



# THE OUTLOOK

March 2006

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## AZEHA OFFICIALS

### President:

Chris Reimus

### President Elect:

Mo Heydari

### Past President:

Aimee Upton

### Secretary:

Susie Sid

### Treasurer:

Veronica Oros

### Membership Chairman:

Steven Wille

### Board Members:

Hans Moesbergen  
Tom Dominick  
Tesann Achilles  
Adam Kramer

### Newsletter Editor:

Darcy Brondt

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## A Message from the President AZEHA! Going Out with a Bang!

*Chris Reimus, MS, RS, AZEHA President*



As many of you may know (if you read the bylaws in the last issue) the association operates on a fiscal year which ends on June 30, 2006. This year, that is also the date after which I turn over the reins for the presidency of this organization to Mohammed Heydari, the current president-elect. With a short time left in my tenure, I was thinking about the impact of my presidency; specifically, I was wondering if there was any impact at all. I know that this organization has done a lot better job in recent years of offering regular newsletters with more in-house articles relative to environmental health in Arizona. We have also made an effort to have quality seminars and continuing education opportunities for our membership, like the Membership Meeting and Seminar which was just held on March 15. However, these efforts just continued to build upon the foundations left by my predecessor, Aimee Upton; this was not really a change with impact to our organization, but a continuation of the good things we were already doing.

In an effort to contribute to a significant change and improvement in the organization prior to the end of my tenure, I have created a special Web-Site Committee, headed by Gregory Epperson, to obtain, develop, and implement a new web-site for AZEHA (note the new acronym – see below). This web-site committee has been charged with finding appropriate web-space, developing a basic site structure, and appropriating a new domain name. Many of our long-standing members may remember our website from the past, [www.aeha.org](http://www.aeha.org). Unfortunately, that domain expired and was immediately obtained by the Association for the Eradication of Heart

Attacks. With some challenges in leadership of our organization, the whole website came down and was never reestablished.

The executive committee and board considered issues related to the development of a website at our last board meeting. It was decided that we should move forward on this issue to be implemented in July and put into the budget for next year. We also decided to go with a domain name of [www.AZEHA.org](http://www.AZEHA.org). The board agreed that using an acronym of AZEHA rather than AEHA would be a good change of practice in general. Considering that many other states have environmental health associations which share the AEHA acronym (Alaska for example), we thought it would be a good idea to make this change. 'AZ' is unique to Arizona and is more informative to our membership, our parent organizations, and the public at large.

The initial goals for the website are simple. We simply want to start with a home page where we can link to our newsletters, membership information, conference information, and other web-sites of interest to our membership. We also hope to have a few dedicated email addresses for our webmaster, the president of the organization, and the membership committee. It is possible that we will have a message board; a forum where our membership can keep in touch with one another and discuss relevant topics. At this point, there are a lot of potential ideas. We need your help to implement them. If you have experience developing web sites or if you want to gain this experience, please contact Greg Epperson, the Web-Site committee chairperson, at [geperso@mail.maricopa.gov](mailto:geperso@mail.maricopa.gov) or (602)506-6978. I am sure your efforts will be appreciated by our membership.

## Who Are We?

By Steve Wille, R.S. AZAEHA Membership Chair

### A breakdown of AZAEHA membership by county, state, federal regulators, and private industry.

Cochise County=1  
 Coconino County=1  
 Gila County=1  
 Greenlee County=1  
 La-Paz County=2  
 Maricopa County=29  
 Mohave County=1  
 Pinal County=7  
 Yavapai County=6  
 Yuma County=1

State Departmental Level=5  
 Federal Departmental Level=3  
 Private Industry=16  
 Other =17 (retired, other occupations, etc.)

Explore Anaheim, Orange County, California  
 Home to Disneyland, California Adventure, Angels Baseball, and the Mighty Ducks

....

Join us at the California  
 Environmental Health Association

## 55th Annual Educational Symposium

**MAY 10-12, 2006**

An excellent forum for all  
 Environmental Health Professionals

For more information visit [ceha.org](http://ceha.org)  
 Or call Dianne Martinez at 714- 433-6075

The pre-registration deadline is extended for subscribers to this newsletter to 7 days after publication



## AZEHA Elections

### Here Are the Candidates



Current Board Member, Tom Dominick, is now running for President Elect. He was born in Berwyn, IL and grew up in the Chicago suburbs. He graduated from North Central College in Naperville, IL with degrees in biology and chemistry. Tom worked for Pharmichem Testing Services as a Laboratory Technician and LyphoMed Pharmaceuticals as a Quality Control Technician before moving to Arizona in 1989 with his wife, Patricia. Tom worked for Genetrix/The

Genetic Center in Scottsdale, which specialized in testing for chromosomal abnormalities. In 1991, Tom began employment with Maricopa County Department of Environmental Services as a sanitarian trainee. He initially worked as a district inspector and later in Quality Assurance. Tom was later promoted to Environmental Health Lead Specialist handling Quality Assurance. He also worked as a liaison with computer programmers to resolve software issues as the county implemented the use of handheld computers for electronic inspections and performed initial training for the system. For his work, he was named 1996 Field Services Employee of the Year. In 1998, Tom accepted a position as the Coordinator of Food Safety for the Bashas', the company's first food safety position. Two years later, he was promoted to Vice President of Food Safety and Sanitation. Tom served a three-year term on the Arizona Sanitarian Council (1999 – 2002) as an industry representative. Currently, he is the co-chair of the Arizona Food Safety Task Force and a member of the Conference for Food Protection (CFP) Committee for the Training and Certification of Food Safety Regulation Professionals. This is Tom's second term on the AZEHA Board. Tom and his wife have four children and reside in Scottsdale. In his spare time, he is involved in church activities and has coached his daughter's competitive soccer team for the last six years.



I am seeking your support for election to the AZEHA Board. I will endeavor to bring a fresh perspective to our strategic direction. As membership chairman of the organization for the past 2 years, I have been able to observe our board in action and have the insight and knowledge of how the board works together to direct the organization towards its stated mission.

I have a B.S. in biological sciences from Southern Illinois University at Carbondale. I have worked in the Environmental Services Department in Maricopa County for 5 years. Before working for Maricopa County, I worked as a laboratory technician in an environmental laboratory for 2 years, performing quality assurance tests on soils, soil amendments, water samples, and nutritional supplements.

My vision is to support the current initiatives of the board, and to introduce directions to increase membership and enhance the organization's recognition throughout the state as well as on a national level. I enjoy working for AZEHA and will continue to commit as much effort as needed to keep our organization strong.

*(Continued on page 7)*

# Arizona Environmental Health Association



## Membership Application

(Yearly membership runs July - June)

### Applicant Information

Name:

Current Address:

City:

State:

Zip:

E-mail Address:

Receive Newsletter via E-mail? Y or N

Membership Type: New/Renewal (Please circle one)

Member #:

Regular/Student (Please circle one)

Phone: ( ) -

### Employer Information

Current Employer:

Employer Address:

Contact: Work/Home ( Circle One)

City:

State:

Zip:

Business Phone: ( ) -

Fax: ( ) -

Title:

Registered/Certified? Y or N (Circle One)

Type(s):

### Areas of Interest

Air Quality

Administration/Mgmt

Education

Food/Food Safety

Solid Waste

Hazardous Materials/Waste

Epidemiology

Waste Water

BioTerrorism

Water Quality

Vector/Pest Control

Committee involvement (note committee below)

### Activities of Interest

Please list the types of activities or functions you would like to see offered by AZEHA

### Payment Information

Amount Enclosed: \$

Active Member: \$20.00

Cash/Check/Money Order (Please Circle One)

Student Member: \$10.00

Signature of Applicant:

Date:

Referred by: \_\_\_\_\_

Thank you for your interest in the Arizona Environmental Health Association. We look forward to working with you in future AZEHA functions. **Please return application and payment to:**

**Arizona Environmental Health Association C/O Maricopa County Environmental Services Attn: Steve Wille, AZEHA Membership Chairman 1001 N. Central Ste. 575 Phoenix AZ 85004. Please make checks payable to AZEHA.**

## An Overview of Significant Changes in the U.S. Food and Drug Administration's 2005 Food Code

By Tim Hurst, MPH, R.S., AZEHA Legislative Committee Chair

As many of you are aware, the United States Food and Drug Administration released its 2005 Food Code last fall. The FDA's new food code is a result of a celebrative effort between the FDA, the U.S. Department of Health and Human Services, the Food Safety and Inspection Service of the U.S. Department of Agriculture, and the Centers for Disease Control and Prevention. This science based food code is designed to control incidences of food borne illness by serving as model for local health departments throughout the nation. In the past, the FDA was adopting new food codes every two years. In 2001, the FDA went to a four year interval between the adoption of new food codes.

The primary reason for adopting new food codes on a regular basis are to help protect the public from immersing food borne pathogens that are occurring throughout the world. Increased globalization, an aging population, changes in eating habits, increase food security threats, and changes in food production methods all present themselves increased challenges to regulatory authorities to insuring the safety of the food supply.

As many of you are aware, the state of Arizona is currently operating under a modified version of the FDA's 1999 Food Code. Since each new code is based on the science of preventing food borne illness, several studies have been made to support the changes addressed in the new 2005 Food Code. The purpose of this article is to provide a brief synopsis of those changes and what our state and local regulatory agencies need to do in order to update their own regulations to keep up with national standards. Some of the main changes in this code are the addition of definitions for food allergens and changes to the definitions of a potentially hazardous food, reduced oxygen packaging, employee health, bare hand contact with ready-to eat foods, time as a microbial growth barrier, and the minimum hot holding temperature for potentially hazardous foods. The next few paragraphs will outline those changes.

An immersing concern in food safety is that of food allergens. Many individuals have severe allergic reactions to foods containing dairy products, fish, nuts, and wheat. The new requirement is that the person in charge should have knowledge of these major food allergens along with the symptoms associated with an allergic reaction to these food items. In addition, packaged products must list any foods that could elicit an allergic reaction on their labels.

The definition of a potentially hazardous food has also changed as a result of significant research to now include reactions between pH and water activity ( $A_w$ ). Some of the effects to consider are that of food packaging preventing re-contamination and heat treatment to destroy vegetative cells. Tables have now been developed to provide tools to determine whether or not a food is considered to be potentially hazardous. These tables display interactions between water activities ( $A_w$ ) and pH. Some foods, such as diced tomatoes, which have been implicated in several food borne illness outbreaks, are now considered to be potentially hazardous unless a study of the interaction between its water activity and pH determines otherwise. Other potentially hazardous foods that were listed in the previous code are still considered to be potentially hazardous.

Industry is increasingly using reduced oxygen packaging (ROP) as a means to better preserve foods. With this activity, comes the concern of the potential growth of *Clostridium botulinum* and *Listeria monocytogenes* if it is not properly done. The new code has amended the definition of ROP to include an exemption from a variance for utilizing ROP for cheese. This activity now needs a written HACCP plan and all packages must be properly labeled and have a sell by or discard date after 30 days. Additionally, all products utilizing ROP must have as a minimum, two growth barriers to pathogenic growth in place.

A new section has also been added to the definition of ROP for cook-chill or sous vide. This process involves raw or partially cooked food being hermetically sealed in a bag and promptly chilling the bags to prevent the

growth of pathogens. Some of the requirements are an approved HACCP plan and all the food must be prepared and consumed on the premises. All bagged foods must be cooled to at or below 34 Deg. F. with in 48 hours and held for no more than 30 days. Additionally, the product's bag must be labeled with the product's name and date.

Another significant change is to the section that addresses employee health. Norovirus has now been added to the big four pathogens most commonly implicated in food borne illness outbreaks. The other pathogens of concern are the Hepatitis A virus, *Shigella* spp., Enterohemorrhagic or Gia Toxin-Producing *Escherichia coli*, and *Salmonella typhi*. The major concern with these pathogens is the extremely low infectious dose that it takes to infect an individual. Person's in charge of food service facilities are responsible to assure individuals diagnosed with these and any other reportable disease be either excluded or restricted from working with food.

Since Arizona's adoption of the 1999 FDA model food code in 2000, bare hand contact with ready-to-eat food products has been prohibited. An addition to this section now includes the ability of an establishment to contact ready-to-eat foods with bare hands so long as there is a written approved policy for hand washing and the establishment is properly following that policy. Details such as double hand washing, nail brushes, and utilizing a hand anti-septic after hand washing must be in the policy.

Another change to the code gives industry options when using time as microbial growth control for potentially hazardous foods. The 1999 Food Code allowed potentially hazardous foods to be left in the temperature danger zone between 41 Deg. F. and 130 Deg. F. for a maximum period of four hours. The new code has amended this provision to allow for potentially hazardous foods to be left in the temperature danger zone of 41 Deg. F. and 135 Deg. F. for a period of up to six hours. This provision requires the food to have an initial temperature of 41 Deg. F. or less when removed from temperature control and must not exceed 70 Deg. F. during the entire six hour period. As with the four-hour provision, establishments will need verifiable written procedures in order to conduct this activity.

The final major difference between the current Arizona Food Code and the new 2005 FDA Food Code is that the hot holding temperature for potentially hazardous foods is now at 135 Deg. F. In 2000 Arizona decided to adopt a minimum hot holding temperature of 130 Deg. F. despite the 1999 FDA Food Code having a 140 Deg. F. requirement. One of the major reasons for this drop is that studies have shown that certain pathogens such as *Clostridium perfringens* that are viable at high temperatures are adequately controlled at this temperature.

It is imperative that in order to keep up with industry and to prevent compromising our own food inspection programs, that we as state and county health officials make timely changes to our codes to closely reflect national standards. In Arizona, any changes to a food code or any code for that matter must first occur on a state level. The counties will then be required to adopt codes that are at least as strict or stricter than as those of the state. The State of Arizona is currently considering opening Arizona's 2000 Food Code for revisions that would reflect the changes outline in the 2005 FDA Food Code, so I would like to urge your support in Arizona's Environmental Health Association's efforts to urge the state to take this action.

### References:

U.S. Food and Drug Administration's 2005 Food Code: <http://www.cfsan.fda.gov/~dms/fc05-toc.html>.

### 2005 FDA Food Code Update and other Emerging Food Safety Issues.

PowerPoint presentation at the Spring 2006 Conference and Membership Meeting, John Marcello, FDA Regional Food Specialist, FDA Phoenix.

## Food Safety Training – Who's responsible?

By Adam Kramer, MPH, R.S., AZEHA Board Member

Who is responsible for making sure that employees in food service are knowledgeable and utilizing safe practices? Is it the County (they may mandate a food service worker or manager card)? Is it the food facility (they hired the employee)? How about the actual employee? Or is it the consumer that may get sick from eating the mishandled food?

The truth is everyone has some responsibility. The regulatory authority can pass ordinances and mandate training. However that training tends to focus on the universal basics of food safety and may not be directly applicable to an employee's specific job. For instance, I had been issuing food service worker cards and a student asked why they had to know the cooking temperature for chicken when they were working at an ice cream parlor. I explained that it was a card for doing any foodhandling not specifically scooping ice cream.

I have also recently been approached by one food facility to teach all of their employees about food safety. When I asked why they did not have their chef doing it, I was informed that, by having the regulatory authority teach the course they could say that all of their employees knew the rules so that if they found a violation they could seek disciplinary action. I had to respond that all I could teach was the requirements in the Food Code and that was the minimum standards everyone should be following. I stressed that this was an opportunity to teach the employees the expectations above and beyond that of the regulatory requirements and to share with them the specific procedures that are utilized in the kitchen. We ended up compromising on that I would assist and explain the necessity of good sanitation and the causes of foodborne illness, and the chef would address the specific policies that are in place in the kitchen.

In many food facilities, initial training covers many aspects of the job from schedule and benefits to actual performance. Thrown in amongst all of these topics may be food safety which can range from watching a video or reading a pamphlet to signing a memo. Many restaurants try to have shift meetings/tailgate sessions, however these tend to focus on the topic du jour (food safety tends to come up either before or after an inspection). In many instances this 5 minute meeting could be used to address some food safety issue. It seems almost weekly now that the news media is covering restaurants (in the paper or on TV). These broadcasts could be used for a meeting topic (i.e. Did you see on the news last night that restaurant X had mold in their soda fountain. How often do we clean our fountain and how do we clean it?).

Many facilities also believe that a memo will solve the problem. How often have we heard "They signed a memo saying they would wash their hands." A memo is a piece of paper and does not mean much unless there is the training that goes along with it to ensure that it is followed. I had one facility that repeatedly had problems with bare hand contact and not washing hands. I kept receiving copies of the signed memo from the employees saying that they had watched a video on personal hygiene and would not have bare hand contact and would wash their hands. Well, a couple months down the road I would return and see the same practices in effect. After the employees third screening of the same video (compliance through torture?), we held a discus-

sion with the manager that maybe the video and memo were insufficient. Through a discussion with management it was suggested that they set up a system of spot checks and have the employees self-monitor one another in their practices. Since then, the problem has resolved.

The solution is many sided with everyone taking some responsibility. The regulatory authority can provide a basic exposure to food safety. The employer can explain the specific policies and work with the employee to ensure that they are implemented. The employee ultimately ends up with the final responsibility as they are responsible for implementing the safe practices into their own performance.

What if the employee doesn't implement those practices either out of ignorance, lack of resources, or contempt? Well that is where the consumer reaps the consequences, and may again hold everyone else responsible for their misfortune.

## See the Future Be the Future

By Susie Sid, R.S., AZEHA Secretary

Let's use the technology of tomorrow, today for environmental concerns. This is exactly what myself and fellow co-worker Joey Matthews (EHS of Maricopa County) set out to accomplish using the Maricopa County Rewarding Ideas Program as our venue.

The subject matter is using techno-rain to end the dry spell that persists in Maricopa County. Numerous problems for the county have resulted due to persistent drought conditions. Some of these include: poor air quality, increased health problems for chronic conditions such as asthma, and the risk of fires and water restrictions.

Currently there is no method to combat drought. However, THERE ARE no burn days, carpool efforts, and the use of fines and citations to combat poor air quality, which has had limited success.

Through grant funding or other source the County could implement an active-cloud seeding/weather modification program to increase total yearly annual precipitation amounts to the entire County, which would combat the current drought. Active cloud seeding involves delivering carbon dioxide or silver iodide to clouds from either ground or air based operations. The chemical reaction results in increased precipitation in these clouds and increased overall rainfall in targeted areas.

The use of techno-rain will have numerous benefits. It will improve air quality, save money from decreased health care cost associated from poor air quality. Furthermore, additional precipitation will ensure an adequate water supply county-wide, and decreased risk to safety threats such as fire.

It's time to think outside the box or better yet create the box. Look at your job not in the here and now, rather how it will look twenty years down the road. Techno rain today, remote health inspections tomorrow.

## Now Hiring! Current Openings in Arizona

- **Position:** Environmental Health Specialist with Maricopa County Environmental Services  
**Location:** Phoenix, AZ  
**Salary:** Trainee—\$16.06 per hour; Registered Sanitarian—\$16.06-16.86 per hour (DOE)  
**Start Date:** Open until filled, three positions available  
**Contact:** [www.maricopa.gov](http://www.maricopa.gov)
- **Position:** Sanitarian, Maricopa County Sheriff's Office, Central Services-Food Services  
**Location:** Various locations throughout Maricopa County  
**Salary Range:** \$16.79-18.49 per hour  
**Start Date:** Open until filled  
**Contact:** [www.maricopa.gov](http://www.maricopa.gov)
- **Position:** Seasonal Vector Control Field Tech, Maricopa County Environmental Services  
**Location:** Phoenix, AZ  
**Salary Range:** \$12.61 per hour  
**Start Date:** Open until filled  
**Contact:** [www.maricopa.gov](http://www.maricopa.gov)
- **Position:** Environmental Specialist I / Food Service  
**Location:** Flagstaff, AZ  
**Salary Range:** \$32,135-35,384 annual equivalent DOQ  
**Start Date:** Open until further notice  
**Contact:** <http://co.coconino.az.us/jobline.asp>
- **Position:** Public Health Emergency Preparedness Plan Coordinator  
**Location:** Flagstaff, AZ  
**Salary Range:** \$36,309-41,755 annual equivalent DOQ  
**Start Date:** Open until further notice  
**Contact:** <http://co.coconino.az.us/jobline.asp>
- **Position:** Environmental Health Specialist III  
**Location:** Pinal County, AZ  
**Salary Range:** \$43,700.80-45,926.40 annual equivalent DOQ  
**Start Date:** 04/22/2006  
**Contact:** <http://co.pinal.az.us/HR/>

Announcing NEHA's [JobCenter](http://www.neha.org/JobCenter.html) (link to <http://www.neha.org/JobCenter.html>). Do you need to advertise a job opening in your organization or find a quality job that's right for you? Well, NEHA has the answer. We are pleased to bring you the [JobCenter](http://www.neha.org/JobCenter.html) (link to <http://www.neha.org/JobCenter.html>) – a **comprehensive listing** of job opportunities across the country and in all areas of environmental health and protection and public health. Unlike most job banks and searchable job boards, we offer you the opportunity to post a job announcement at **little or no cost**. For more information or to find out if you qualify for a FREE job posting, please contact Alicia Green, NEHA Marketing Project Specialist, at [agreen@neha.org](mailto:agreen@neha.org).

## AZEHA Elections

(Continued from page 2)



My name is Tesann Achilles and I am running for AZEHA Secretary. I graduated from the University of Alaska, Anchorage with a BS in Biology in May of 1997. I moved from Alaska to Arizona in July of 1997. I am an Environmental Health Specialist (EHS) with Maricopa County's Environmental Services Department. I worked as a field EHS from October of 1998 to December of 2002. I currently work in the

Foodborne Illness Office where I investigate complaints of foodborne illness and conduct foodborne outbreak investigations. I have been a board member for AZEHA since July of 2004. I also volunteer for the conference committee and I assisted with coordination of the Annual AZEHA Conference in March, 2006. I have also assisted with and performed on-site registration for several additional conferences.



Veronica (Ronnie) Oros is currently Manager, Food Safety and Health Sanitarian for Arizona State University, Tempe, Arizona. She received her Bachelor of Science degree in Environmental Health Science at Indiana State University. Veronica has been in the Environmental Health field for 25 years. Currently she is the Treasurer for the AZEHA and is running for a Board position.



Tim obtained a bachelors degree in Wildlife Conservation Biology from Arizona State University in 1996. After working for a couple years in the field of fisheries biology, Tim went through a major career change and became Sanitarian in 1998. As a field sanitarian, Tim has worked in districts in Central Phoenix, Scottsdale, Mesa, and Tempe.

After over four years in the field Tim was promoted Training where he is now responsible for coordinating and providing training for new and existing staff. He is also currently serving as the Division's representative in the FDA's Voluntary Standards Program. Additionally, Tim obtained his Master's in Public Health from the University of Arizona in December of 2003. He also recently took over the role as the Chair for AZEHA's Legislative Committee and regularly participates in Legislative Committee meetings with the Arizona Public Health Association. As an AZEHA Board member, Tim hopes to transfer his skills he has developed over his eight years with the county to this new position with AZEHA. A strong background in public health is essential to any leadership role in this organization and Tim will make an excellent choice for this position.

### Additional Candidates Include:

- *John Boyce for Treasurer*
- *Marlene Gaither for the Board*
- *Jaime Vinaras for the Board*

## FOOD SECURITY POST 9/11

By Mo Heydari R.S., AZEHA President Elect

By now, many of you may have heard about the poisoning case involving President Viktor Yushchenko of Ukraine. It is alleged that the opponents of Mr. Yushchenko had contaminated his food with Dioxin, hoping to end his presidential campaign. The incident was not fatal but left Mr. Yushchenko disfigured and in pain. Investigators and those familiar with the case reported that Dioxin levels as much as 1000 times above the safe limit could be easily added to a bowl of soup.

During the same month (Dec. 2004), Mr. Tommy G. Thompson, the outgoing Sec. of Health and Human Services publicly expressed his concerns regarding the security of the food industry. Later in the same week, President George W. Bush assured the nation that safety and security of food in this county is of the highest priority.

No one doubts the overall safety of food produces in our county. However, in the post 9/11 world and globalization of food markets, the entire food industry faces new challenges. Chief among these challenges is recognizing the need for a Food Security System, a defensive system that allows operators in all levels of the food industry to prevent the risk to their food products and maintain vigilance in protecting their customers against all malicious actions aimed at their food facilities. Now, more than ever, Operators must be prepared for the possibility of not only product tampering but be capable of tracing and monitoring the chain of custody for each product under their control. All of those involved in every level of food production and service must be trained on the security aspects of their tasks and held accountable for communicating any breach in the security chain. Whether this task is monitoring a self-service buffet line at a busy event, working in a processing plant prep area, or a kitchen hiring unscreened staff for food production, every aspect of food operations should be examined for potential vulnerability.

The design of this system must match the needs and vulnerability of each operation. A school cafeteria serving children, a resort hosting major functions, self-service eateries, and water bottling plants, Grocery stores or meat processing plant each may have different processing steps, yet they face similar security concerns. Principles, similar to HACCP can be customized to address security hazards and critical controls involving each operation. Once this system is in place, monitoring and auditing the integrity of the system should be of the highest priority. FDA ([www.fda.gov](http://www.fda.gov)) and USDA ([www.usda.gov](http://www.usda.gov)) are providing several resources and toolkits for training on this subject and guidance for creating a customized crises management strategy.

AZEHA would like to hear from all members who wish to share their knowledge, success stories or questions on this very important subject. I can be reached at 602-867-1780 ext.201 or [ehs1333@cox.net](mailto:ehs1333@cox.net).

Keep up the good work because you are making a difference.

ARIZONA ENVIRONMENTAL HEALTH ASSOCIATION  
c/o: Maricopa County Environmental Services  
Attn: Aimee Upton  
1001 N. Central Ste. 300  
Phoenix AZ 85004



## *Avian influenza frequently asked questions*

### **What is avian influenza?**

Avian influenza, or "bird flu", is a contagious disease of animals caused by viruses that normally infect only birds and, less commonly, pigs. Avian influenza viruses are highly species-specific, but have, on rare occasions, crossed the species barrier to infect humans.

In domestic poultry, infection with avian influenza viruses causes two main forms of disease, distinguished by low and high extremes of virulence. The so-called "low pathogenic" form commonly causes only mild symptoms (ruffled feathers, a drop in egg production) and may easily go undetected. The highly pathogenic form is far more dramatic. It spreads very rapidly through poultry flocks, causes disease affecting multiple internal organs, and has a mortality that can approach 100%, often within 48 hours.

### **Which viruses cause highly pathogenic disease?**

Influenza A viruses have 16 H subtypes and 9 N subtypes. Only viruses of the H5 and H7 subtypes are known to cause the highly pathogenic form of the disease. However, not all viruses of the H5 and H7 subtypes are highly pathogenic and not all will cause severe disease in poultry.

On present understanding, H5 and H7 viruses are introduced to poultry flocks in their low pathogenic form. When allowed to circulate in poultry populations, the viruses can mutate, usually within a few months, into the highly pathogenic form. This is why the presence of an H5 or H7 virus in poultry is always cause for concern, even when the initial

signs of infection are mild.

### **Do migratory birds spread highly pathogenic avian influenza viruses?**

The role of migratory birds in the spread of highly pathogenic avian influenza is not fully understood. Wild waterfowl are considered the natural reservoir of all influenza A viruses. They have probably carried influenza viruses, with no apparent harm, for centuries. They are known to carry viruses of the H5 and H7 subtypes, but usually in the low pathogenic form. Considerable circumstantial evidence suggests that migratory birds can introduce low pathogenic H5 and H7 viruses to poultry flocks, which then mutate to the highly pathogenic form.

In the past, highly pathogenic viruses have been isolated from migratory birds on very rare occasions involving a few birds, usually found dead within the flight range of a poultry outbreak. This finding long suggested that wild waterfowl are not agents for the onward transmission of these viruses.

Recent events make it likely that some migratory birds are now directly spreading the H5N1 virus in its highly pathogenic form. Further spread to new areas is expected.

*For other FAQs and information on avian influenza, visit:  
[http://www.who.int/csr/disease/avian\\_influenza/avian\\_faqs/en/index.html#whatis](http://www.who.int/csr/disease/avian_influenza/avian_faqs/en/index.html#whatis)*