



Feathered Facts

A
Baker County
Extension
Service
Newsletter

INSIDE THIS ISSUE:

Biosecurity for Poultry	1
Questions & Answers About Eggs	2
Contact Information	4

Dear Extension Friends,

Thank you for continued interest in poultry and the information provided by the UF | IFAS Baker County Extension Service. This issue of *Feathered Facts* focuses on biosecurity and also has a Q & A about eggs. A few issues ago, I talked about good management and diseases. The article on biosecurity is an extension of that topic and I hope that it provides you with good information. As always, if we can help you in any way, please do not hesitate to contact us.

Sincerely,

Michael A. Davis, Ph.D.
Director / Agriculture Agent
UF | IFAS Baker County Extension Service



Biosecurity for Poultry

Disease is one of the main concerns for all poultry growers, but it is a specific concern to backyard growers as they typically do not use the same type of containment systems as commercial growers. Disease can be introduced onto your operation in many ways, including: 1)introduction of diseased stock, 2)migratory birds and other animals and 3)fomites such as clothing, vehicles or equipment. Using biosecurity practices can help you reduce the potential spread of disease and decrease the risk to your flock.



Biosecurity is loosely defined as a set of preventive measures that are designed to reduce the risk of transmission of infectious diseases. Like many things associated with agriculture, there is not a 'one size fits all' solution when it comes to biosecurity. However, there are generally accepted components that will help you do what is best for your operation. The three major components of biosecurity are: 1)isolation, 2)traffic (movement) control and 3)sanitation.

Continued on page 3

Questions and Answers About Eggs

Many backyard poultry producers maintain their flock for egg production. Whether you are consuming the eggs yourself, giving them to your friends and neighbors or selling them, there are a few facts about eggs that you should be aware of:



UF | IFAS Photo: Marisol Amador

Question: Why are yolks yellow? Why do egg yolks vary in color?

The color of an egg yolk is determined by the amount of pigment that is deposited into the yolk as it grows larger within the hen. The pigment is actually a group of pigments that are yellow to orange in color and are called xanthophylls. These xanthophylls are plant-based pigments that are ingested by the hen when she eats. Thus, the color of the yolk and its intensity is dependent on the diet of the hen. Hens that consume a diet that has a lot of yellow corn in it will produce the 'sunshine yellow' colored yolks that we typically see in the South. A hen's diet can be supplemented with substances that contain large amounts of xanthophylls, such as marigold petals, so that she will have yolks that have a deeper, almost orange color. Backyard birds that are allowed to range on grass and other foliage will typically have a deeper yellow to orange color.

Question: Do different yolk colors mean different nutritional qualities?

No. As stated above, the color and intensity of the yolk color is dependent on the diet of the hen. Differences in this color or intensity do not indicate a difference in the nutritional value of the eggs. All egg yolks, yellow or orange, are a very good source Vitamin A.

Question: Is there a difference in the nutritional quality of brown-shelled and white-shelled eggs?

No. The color of the eggshell is determined by the breed of hen that lays the egg. Hens that lay brown-shelled eggs will have red ear lobes and those that lay white-shelled eggs will have white ear lobes. There may even be a variance in the deepness of the brown color of eggs laid by the same hen. If given the same diet, a brown egg layer and a white egg layer will produce eggs that have the same nutritional value.

Question: Are fertile eggs more nutritious to eat than non-fertile eggs?

No. If an egg is fertilized, that means that it has a chance, if incubated properly, to form into a chick. However, if the egg is collected for human consumption and not incubated it cannot develop.

Question: Can you eat eggs from species other than chickens?

Yes. In many parts of the world eggs from other poultry species are consumed on a regular basis, such as duck, quail and even ostrich. However, these eggs often have a different flavor and slightly different texture than the chicken eggs that most Americans are used to.

Question: Why does the albumen (white) sometimes look cloudy when the egg is cracked open? What about a greenish or yellowish color in the albumen?

Cloudiness in the albumen of a freshly cracked egg is caused by carbon dioxide that is present in the egg, but has not had time to escape from the pores of the egg. This is usually an indication that the egg is very fresh. These eggs are completely safe to eat. If you notice a slight green or yellow color in the albumen of a fresh egg it is an indication of high levels of riboflavin, also known as Vitamin B₂. These eggs are safe to consume.

Question: Why are my hard-cooked (hard-boiled) eggs difficult to peel?

There are few things more frustrating than trying to peel a hard-cooked egg that doesn't want to peel easily. Hard-cooked eggs that are hard to peel are usually very fresh. As the egg ages, there will be changes in pH and carbon dioxide levels. These changes will actually make the eggs easier to peel. Eggs that are a few days old will peel easier than fresh eggs.

Continued on page 4

Biosecurity for Poultry

Continued from page 1

In respect to biosecurity, isolation usually refers to the confinement or containment of animals within a controlled environment. An example of this type of isolation would be fencing. Not only does the fence keep the target animals within a controlled area, but it also keeps unwanted animals out of the controlled area. Isolation can also refer to the separation of animals by species and by age group. There are many microbes that may be commensal (not harmful) to one species but that cause morbidity and mortality in another species. The same holds true with differing age groups within a species. Many commercial farms use an all-in/all-out system to reduce the potential for pathogen transfer between age groups. This also allows for a period of 'down time' between flocks to allow for a partial or total clean out of the rearing area between flocks. However, this is not typically feasible for the backyard grower. In these cases, it is best for the owner to keep the differing species and ages separated as much as possible.

The other two areas of concern, traffic and sanitation can be addressed together. Traffic refers to the movement of people, machinery and equipment both onto and within the premises of an operation. Sanitation refers to the cleanliness of the people, machinery and equipment both onto and within the farm. Many disease causing organisms have the ability to survive for extended periods of time outside of the normal host. Table 1 lists a few of these organisms and the time that they can survive. By knowing this information, you can limit the amount of traffic both onto and within your operation and take steps to sanitize the personnel, machinery and equipment that must be moved for operations.

Now that you know the basics of biosecurity you can address your specific needs based on the type and size of operation that you have. The tips below will help you to determine what procedures you need to take to keep your flock more secure.

- Maintain a separate pen or area for new birds that you bring onto the farm. These birds pose the greatest risk as they may be infected with a disease that could spread to the rest of the flock. Quarantine these new birds for at least 2 weeks. If possible, quarantine them for 4 weeks. Watch for signs of illness and disease during this time.
- Remember that wood is porous and can be a potential harbor for pathogens. The use of plastic and metal is best.
- Purchase chicks from reputable breeders that have a vaccination program in place.
- When moving personnel, machinery or equipment on the farm, go from 'clean' to 'dirty'. This means that traffic should go from the youngest birds to the oldest birds and from the regular area to the isolation area. Young birds are typically more susceptible to disease than fully grown birds and you don't want to potentially transfer pathogens from the isolation area to the regular growout area.
- Use disposable foot coverings when moving from area to area within the farm. Discard the older foot coverings before entering a different area. An alternative to this would be to use disinfectant foot baths. However, make sure the footbaths are maintained correctly as incorrectly maintained baths can be a source of pathogens.
- Make sure to clean and disinfect feeders and waterers on a regular basis.
- Wash your hands or use hand sanitizer when moving between groups of birds.
- Have a clean-out schedule.
- Use correct pest control for rodents and insects that could potentially move disease around the farm.

Table 1. Persistence of Selected Poultry Pathogens Outside of Host

Disease	Timespan
Infectious Bursal Disease	Months
Coccidiosis	Months
Fowl Cholera	Weeks
Marek's Disease	Months to Years
Newcastle Disease	Days to Weeks
Mycoplasmosis	Hours to Days
Avian Tuberculosis	Years

Adapted from *Biosecurity for Poultry Flocks*, 1997. J.S. Jeffrey, University of California Cooperative Extension, Poultry Fact Sheet No. 26.: <http://animalscience.ucdavis.edu/Avian/pfs26.htm>

Questions and Answers About Eggs Continued from page 2

Question: What causes a blood spot in an egg?

AS the yolk develops within the reproductive system of the hen, it is held in a membranous sac that is feed by small blood vessels called capillaries. These blood vessels bring the nutrients to the yolk from the hen's digestion so that it grows larger in preparation to be laid. When the egg is ready to have the albumen and shell added to it, this sac ruptures and the yolk falls into the main reproductive tract. If one of the capillaries happens to cross the rupture line, a small drop of blood may leak out onto the outer membrane of the yolk resulting in a blood spot. Commercial eggs that have blood spots are usually removed from the egg processing line during the candling process, but sometimes one will be missed. If the blood spot is small, it can be removed with the tine of a fork and the egg can be used. Eggs that have large blood spots should be discarded.

Question: What are the stringy white things in the egg?

Many people assume that the stringy white filaments in the egg are sperm. This is not true. Those 'strings' are called chalazae. They are a thickened portion of the albumen that help to center the yolk within the egg. Eggs that have very noticeable chalazae are usually very fresh. As the egg ages the chalazae will be become less noticeable.

Question: How long will my eggs stay fresh?

Fresh eggs that are stored properly can last 4 5 weeks. Eggs should be stored in the refrigerator at a temperature of 40°F or below, but above freezing. Even though most refrigerators have a place to store eggs, it is usually best to keep them in the carton. The carton packaging will help the eggs to stay fresh longer.

Question: Can I freeze eggs?

Eggs can be frozen for later use. However, you should not freeze the eggs in the shell. It is also advisable to mix the yolk and the albumen together before freezing. Many people will use ice trays or muffin tins to hold the eggs until frozen. They can then be thawed and used in place of a whole, fresh egg. Once thawed, use three (3) tablespoons of the liquid, whole egg in place of one large egg. You can also freeze jus the egg white this way. Freezing egg yolks requires a bit more, though, as the yolks will become very gelatinous if not mixed with salt or sugar before freezing.

Question: Can I eat raw eggs or foods that are prepared with raw eggs?

The consumption of raw eggs will increase the potential for you to contract food poisoning from *Salmonella* bacteria. Estimates indicate that commercial egg contamination by *Salmonella* bacteria are about 1 in 20,000 eggs. Even though this means that, theoretically, a person eating one raw per day would encounter the *Samonella* bacterium once in 55 years, it is still not a recommended practice. However, the use of pasteurized eggs can alleviate the potential for disease. Pasteurized eggs are heated to a certain point very quickly to a temperature that destroys the food-borne pathogens. The process does not cook the eggs and does not change the nutritional or taste profile. These eggs can be used in recipes that call for raw eggs such as eggnog or Caesar salad dressing. It is important to note that once the seal has been opened on a package of pasteurized eggs, they are no longer considered free of *Salmonella* bacteria.



Baker County Extension Service

1025 W. Macclenny Ave., Macclenny, FL 32063

Phone: (904) 259-3520

Email: baker@ifas.ufl.edu

Website: <http://baker.ifas.ufl.edu>

Hours: M—F 8:30am to 5:00pm (Closed Noon to 1:00pm for Lunch)

