threat to oleander, grapes and even citrus.

## **Quarantine/Nursery Programs**

Quarantines are established to prevent the introduction or spread of serious pests or noxious weeds that are capable of causing significant economic or environmental damage and to aid in the retardation, eradication or control of pests already introduced. The federal or state governments may implement quarantines. State implemented quarantines may be interior or exterior in scope. Interior quarantines protect against spread of a pest or noxious weed within a state's borders. An exterior quarantine protects against the introduction of a pest from outside a state's borders. The quarantine program is responsible for overseeing the execution of 20 different plant pest quarantines. These quarantines form the foundation on which all plant regulatory work including port-of-entry, survey and detection and district programs such as nursery inspection are based.

### ***Nursery Inspection***

The Plant Services Division is responsible for administering the Arizona Certified Nursery Program for Arizona nurseries. Arizona shipping nurseries may apply to have their nursery stock inspected and certified free of all serious pests and noxious weeds in order to meet the entry requirements of other states. In fiscal year 2002, 86 Arizona nurseries were certified under this program.

### ***Phytosanitary Certification***

Companies exporting plants or plant products must meet the plant health (phytosanitary) requirements of the importing country. At the minimum this requires an inspection and certification that the plant or plant product is free from insect and diseases of quarantine concern to the importing country. In some cases a field inspection during the growing season is required. During fiscal year 2002, the Plant Services Division issued 5,351 phytosanitary certificates for plants and plant products exported to foreign countries.

Some of the more common plant products exported are vegetable seed, lettuce, citrus and alfalfa hay.

## **Ports-of-Entry**

The ports are operated 24-hours, 7-days a week at Sanders, San Simon, Yuma, Ehrenberg and 16 hours a day at Parker, Duncan and Douglas. 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 originate from quarantine areas.

### ***Commercial Inspections***

In FY 2002, a total of 205,491 commercial vehicles were inspected at the seven ports — an increase of 3 percent over FY 2001. Of the total trucks inspected, 17,919 were rejected because of exotic pest interceptions or noncompliance of quarantine rules and regulations. Rejection rates increased to 13.1 percent and 1.4 percent for agricultural and non-agricultural loads, respectively, in FY2002 as a result of additional pest pressure and continued truck volume redirected through the San Simon port-of-entry because of staffing at the non-interstate ports at Parker, Duncan and Douglas, Arizona.

## **District Offices**

### ***Interior Inspection Operations***

Inspection staff assigned to four district offices (Phoenix, Tucson, Yuma, Nogales) function as the second safety net against pests. District inspectors carry out a variety of duties (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. Due to mandated budget reductions, the Willcox office was closed and one inspector retained to service this geographic area from the Tucson office.

## **Survey and Detection**

The early detection of potential pests and delimiting surveys of pest infestations by maintaining trapping and surveillance programs for a wide range of pests is the final safety net in the Department's pest exclusion effort. Statewide, at any point in time, some 8,000 traps were placed, serviced and monitored for 17 targeted pests.

### ***Aggressive Detection***

Arizona's agricultural producers can ship almost anywhere in the world. Foreign countries require scientific data to ensure that pests that inhabit Arizona will not harm their crops. This type of market access is unique. We maintain an aggressive detection program to help protect the federal *free-from* pest distinction.

## ***Fruit Fly Free***

In particular, many countries 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.

Fruit fly detection, supported in part through a USDA APHIS grant, involves monitoring nearly 5,000 traps placed statewide and currently due to budgetary challenges, we no longer meet the National Exotic Fruit Fly Trapping protocol.

## ***Gypsy Moth***

Gypsy moth, a devastating forest pest well established in the northeastern U.S., is a pest that is threatening to Arizona's forests. Defoliation caused by feeding caterpillars weakens trees and can lead to death. No established populations of gypsy moth have been detected in Arizona. The Pest Exclusion and Management Program staff continue to work with the U.S. Forest Service to ensure trapping for this pest is conducted statewide.

## **Pest Exclusion Highlights**

Efforts to improve timeliness of customer service delivery, while faced with numerous challenges continued through the following accomplishments:

### ***Glassy-Winged Sharpshooter (GWSS)***

The glassy-winged sharpshooter is a leafhopper that is capable of transmitting serious bacterial (*Xyella*) diseases to plants such as grape Pierce's disease, oleander leaf scorch and citrus variegated chlorosis. Extensive populations of this serious pest exist in parts of California, Florida, Texas and other Southeastern states. Recently GWSS was detected in an Arizona nursery. Thanks to Arizona's survey and detection program, this insect was detected early enough to allow complete eradication.

### ***Spanish Clementine Orange Pre-Clearance Program Failure***

In response to the failure of the Federal pre-clearance program (live fruit fly larvae detected in fruit at U.S. port of entry) that allows importation of Spanish clementine oranges from Mediterranean fruit fly infested production areas in Spain, the Pest Exclusion and Management Program staff conducted extensive inspections of retail operations in order to ensure compliance with a national recall of the fruit ordered by the USDA. Additionally, since some of the fruit was sold before the recall, traps deployed for detection of the Mediterranean fruit fly were increased by 50 percent. To date, the Mediterranean fruit fly has not been detected in the State.

### ***Pest Interceptions***

Interior Operations (District and Survey/Detection) intercepted over 10,000 pests this past fiscal year with slightly over 700 requiring regulatory action to mitigate the pest threat. Early detection of potentially harmful pests and diseases enables the Pest Exclusion and Management Program staff to implement quick action to eradicate and prevent establishment within the state.

## **Pest Trapping Program**

At any point in time, the Pest Exclusion and Management Program has over 8,000 pest traps statewide to provide early detection indicators. The Interior Operations group performed this past fiscal year, over 125,000 individual pest traps servicings.

## **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 images of pests over the Internet for identification, continues at all interstate ports-of-entry. In FY2002, the Pest Exclusion and Management Program staff and the State Agricultural Lab Biology section staff received the Governor's Spirit of Excellence Recognition Award for the teams' deployment and utilization of this technology to enhance customer service delivery.

## **World Market Access**

Successful demonstration of the integrity of our pest exclusion efforts and *free-from* status for quarantine pests of concern to our trading partners ensures further opportunities for Arizona's agricultural industry. This assurance allows for international market access.

## **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 in New Mexico and in California. This aggressive pest, with the ability to bite and sting, inflicts painful injuries and in some cases death, when disturbed.

## **Quality of Life—A Top Priority**

Exclusion of RIFA is a 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.

In an effort to prioritize, based on the reduction of essential financial resources, the Interior Operations group identified nearly 300 sites statewide which pose a serious threat to the introduction of Red Imported Fire Ants. Labor-intensive survey methods at each of these sites are employed to provide early detection indicators enabling staff to aggressively implement chemical controls to eliminate the isolated pest interceptions thereby reducing the risks of pest establishment.

## **Nationally Renowned**

The Department is nationally recognized for successful detection and eradication techniques. The United States Department of Agriculture offered a \$102,895 grant in support of our RIFA efforts in late FY 2002. These continuing efforts maintain Arizona's federal designation as *free-from* this pest, avoiding an economically costly federal quarantine.

## **Cotton (PLOWER) Program**

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 to and no stub (cotton regrowth following harvest) is allowed to grow.

## **PLOWER Compliance**

In FY 2002, the Department issued three abatements for failure to comply with plower deadlines. In all cases, growers took action to bring fields into compliance thereby eliminating the need for costly contractor fieldwork. Under the direction of the Field Operations Manager and with the assistance of the Arizona Cotton Research and Protection Council (ACRPC) staff, complete compliance with the PLOWER program was achieved.

## **Noxious Weeds**

Biological invaders are pest organisms capable of dominating places that were previously free of that adversity. Weed is a term used to designate a pest plant that is known to be detrimental to human welfare. Some introduced (non-native) invasive weeds are extremely destructive and for regulatory purposes, they are labeled as noxious by Arizona's noxious weed rules.

### **Cooperative Effort**

The department maintains a Noxious Weed Program that coordinates a number of state, federal and university weed exclusion and control efforts dedicated to preventing environmental disasters caused by invasive plants.

Arizona's noxious weed 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 are found within the State and are to be quarantined to prevent further infestation or contamination. Commodities or land can be quarantined until eradication is complete.
3. Prohibited noxious weeds are prohibited from introduction in Arizona, and shippers must have a permit to transport them through the State.

## **Program Highlights**

In FY2000, seven noxious weed/invasive plant abatement associations were actively pursuing control or eradication goals, mapping local weed distributions and conducting public information programs in Arizona. Currently, 14 groups are active and more are in the early stages of organization.

### **Noxious Weed-Free Hay**

Federal land management agencies are enforcing noxious weed-free hay regulations for horse, burro and mule feed carried into public lands. Department and Arizona Crop

Improvement Association personnel are developing noxious weed-free hay standards and studying regulations/enforcement procedures from other states with weed-free hay programs already in place.

### **Consumer Protection, Too**

When livestock eat hay with noxious weeds, seeds spread to private and public lands. Regulations to prevent this kind of noxious weed spread are being developed.

### **Noxious Weed List Proposals**

Sixteen non-native plant species that threaten the existence of native Sonoran desert vegetation, water environments, grazing lands, forests and roadside rights-of-way have been identified, and will be proposed as additions to the Noxious Weed List.

### **Fire Hazards**

Desert shrubs, flowers and cactus species are killed by wildfires and disappear from landscapes subjected to periodic fires. However, these noxious weeds not only survive fire but fire enhances their ability to encroach into burned sites, perpetuating the degradation of the biodiversity of the area.

### **Yellow Starthistle**

Yellow starthistle ranks as Arizona's worst noxious weed threat. yellow starthistle is an aggressive weed that displaces other native species. When this weed takes over, it makes for an unbalanced ecosystem reducing biodiversity and creates a fire hazard. It also negatively impacts the quality of rangeland and is poisonous to some livestock. Young Arizona has gone from less than 100 acres during the mid-1980s to approximately 2,400 acres in 2001.

### **Plant Dominance**

Monitoring has determined yellow starthistle populations are increasing on public and private grazing lands—especially above elevations at 3,000 feet. This aggressive invader has infested millions of western U.S. grassland acres and has become the dominant plant on hundreds of thousands of acres in California and the Pacific Northwest.

Observations during FY 2002 revealed that at elevations below 2,000 feet, Malta Star thistle is becoming the desert equivalent of yellow starthistle. Malta starthistle is being evaluated for placement on one of Arizona's noxious weed lists.

### **Giant Salvinia**

Giant salvinia forms dense mats in waterways that obstruct boating and wildlife reduces water flow and alters waterway ecosystems.

A multi-agency, multi-state giant salvinia Eradication Task Force was formed in response to the discovery of this federal noxious weed in the lower Colorado River. Habitat managers and scientists from Arizona, California and federal agencies are developing an eradication action plan. Giant salvinia was intercepted in aquatic plant outlets in Phoenix, Yuma and Tucson and subsequently destroyed. It is illegal to sell or own Giant salvinia.

## **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, nonnative 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***

Nonnative 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 can become so dense that harvesting cotton becomes extremely difficult. 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.

# State Agricultural Laboratory

The State Agricultural Laboratory provides quality agricultural and environmental laboratory analysis, identification, certification and training services to various regulatory divisions of the Department and others as provided by law. To accomplish its mission, the laboratory is organized into three sections — Biological Identifications, Pesticides and Natural Toxins and Products Control.

<b>Lab Section/Subsection</b>	<b><i>Summary of Activities</i></b>
<b><i>Biological Identification</i></b>	
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.
<b><i>Pesticides and Natural Toxins</i></b>	
Dairy Residue	Analyzes milk and other dairy products for the presence of pesticides and other harmful chemicals.
Pesticide Residue	Assists pesticide law enforcement officials through the 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.
<b><i>Products Control</i></b>	
Dairy Product Quality	Tests dairy products to assist regulators in enforcing quality standards.

Animal Disease	Tests animal blood and milk samples for the presence of the organism responsible for causing the disease brucellosis.
Feed, Fertilizer & Meat Quality	Performs testing to determine whether marketplace samples are at the quality levels stated on the labels.
Food Safety & Meat Microbiology	Tests meat, ready to eat products and other commodities for bacterial contamination.

### **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 Department's divisions to confidently act upon testing results, regulatory enforcement and compliance.

The Laboratory not only serves the needs of the Arizona Department of Agriculture, but also receives samples for scientific testing from other State and federal agencies. The Pesticide and Natural Toxins section also provides, on a fee basis, services to Arizona Structural Pest Control Commission (SPCC), Arizona Department of Environmental Quality (ADEQ) and Indian Tribal governments as well as other State and federal agencies.

### **Pesticide Residue Testing**

The Pesticide and Natural Toxins section performs pesticide residue analysis on a wide variety of materials including: plants, soil, water and tank mixes. These analyses are performed to gather evidence in cases of suspected pesticide misuse or to verify that the proper chemicals and concentrations have been applied to homes and commercial buildings.

For the Environmental Services Division, the Product Control section tests commercial feed, fertilizer and pesticide formulations to check the guaranteed analyses on the labels. This ensures that consumers receive quality products that meet label guarantees.

## **State Arthropod Collection**

The Biological Identification section houses an insect collection made up of over 35,000 individual specimens, representing more than 250 families of insects. This important collection is used by staff to identify insects or other arthropods.

In its supportive capacity, the State Agricultural Laboratory's mission in protecting consumers and natural resources through quality laboratory services is met and enables the Department's divisions to carry out its statutory obligations.

## **Biological Identification**

The Biological Identification 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 allows the regulatory divisions to make informed decisions about permits, phytosanitary certification, quarantines and pest control measures.

### **Digital Imaging**

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

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

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

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

Seed analysts in the Biological Identifications section provide information on seed purity, rates of germination and weed seed content for Arizona's farmers, homeowners and seed export companies. These analyses provide assurance that the seed label matches its performance when planted and does not contain harmful weeds. Seed technicians are certified by the Association of Official Seed Analysts and can recognize at sight over 400 species of plant seeds.

## **Identifications Completed**

For FY 2002 the Biological Identification section provided 17,917 identifications on specimen submissions. This included 174 botany identifications, 11,803 entomology identifications, 191 malacology (snails and slugs) identifications, 1,883 nematode identifications, 1,060 plant pathology identifications and 459 analyses for the Karnal Bunt project. In addition, the laboratory performed 2,347 seed analyses.

## **Technical Assistance**

We provide technical assistance for the Red Imported Fire Ant, Karnal Bunt, 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.

## **Certified for Export**

To facilitate exports of various agricultural commodities, laboratory staff train Department personnel in field inspection, collection and detection of plant diseases. Export requirements require certificates that indicate plant health. The list of target diseases is dynamic and fluctuates in response to biological, economic and political factors abroad.

The Biological Identification laboratory and plant pathology staff identifies and analyzes the causes of plant diseases and disorders for the Department, other state and federal agencies and the public. Training of personnel in field collection and recognition of plant diseases is also provided through plant pathology.

Tests performed and information provided by plant pathology staff are vital in certifying Arizona-produced commodities for domestic and foreign markets.

## **Pesticides and Natural Toxins**

### **Our Customers**

During FY 2002, the Lab's Pesticide and Natural Toxins section continued providing regulatory pesticide residue analyses to Arizona's pesticide law enforcement agencies including:

- Department's Pesticide Compliance and Worker Safety Program
- Department's Animal Products Food Safety and Quality Inspection Program
- Department's Non-Food Product Quality Assurance Program
- Structural Pest Control Commission
- Arizona Department of Environmental Quality
- Arizona Department of Public Safety
- Arizona Department of Health Services

- Intertribal Council of Arizona
- Salt River Pima Maricopa Indian Community
- Gila River Indian Community
- Navajo Nation
- Colorado River Indian Tribe

In addition, technical and training support such as sample collection and preservation, chain-of-custody, test selection, sampling plan development and chemical safety are also services we provide our customers.

## ***Natural Toxins***

### ***Cottonseed A Common Feed***

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

### ***Protection for Milk***

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

## ***Pesticide Residue***

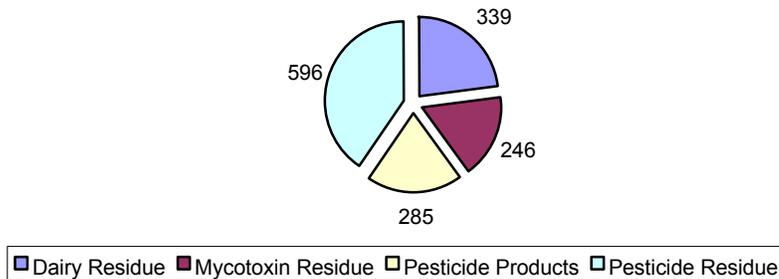
### ***Threat of DDT Residues***

Pesticide residue testing also is conducted for the Department's Food Safety and Quality Assurance program. 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 supports the Department's regulatory role in the preventing significant levels of contamination from reaching Arizona's dairy product consumers. The Pesticide and Natural Toxin lab also tests samples collected as a result of alleged pesticides misuse.

## Behind the Scenes

Other examples of 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.

### Pesticides and Natural Toxins Section



Sample types received include water, soil, produce, foliage, animal tissues, air, clothing and surface swabs. Complicating the variety of samples are the estimated 10,263 pesticide products registered for use in Arizona. Analysis of these samples requires advanced scientific tools and experience.

## Consumer Protection

The expertise of the Lab's personnel with the chemistry of pesticides is further used to protect Arizona's consumers and industry through the provision of analysis of home-use, commercial and agricultural pesticide products. The Department collects samples each year from the consumer and industrial market place.

## Label Compliance

Chemists then perform analyses to determine whether the content and quality of the active ingredients are correctly displayed on the product label. This regulation not only protects the end-user from potential financial losses, but it also plays a key role in protecting pesticide applicators and farm workers against harmful exposure.

## Termite Checkup

The Structural Pest Control Commission collects similar samples to ensure proper labeling and mixing of pesticides used in the home building process. Without this regulatory effort and the testing performed in the Lab's Pesticide Residue section on these pesticides, poor quality products or applications could leave a new home defenseless against harmful termites. The Commission is a State agency that regulates the commercial pest control industry and the use of structural pesticides.

## Animal Feed Protection

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

are naturally produced through fungal activity, the regulatory focus is shifted into the detection and prevention of contaminated products entering into the human and animal food chain. This testing is completed for the Department's regulatory programs.

## **Products Control**

The Products Control section of the State Agricultural Laboratory performs analyses to ensure that our customers, the consumer and the agricultural producer have confidence in purity of product, wholesomeness of product and truth in labeling of agricultural products.

### ***Dairy Product Quality***

The U.S. Food and Drug Administration (FDA) certifies the dairy microbiology lab and its analysts to perform testing on dairy products, dairy product containers, and environmental dairy water samples. On-site laboratory surveys, conducted every three years by FDA personnel as well as analyst participation in an annual proficiency sample program, ensure the quality of the analyses conducted by the dairy microbiology laboratory. Tests conducted include total bacterial count, total coliform count, proper pasteurization of dairy products, antibiotic residues, percentages of fat and solids non-fat, and somatic cell count. In FY 2002, the laboratory performed 9,437 microbiological and 87 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 Laboratory personnel also conduct on-site surveys of industrial and commercial creamery laboratories in the state of Arizona for compliance with FDA regulations for testing milk and milk products at their plants.

### ***Food Safety***

The laboratory also shares its expertise toward the Department's continued development of the Food Safety and Quality Assurance Program by testing agricultural commodities for food-borne pathogens such as Salmonella, Listeria and E.coli in the Food Safety lab. Raw meat, ready-to-eat meat products and animal carcass swab samples are tested in support of the State's Meat and Poultry Inspection Program which is a cooperative program of the United States Department of Agriculture Food Safety and Inspection Program. Dairy products such as cheeses are tested for the Department's Dairy Products Inspection program. In FY 2002 the Food Safety lab obtained FDA approval to test cantaloupes for the FDA's imported produce food safety program. A total of 364 tests for food-borne pathogens were performed in FY 2002.

### ***Formulations***

This Products Control laboratory analyzes commercial feed, fertilizer and pesticide formulations to check the guaranteed analyses on the labels. This ensures that consumers receive quality agricultural products that meet label guarantees. It also analyzes soil, water and vegetation samples for heavy metals and meat samples for protein, fat, moisture and salt.

## **Quality Assurance**

Quality assurance is validated each month by voluntary participation in several check sample programs. For example, feed analyses are evaluated by check samples from American Association of Feed Control Officials (AAFCO). Fertilizer analyses are evaluated by McGruder's Fertilizer Check Sample Data Program. The USDA-FSIS Food Chemistry Check Sample program reviews meat analyses. The ingredient analyses performed by the Formulations Lab on animal feeds and fertilizers ensure that consumers receive quality agricultural products that meet label guarantees.

The Formulations laboratory in FY 2002 analyzed a combined total of 946 agricultural products. 623 feed and feed-ingredient analyses, 1,272 fertilizer analyses and 184 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 also was analyzed for salt content. All tests are run to determine if the guaranteed analysis printed on each product label was correct.

## **Animal Disease Detection**

The Animal Disease laboratory tests animal blood and raw milk for the disease brucellosis, one of several reproductive animal diseases. The bacterium, *Brucella abortus*, causes disease in all mammals. In humans the disease is known as undulant fever and in cattle, the disease is also known as Bang's Disease. Brucellosis is usually transmitted from animals to humans by the consumption of raw milk or by improperly pasteurized, retail milk.

## **Brucellosis Prevention**

Brucellosis is a disease that decreases reproductive efficiency, and if present can seriously affect the profitability of domestic livestock producers and exotic zoo animal producers. Since the 1940s, the USDA has sought total eradication of brucellosis. This resulted in the current Cooperative State Federal Brucellosis Eradication Program.

States are designated brucellosis free when none of their cattle or bison are found to be infected for 12 consecutive months under an active surveillance program. At slaughter, all cattle and bison two years of age or older are tested, except steers and spayed heifers. At market, all beef cattle and bison over 24 months of age and all dairy cattle over 20 months of age are tested except steers and spayed heifers. Pregnant or postparturient heifers are also eligible for testing regardless of their age. Herd tests must include all cattle and bison over six months of age except steers and spayed heifers. Presently Arizona is a Brucellosis Free State, having earned this status by meeting the requirements of the Brucellosis Eradication Program. To date, no confirmed positive samples have been found.

The Animal Disease laboratory analyzed a total of 20,325 blood and milk samples from domestic and exotic animals for the Brucellosis Eradication Program in FY2002. 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 93,459 cattle blood samples were analyzed at the Lubbock laboratory in FY 2002.