



# Cheeps & Chirps

..... Points for Poultry Profitability

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## Project website now online

The project website is now available - [www.poultryenergy.com](http://www.poultryenergy.com). The website features:

- An overview of the Poultry House Evaluation Service
- All the issues of the Cheeps & Chirps newsletter
- A poultry production manual covering a variety of different topics
- Information on funding opportunities for those looking for financial assistance to make poultry house improvements
- A resources page, which includes a copy of Dr. Brian Fairchild's presentation on tunnel ventilation given to Perdue growers
- A News and Events page

## Two Brazilian Ag Engineers join the PHES team

Two engineers from Brazil have joined Dr. Doug Overhults, the Ag Engineer coordinating the house evaluations in Princeton, to work on the Poultry House Evaluation Service.



**Gabriela Munhoz Morello** recently graduated from the State University of Campinas—SP (UNICAMP) with a degree in Agricultural Engineering.

Gabriela is from the city of Campinas, which is about 60 miles northwest of São Paulo.

During her college studies Gabriela worked on research projects in the following areas:

- Dynamic Bio – Speckle for bean seeds (a method for measuring seed viability by digital imaging the seeds under laser beam illumination)
- Animal Housing and Animal Welfare
- Controlled Environment Engineering for Turkeys and Broilers

Gabriela also worked with Brazilian poultry companies in slaughter plants, a feed mill, a hatchery, and poultry houses in southern and southeastern Brazil.

In her free time, Gabriela likes to play the piano and the guitar, enjoys basketball and loves being near pets or animals of any kind.



Igor Moreira Lopes also has a B. S. degree in Agricultural Engineering from the State University of Campinas – SP (UNICAMP), Brazil.

Igor's home state is Minas Gerais, which is north of Sao Paulo.

During his undergraduate studies, Igor worked with optical techniques for post harvest evaluation of agricultural products.

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## Avian Influenza found on Western Kentucky Poultry Farm

For more information on [avian flu](#):

University of Kentucky:  
[www.ca.uky.edu/anr/avian\\_influenza.htm](http://www.ca.uky.edu/anr/avian_influenza.htm)

Center for Disease Control:  
[www.cdc.gov/flu/avian/](http://www.cdc.gov/flu/avian/)

Websites of interest:

[Project website:](#)  
[www.poultryenergy.com](http://www.poultryenergy.com)

[UK's Department of Animal & Food Sciences poultry page:](#)

[www.uky.edu/Ag/AnimalSciences/poultry/poultry.html](http://www.uky.edu/Ag/AnimalSciences/poultry/poultry.html)

[UK's small flock page:](#)  
[www.smallflocks.com](http://www.smallflocks.com)

[KY 4-H poultry:](#)  
[www.ca.uky.edu/smallflocks/4h\\_poultry.htm](http://www.ca.uky.edu/smallflocks/4h_poultry.htm)

**Kentucky Department of Agriculture News Release: April 8, 2009.**

State and federal authorities have found a single Perdue breeder flock in western Kentucky to have been infected with a non-pathogenic or low pathogenic avian influenza. USDA's National Veterinary Services Laboratory has identified it as an H7N9 avian influenza. The strain poses minimal risk to human health and is not the high-pathogenic strain associated with human and poultry deaths in other countries.

State Veterinarian Robert C. Stout has quarantined the farm, which produces hatching eggs for Perdue Farms, Inc. The flock at issue has been humanely destroyed and disposed of through environmentally sound methods. All Perdue farms within six miles of the affected flock have been tested and all findings have been negative.

"The state and federal government and Perdue are acting aggressively to contain and eliminate the disease," Dr. Stout said. "There is no evidence that any infected poultry are in the human food supply as a result of this infection. We will do what is necessary to minimize the disruption to overseas trade."

There has been no impact on the safety of chicken products. This flock is not a meat bird flock but produces hatching eggs. None of the affected birds ever left the farm where antibodies to the virus were found, and low

pathogenic avian influenza is not transmitted via eggs.

"I have been in constant contact with state, federal and industry officials since this came to light," Agriculture Commissioner Richie Farmer said. "The people of Kentucky and our trading partners should rest assured that we are doing everything possible to address to situation."

The Kentucky Department of Agriculture is conducting surveillance on backyard flocks within a six-mile radius of the farm.

A minimal drop in egg production at the farm was noticed in mid-March. Perdue's veterinary services laboratory took samples from chickens at the farm and found antibodies for Avian Influenza. Testing by the National Veterinary Services Laboratory in Ames, Iowa resulted in the positive findings for H7N9.

No virus has been isolated and no poultry deaths have been found in connection with the infection. The surveillance and testing of the flocks for avian influenza is working as intended to prevent infected birds from ever leaving the farm. Furthermore, according to the Centers for Disease Control and Prevention, there is no risk of contracting bird flu from properly handled and cooked poultry.

Avian influenza is a virus that affects domestic poultry and some wild birds. It is spread to healthy birds by direct contact with infected birds or infected material, often through feces from infected birds. Low pathogenic avian influenza is not transmitted through eggs. Low pathogenic avian influenza causes little if any illness in poultry and is rarely fatal to poultry.

## Two Brazilian Ag Engineers join the PHES team .. *continued*

*(Continued from page 1)*

Igor also worked at the Non-Destructive Tests Laboratory (LabEND) of the Agricultural Engineering College at UNICAMP where he helped to develop non-destructive

evaluation methods for wood and concrete as structural materials using ultra-sound propagation tests.

Igor's hobbies include watching movies, sports and reading.



## Bird flu—Identification and Reporting

Avian influenza, or bird flu, is a virus that causes disease in chickens, turkeys, quail, ducks, geese, and other birds. There are many types of bird flu, and some are worse than others. The H5N1 form of bird flu that is in Asia, Africa, Europe, and the Middle East causes death. **This virus has not yet been found in North America.**

The bird flu virus is spread through the bodily fluids and feces of infected birds. Wild birds act as a host for the virus. They may not show signs of the disease, even if they have it. Other species that may be able to catch the bird flu virus include pigs, primates, ferrets, rodents, rabbits, cats, and humans.

Common signs of bird flu in domestic poultry, such as chickens and turkeys, include any of these:

- Sudden death
- Little or no energy or appetite
- Little or no eggs produced
- Eggs are soft or deformed
- Nasal discharge, coughing, sneezing, or trouble breathing
- Swelling around the head, neck, and eyes
- Purple discoloration
- Loss of muscle control
- Drooping wings, twisting of head and neck, or inability to move
- Diarrhea

## News reports of *Swine* Flu hitting North America—Is that anything like the bird flu?

On Sunday, April 26, The U.S. government declared a public health emergency in response to 20 human cases of swine flu—eight in New York, seven in California, two in Texas, two in Kansas and one in Ohio. All patients have recovered. Most cases were traced back to recent travel to Mexico.

The swine flu outbreak is believed to have originated in Mexico where it has caused more than 80 deaths and made at least 1,400 people in that country sick.

As with avian flu, swine flu is a common respiratory disease specific to the species involved that does not usually spread to people. While many pigs get quite sick when infected, only 1-4% of them die. There have been cases in the past of people who worked directly with pigs getting sick. Person-to-person spread of swine flu was not common.

The H1N1 strain of swine flu currently circulating appears

Birds may have the disease for 3-7 days before the first signs are seen. Death may occur 24-48 hours after the first signs. Other diseases in birds can cause symptoms like those listed above. Always seek a veterinarian's advice. Wear latex or rubber gloves and washable clothing when touching sick or dead birds. Do not touch feces or bodily fluids from sick or dead birds.

Early detection and reporting are the most important steps in stopping a disease from spreading. Those who see unusual symptoms or that have a high number of deaths in their flock should call their local veterinarian or the Kentucky Office of State Veterinarian at (502) 564-3956. They can also call the USDA's toll-free hotline at (866) 536-7593, where veterinarians can answer questions.

Call the U.S. Department of Fish and Wildlife at (866) 4US-DAWS or the Kentucky Department of Fish and Wildlife at (800) 858-1549 ext. 352 to report sick or dead wild birds. Call to report any number of sick or dead waterfowl. For any other type of wild bird, only call to report if there are 5 or more birds.



to be a new subtype of swine flu that has not been seen in humans or pigs before. It appears to have genetic material from pigs, birds and humans. Unlike most other cases of swine flu, this subtype can spread from person-to-person.

In contrast, when the H5N1 strain of avian influenza first began to infect people it was from contact with sick chickens. To date there has been little, if any, people-to-people spread. In this sense, therefore, swine flu is different human health issue than bird flu.

Symptoms of swine flu resemble those of regular flu—fatigue, lack of appetite, and coughing. Some people may also develop a runny nose, sore throat, vomiting or diarrhea.

The big question is—where did this strain of influenza

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# Avian Influenza—Biosecurity and Prevention

Flock observation  
Limit traffic  
Unwanted critters

Sanitation  
Talk to vet  
Objects spread disease  
Prepare food properly

For more information on swine flu:  
Center for Disease Control and prevention:  
[www.cdc.gov/swineflu/](http://www.cdc.gov/swineflu/)

University of Kentucky:  
[www.ca.uky.edu/flu.php](http://www.ca.uky.edu/flu.php)

Plus, UK's Pandemic Flu webpage:  
[www.ca.uky.edu/HES/fcs/pandemicflu/index.html](http://www.ca.uky.edu/HES/fcs/pandemicflu/index.html)

Avian influenza, or bird flu, is a virus that causes disease in chickens, turkeys, pheasants, quail, ducks, geese, as well as other birds. Proper biosecurity measures can help keep flocks healthy and prevent bird flu and other diseases. Remember the management practices that will help keep your flock disease-free by using the acronym **FLU STOP**.

**F** **Flock observation.** Early detection is very important to stop the spread of disease. Observe flocks daily. Note changes in appearance, behavior, and drinking and eating habits. Poultry infected with bird flu may show one or more signs of eating less, coughing, sneezing, nasal discharge, differences in egg production, lack of energy, swelling, purple discoloration, lack of coordination, diarrhea, depression, muscle tremors, drooping wings, twisting of head and neck, inability to move, or sudden death. Watch for increased number of deaths. Collect dead birds frequently. Dispose of dead birds properly by incineration, composting, or burial. If only a few birds need to be disposed, double bag the birds, sealing both bags, and place in the trash.



**L** **Limit traffic.** Contaminated clothing and equipment can spread avian influenza between poultry premises. Allow only the necessary workers and vehicles to enter the farm. Post warning signs and lock buildings. Have visitors sign a log book when they enter and leave the farm and don't be afraid to ask where they've been. Be aware of places where visitors may have been in contact with birds or their feces (hunting, farm ponds, pet stores, zoos, parks, etc.) They could accidentally bring disease onto the farm. At the minimum, have visitors and workers put on clean boots to help stop the



spread of disease. Humans may catch bird flu through having extensive contact with infected birds. When working in places that are or could be infected with bird flu, poultry workers should wear personal protective equipment such as boots, coveralls, gloves, face masks, and headgear.

**U** **Unwanted critters.** The avian influenza virus is excreted through the feces and bodily fluids of infected birds. Keep poultry from coming into direct contact with wild birds. Prevent flocks from using feed and water sources which may be contaminated with feces of wild birds. Clean up spilled grain and feed to control wild birds and rodents. Keep grass around pens and buildings mowed. Do not allow dogs, cats, or any other animals into the poultry house. Prevent contact between pigs and birds. Even if infected, pigs may not display symptoms of bird flu and can spread the disease to poultry. A chicken is the only animal that should be in a chicken house. When returning from a show or swap meet, it is best not to bring back unsold birds to the farm. If you must bring birds back to the farm, or are bringing new birds to the flock, isolate new poultry from resident birds for at least 30 days.



**S** **Sanitation.** Keep pens and buildings neat and clean. Prevent wet or damp litter and get rid of standing water in pens. If attending a poultry show or swap meet, or delivering birds to another farm, clean and disinfect equipment and crates before returning to the farm. Use plastic crates as they are easier to clean than wooden crates. Thoroughly clean and disinfect vehicles (including the tires, undercarriage, and floorboards) when entering and leaving the farm. Establish a wash area away from poultry building and keep a log of equipment that travels from one

(Continued on page 5)



## Avian Influenza—Biosecurity and prevention (continued)

(Continued from page 4)

property to another. Wash and disinfect any shared equipment. Provide designated clean clothing and disinfection facilities for employees.



**T** **Talk to vet.** Early detection and reporting are the most important in stopping a disease outbreak. Those who notice unusual symptoms or a lot of deaths in their flock should contact their local veterinarian or the Kentucky Office of State Veterinarian at (502) 564-3956. They can also call the USDA's toll-free hotline at (866) 536-7593, where veterinarians are on hand to answer questions. To report sick or dead wild birds, call the U.S. Department of Fish and Wildlife at (866) 4US-DAW or the Kentucky Department of Fish and Wildlife at (800) 858-1549 ext. 352. Because waterfowl pose the greatest risk, call to report any number of sick or dead waterfowl. For any other type of wild bird, only call to report if the incident involves 5 or more birds.

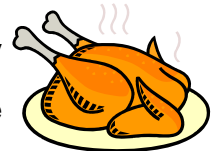


**O** **Objects spread disease.** Bird flu can be spread from one farm to another through direct contact with an infected bird. It can also be spread by manure, equipment, vehicles, egg flats, eggshells, crates, clothing, and boots. Avoid visiting other poultry farms. If you do visit

another farm or live-bird market, change footwear and clothing before working with your own flock. Don't share, feeders, waterers, crates, equipment, vehicles, or gardening tools with other farms. Wash and disinfect any shared equipment. After collecting the eggs, rub with dry sandpaper to remove feces which may be on the outer surface of the shell, or the eggs may be washed with water that is 110° to 120°F. The egg should be at room temperature before washing. Do not reuse egg cartons, egg flats, or packing material.



**P** **Prepare food properly.** Avian influenza is not passed through properly cooked and prepared food. When following standard hygienic practices and proper cooking methods, poultry and poultry products can be prepared and eaten as usual. Do not eat, drink, or use tobacco products when handling poultry. Wash hands and surfaces with hot soapy water before and after handling raw poultry or eggs. Keep raw poultry and their juices away from other foods. Sanitize cutting boards by using a solution of 1 teaspoon of chlorine bleach in 1 quart of water. Cook poultry to at least 165°F. Check the temperature with a meat thermometer in the thickest parts of the breast and thigh. The juice in properly cooked chicken will run clear. Serve cooked poultry on a clean plate. Eggs are safe to eat when the whites and yolks are firm.



## Swine flu ..... continued

(Continued from page 3)

come from? Pigs are uniquely susceptible to infection with flu viruses that typically infect birds. In such a case, the bird flu virus may mutate within the pig to a form that allows it to infect other mammals, including humans. Pigs can also be infected with more than one influenza virus at a time, allowing the infecting viruses to share genes in a process known as 'genetic re-assortment'. The results is new and potentially more virulent flu viruses.

Russia has banned imports of all meat from Mexico and from the U.S. states of Texas, California and Kansas. They have also banned pork from Alabama, Arizona, Arkansas, Georgia, Kansas, Louisiana, New Mexico, Oklahoma, and Florida.

U.S. facilities that routinely slaughter pigs monitor for flu symptoms and those that are ill are not allowed to enter the food supply. Cooking also kills the virus. People who work with pigs, however, can catch the virus.

A declaration of a public health emergency is required to free up funds and allow health officials to use medications and tests that are not normally used. Such declarations are common—for example, a public health declaration was issued during recent floods in North Dakota and Minnesota. Such declarations are also common as a hurricane approaches.

For more information on swine flu check out the Centers for Disease Control and Prevention swine flu page at <http://www.cdc.gov/swineflu/>

Additional resource: The University of Kentucky's Pandemic Flu webpage at <http://www.ca.uky.edu/HES/fcs/pandemicflu/index.html>



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## Trivia question: Are chicken wings white or dark meat?

If you go to KFC and order dark meat, you'll get parts of the leg and wing. But is the wing actually considered dark meat? In reality, chicken wings, like the breast, are white meat.

The difference between white and dark meat is attributed to the amount of myoglobin in the muscles. Myoglobin is stored in muscles that get exercise, because they need more oxygen. The more exercise a muscle gets, the higher the concentration of myoglobin.

The modern domesticated chicken is basically flightless. As a result, the breast and wings get very little

if any activity. With the reduced activity they have reduced levels of myoglobin resulting in 'white' meat.

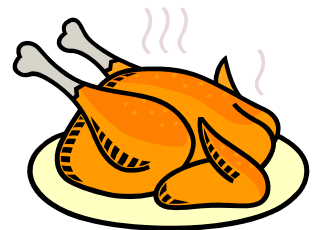
In flying fowl such as the duck, the breast and wing muscles get much more exercise and is why ducks are basically all dark meat.

Why do white and dark meat taste different? White chicken meat is leaner, has more protein and less fat content than dark chicken meat. The higher fat content of dark chicken meat gives it more flavor.

American consumers have a preference for white chicken meat,

which is often considered to be the healthier alternative of the two.

Whether you should buy white meat or dark meat is entirely a matter of taste—both types of chicken meat can be cooked in the same ways. Since many people prefer white meat over dark meat, dark meat is quite a bit less expensive than white meat.



## What do you want to read about?

We want to know what you want to read about. Please e-mail topics of interest to [Jacquie.jacob@uky.edu](mailto:Jacquie.jacob@uky.edu)