

POULTRY VOICE

I want to introduce myself as the new extension poultry specialist based in West Virginia University's Davis College of Agriculture, Forestry, and Consumer Sciences and the Extension Service Center for Agricultural and Natural Resources Development.

I have a 70% extension and 30% research appointment, which entails working actively with the poultry industry and conducting research specifically in the area of waste management, water quality, food safety, and also involves working with youth and 4-H groups. I can be reached at G014 Agricultural Sciences Building, Evansdale Campus, P.O. Box 6108, Morgantown, WV. 26506-6108. Telephone: 304-293-2631 ext. 4099; Fax: 304-293-6954. My e-mail address is June.deGraft-Hanson@mail.wvu.edu.

This is the first of a series of quarterly newsletters that will focus on specific topics as well as give information on upcoming meetings and workshops that are of benefit to the poultry and food industry here in West Virginia.

In an effort to get this first edition out with information on upcoming poultry meetings in Atlanta, I have not had the time to ask for possible names for the newsletter. I would appreciate suggestions about names that will help to identify the newsletter with the poultry industry because that is its primary target. Please send me e-mails with any possible suggestions. The next edition will be out in the second week in February.

At this moment in time the topic of paramount importance in everyone's mind is security and this is no less important for the poultry industry than it is for the nation at large.

As a result of the attacks in September in New York and Washington, D.C. and the fact that the

terrorists had asked about capacities of crop-dusting planes, everyone is aware that there is the potential for attacks or damage to agricultural installations, farms, and food distribution centers.

The government has responded with an allocation of \$45.2 million for the USDA for emergency programs to strengthen biosecurity programs, etc. Of this, \$17.2 million will be to protect USDA facilities, \$14.1 million for research laboratories in Ames, Iowa, \$5.0 million for several states, and \$8.9 million for education and training to strengthen response mechanisms to potential food safety threats. Some \$2 million in grants has been awarded to states (West Virginia included) to shore up animal disease prevention, and livestock and wildlife surveillance.

Funding from federal, state and local agencies will help, and heightened awareness on the part of these same agencies will help but companies, individual workers, and ordinary citizens also need to be more vigilant to the potential for threats to communities and the agricultural sector. The food and agricultural industry is extremely diversified and that in itself is a measure of control. However, with the agricultural industry rearing animals and birds under intensive conditions, there is always the potential for trouble.

One of the ramifications of poultry disease outbreaks in the past is that the poultry industry has instituted guidelines for its growers, producers, and workers to prevent the spread of infectious diseases or to immediately contain one should an outbreak occur. All these measures are going to have to be strictly adhered to as well as the implementation of extra vigilance in order to guard against the deliberate contamination of a flock with the aim of shutting down the industry (killing birds or making them diseased and unfit for food) and to guard

against the possibility of introducing diseases that can be spread to humans.

If poultry farm buildings can be padlocked and gated against unauthorized entry, by all means do so. In the event that this cannot be done, individual houses should be kept locked, if possible, in order to guard against the entry of unauthorized personnel. Company personnel and veterinarians who need access to buildings can have access but be sure to check the credentials and identification of people who are unfamiliar to you. It may be prudent at times to check with your service representative to make sure a company person is supposed to be on your property (this may be true especially if the person is a new hire you have not met).

Keep an eye out for unfamiliar vehicles that seem to be lingering in the vicinity for no apparent reason. Report suspicious activities or anything that seems out of the ordinary. At times, it may seem that a person may be crying “wolf,” but to a certain extent it is better to err on the side of caution.

Most producers who have been in the business for a while understand their birds and keep an eye out for their health. Extra vigilance is needed for any signs of stress or ill health in a flock. This should be reported to your service representative. There is a concept in food microbiology called the “hurdle effect” to control the growth and proliferation of microorganisms in food. This is based on the use of multiple barriers that have to be breached before an organism can establish itself in a food.

The use of the same concept will help to keep disease and terrorism at bay – extra vigilance against suspicious people and activities, preventing entry unto premises and into poultry houses, checking identities of delivery and service personnel unfamiliar to you, seeing evidence of suspicious litter suddenly appearing on premises, etc.

With respect to feed mills and processing plants, employees should be required to carry and display their identification tags so they can be seen easily. Access to properties should be strictly enforced. If this involves inspecting vehicles making routine deliveries that will have to be tolerated especially if delivery employees are not well known. It may seem out of place but the now-routine question asked of airline passengers may be appropriate for delivery personnel. “Are you hauling or has

someone asked you to haul any goods for them?” “Has the truck and its contents been in your sight since the goods/materials were loaded?” “When you stopped at a gas station did you notice anyone lingering around your vehicle?” Delivery trucks of all kinds are not easily accessible, but it is a wise idea to be more vigilant especially on the road between pick-up and deliveries.

There has to be extra vigilance with respect to toxic chemicals and supplies. Inventories need to be checked periodically to keep up with use and proper methods of disposal. This ensures that chemicals are accounted for and that they do not turn up where they are not supposed to be. Feed is routinely checked for presence of certain pathogens. It may be wise to keep on hand kits that can detect certain chemicals and toxins in feed so that they are available should the need arise to use them.

Processing plants also can reinforce their HACCP programs. Currently, some producers ask their suppliers to give them letters of guarantee for specific ingredients and supplies that have an impact on the safety of their final product. They can require such letters of their suppliers to ensure that ingredients were purchased from safe, reliable sources in order to negate the possibility of chemical or biological contaminants. It may seem that by asking for these documents or assurances a company is being picky, but at the moment most people/companies will be accommodating especially since it will be for the good of the public. If there is any doubt about the integrity of an ingredient, simply have it tested before incorporating it into poultry feed.

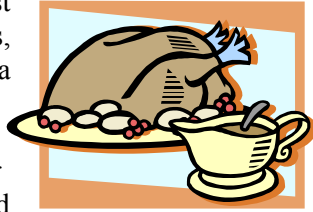
Sometimes one does not wish to let the public know what security measures are in place since individuals then know how to circumvent them. On the other hand, to a certain extent it is advisable to let the public know something so they feel comfortable purchasing the product and so that would-be perpetrators think twice about targeting you.

Water supplies for birds should not be easily accessible to outsiders, and routine tests for biological and chemical contaminants are a good idea. A poultry farm that has four houses with 25,000 birds each has a lot to lose if some unwanted substance gets into the water system. Check routinely for any color or odor changes that might be indicative of a foreign substance in the water

supply. If in doubt, contact your local agriculture department representative and arrange to have a sample tested.

Holiday cooking and general food preparation

Thanksgiving has just ended and Christmas, Hanukkah, and Kwanzaa are just around the corner. These are times when many people gather together for meals, and certain foods are usually prepared in advance of a meal. It is important to follow handling guidelines for meats and poultry bought in stores and follow cooking instructions both from the labels and cookbooks in order to avoid food-borne disease outbreaks. The majority of all food-borne disease outbreaks occur in the home.



It is also important to know your guests and family members well so you can avoid serving items to which they may be allergic (a simple way will be to ask them). Milk, wheat, nuts, and eggs are some of the most common foods to which some people are allergic. Your guests will appreciate your consideration for providing alternatives.

Whether you will be dining on turkey, duck, goose, chicken, or ham there is a simple rule to follow to avoid the possibility of food-borne illness. **Keep foods either hot or cold but not for extended periods in between.** Two hours is a general rule of thumb for when food should be consumed or stored as leftovers.

Bacteria that cause food-borne illness usually do so because meat and vegetables are not handled correctly and they have a chance to grow. The two things that are needed are a favorable temperature and adequate time to increase their population and numbers. For certain organisms like *Staphylococcus aureus* and *Clostridium botulinum*, this allows them to produce toxins. For others like *Salmonella*, *E.coli* and *Campylobacter* organisms this allows them to get to levels that then cause an infection once ingested. Do not allow organisms easy access to food, do not give them a favorable temperature in which to grow, and do not give them time enough to increase their numbers.

Meat and poultry should be thawed in advance to ensure proper cooking. Thawing may be done in a

microwave if the microwave oven is big enough (follow manufacturer's directions), in the refrigerator (preferably), or when you have forgotten, under running water. Be sure to consider the size of the bird and the amount of time needed for complete thawing in order to ensure complete cooking. Also make sure that you thaw the poultry meat in time to cook it well for the meal. If using fresh poultry buy it 1 or 2 days before you need to cook it. Follow directions that come with the wrapping, check a cookbook or contact the USDA Meat and Poultry Hotline at **1-800-535-4555** (toll free nationwide), **202-720-3333** (Washington, D.C.), or **1-800-256-7072** (TDD/TTY). You may also e-mail your questions to mph hotline.fsis@usda.gov or fsis.outreach@usda.gov.

Other information may be obtained from the following website:

<http://www.fsis.usda.gov>.

For general cooking of poultry birds, you may want to roast with or without stuffing. It is perfectly fine to cook your stuffing outside the bird. If you want to stuff, make sure you stuff the bird loosely and make sure the stuffing is moist. Most big birds come now with pop-up thermometers. These are made to pop up when the bird is done. It is also a good idea to have another thermometer to insert into some of the thick parts of the bird just to make sure the meat is done all round. When a minimum temperature of 160° F has been reached in all parts of the bird, the bird is done. White meat will be done at 170° F and dark meat at 180° F. Turkey meat is usually lighter in color than other poultry meat and can still be pink when done, but the juices should be clear. When birds are stuffed, the stuffing should reach a temperature of 165° F.

Vegetables should be thoroughly washed before use even if they are to be cooked. For the very leafy vegetables remove and discard the outer layers and make sure each layer is removed and rinsed well to remove grit or dirt (remember these are grown in soil). The grocery store washes vegetables to clean them up but does not take them apart to do so. The final responsibility of handling meat, fruit, and vegetables correctly rests with the consumer.

Vegetables should be chopped/cut up on a board separate from that used for meat and poultry (especially if they are to be consumed raw). Use separate knives. In any event knives used for meat and poultry as well as plates and boards should be

washed with soap and hot water. Never use a dishcloth that has been used to wipe meat juices to dry a plate that is to receive cooked meat, cooked vegetables, or raw vegetables. Do not place cooked meat or poultry on a dish used for raw meat unless the plate has been washed.

After the meal is cooked it should be eaten within a reasonable time. Room temperature is good enough for bacteria to thrive in. Remember that by cooking your meat and poultry you have eliminated any competing bacteria. If under these circumstances you let the meat sit out for too long any bacteria that gets onto it does not have to contend with competitors. Where do these new bacteria come from?

Bacteria are all around us. Our skin, noses, hair, and clothes, on pets, on the baby's diaper, etc. Basic hand washing and good personal hygienic practices go a long way in preventing food-borne disease outbreaks. Do not allow the bacteria access to the food, do not give them a favorable temperature, and do not give them time in which to multiply. Since they are very simple organisms, it does not take them very long to increase their populations. Under very favorable conditions (temperature, time, acidity, availability of nutrients, moisture, etc.) the common *E. coli* bacterium **doubles its population every 20 minutes**.

After the meal anything left over should be refrigerated. Remember the general rule - two hours at room temperature is more than enough time. Leftover food should be put in appropriate shallow containers and stored in the refrigerator. Even in the refrigerator we have a group of bacteria (psychrophiles – cold-loving) that manage to grow. The cold temperatures slow them down, but they still manage to grow slowly (this is why foods still spoil in the fridge, it just takes longer). Dividing leftover food into small portions lets them cool faster and prevents warm or hot spots for bacteria to continue to grow normally. *Listeria monocytogenes* is a bacterium that can survive and grow under refrigeration conditions and it is pathogenic to

humans. For this reason, it is best also to take care to reheat leftovers well before eating them.

Adequate reheating of food is very important because bacteria do not all die off the minute heat is applied. At any specific heating temperature, they die at the rate of 90% of the population within a set time period. For example, at 90° F it may take 15 minutes to kill off 90% of the population. It takes another 15 minutes to kill 90% of the 10% left, 15 minutes to kill 90% of the 1% left, and so on. Increasing the heat will kill them at a **faster rate but they will still die 90% at a time**. For example, at 100° F it may take 10 minutes to kill 90% of the population as opposed to 15 minutes but they will still die 90% at a time. This is why it is important to cook and reheat food thoroughly and not to have any cold spots left. Proper stirring of the food eliminates cold spots.

If any food has been in the refrigerator for too long, usually the growth of other spoilage bacteria will cause changes in color, odor and texture that make it unpalatable. Use this as an indication that other bacteria that may be pathogenic could also have increased in numbers and discard it.

Though under normal conditions food is safe if well cooked or reheated, the toxin produced by *Staphylococcus aureus* is heat-stable and will cause illness if food containing it is ingested (even after reheating). If ever in doubt about how long a food has been refrigerated, simply discard it.

The food, meat and poultry industries go out of their way to provide nutritious and safe food. Handle food in a responsible manner. Store and cook food according to specifications and the holidays should be an enjoyable time for all.

Upcoming Meetings



WVU Extension Service

Poultry Web Site:

<http://www.wvu.edu/~agexten/poultry/index.htm>

Georgia International Poultry Course January 19-23, 2002

The University of Georgia Dept. of Poultry Science, Athens, GA. 30602-2772. (T) 706-542-1351 (F) 706-542-1827.

This four-day course specifically targets individuals involved in poultry management and processing. There are opportunities for practical demonstrations and interactions with experts. Service and field representatives especially will benefit from this course.

January 13-15, 2002 - National Turkey Federation annual convention, Riverside Hilton, New Orleans, LA. 202-898-0100

January 14-15, 2002 - International Poultry Scientific Forum (SPSS/SCAD joint meeting). Georgia World Congress Center, Atlanta, Ga. Contact poultryscienceforum@poultryegg.org. U. S. Poultry and Egg Association, 1530 Cooledge Road, Tucker, GA. 30084-7303. (T) 770-493-9401 (F) 770-493-9257

January 15, 2002 - Preparing Your Company for an Investigation: What the Industry Needs to Know about Epidemiology, Hyatt Regency, Atlanta, GA. Contact AMI at 730-841-2400

January 15-18, 2002 - National Poultry & Food Distributors Association annual convention, Hyatt Regency, Atlanta, GA. 770-535-9901

January 16-18, 2002 - International Poultry Exposition Georgia World Congress Center, Atlanta, Ga. Contact the U. S. Poultry and Egg Association, 1530 Cooledge Road, Tucker, GA. 30084-7303 or e-mail jstewart@poultryegg.org (T) 770-493-9401 (F) 770-493-9257. www.poultryegg.org. expogeneralinfo@poultryegg.org

January 18-19, 2002 - American Ostrich Association meeting, Texas A&M Univ. College Station, TX. 707-929-3763

January 19-23, 2002, Georgia International Poultry Course. The University of Georgia Department of Poultry Science, Athens, GA. 30602-2772. (T) 706-542-1351 (F) 706-542-1827.

February (Dates TBA) - Partial House Brooding Workshop, Moorefield, WV.

February 6-9, 2002 - National Cattlemen's Beef Association cattle industry and annual convention and trade show, Colorado Convention Center, Denver, Colo. 303-694-0305

February 11-13, 2002 - 2002 Australian Poultry Science Symposium Sydney, New South Wales, Australia. Tel.: +61 2 46 550 656, Fax: +61 2 46 550 693. www.camden.usyd.edu.au/apss.html e-mail noelenew@camden.usyd.edu.au

February 13-15, 2002 - Institute of Food Technologists Food Safety and Quality Conference and Exposition, Marriott Marquis, Atlanta, GA. 312-782-8424

February 20-22, 2002 - American Meat Institute animal handling and stunning workshop, Kansas City Marriott Downtown, Kansas City, MO. 703-841-2400

February 20-22, 2002 - National Meat Association convention, Doubletree Hotel, Monterey, Calif. 510-763-1533

February 22-24, 2002 - Illinois Association of Meat Processors meeting, Pere Marquette Hotel, Peoria, Ill. 815-232-1006

February 28-Mar 3, 2002 - National Chicken Council winter board meeting, The Ritz-Carlton, Naples FL. 202-296-2622

March 19-20, 2002 - Midwest Poultry Federation 31st annual Convention. St. Paul Rivercenter, Minnesota. Contact Midwest Poultry Federation. 2380 Wycliffe Street. St. Paul, MN. 55114. services@midwestpoultry.com (T) 651-646-4553 (F) 651-646-4554

March 20-21, 2002 - North Atlantic Poultry Health and Management Conference Portsmouth Sheraton, Portsmouth, NH. Contact M. Opitz at mopitz@umext.maine.edu (T) 207-581-2771 (F) 207-581-2729 or 4430.



We would like to compile a list of companies and individuals interested in receiving *Poultry Voice* on a regular basis. If others in your organization would like to receive this publication, please fill out this form and return it to:

June deGraft-Hanson
WVU Extension Service – ANRD
G014 Agricultural Sciences Building
P.O. Box 6108
Morgantown, WV 26506-6108

Name: _____

Address: _____

City: _____

State, Zip: _____

**WVU Extension Service – ANRD
G014 Agricultural Sciences Building
P.O. Box 6108
Morgantown, WV 26506-6108**