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Inside this issue:

<i>Pest Control on the Poultry Farm</i>	1
<i>Integrated Pest Management—an Introduction</i>	2
<i>Beetle Control</i>	2
<i>Fly Control</i>	3
<i>External Parasites</i>	3/4
<i>Locating an Approved Pesticide</i>	4
<i>Contact Information</i>	4



Feathered Facts

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UF/IFAS Extension Baker County

Dear Extension Friends,

Thank you for your continued interest in poultry and the information provided by UF/IFAS Extension. This issue of *Feathered Facts* focuses on pests and their control in the home flock. As always, good management is key, but favorable weather conditions and other unforeseen issues can result in a pest problem for your flock. Since many pests can be vectors for disease, it is important to identify any problems quickly so that you can keep problems with your flock to a minimum. As always, if you have additional questions, please contact me via the information on page 4 of this newsletter.



Sincerely,

Michael

Michael A. Davis, Ph.D.
Director / Agriculture Agent
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Pest Control on the Poultry Farm

Control of pests such as rodents, flies, beetles, and mites is important for flock health and management. Pests are not only a nuisance, but they can also carry diseases. Pests such as rodents can pilfer food that is meant for the flock. Proper pest management is one of the keys to a successful poultry flock, no matter the size.

Past pest control strategies relied on many pesticides and chemicals to remove pests from the area. While these methods are still used and are important, there is another strategy that may be easier on the environment and the pocketbook.

This strategy is referred to as Integrated Pest Management or IPM. IPM not only relies on the use of chemical control, but also employs cultural and physical control along with biological control to reduce or eliminate pests in and around the growout area. The articles on the following pages will acquaint readers with IPM and will discuss common tactics for pest control. Additional information can be found via [EDIS](#), [Alabama Cooperative Extension](#), [Mississippi State University Extension Service](#), and [Penn State Extension](#).





Shaft Louse—feeds on the barbs and scales of feathers. Photo Credit: J. F. Butler, University of Florida.



Wing Louse—found among the barbules of wing feathers. Heavy infestation will cause bare skin and intense irritation. Photo Credit: J. F. Butler, University of Florida.

Integrated Pest Management—An Introduction

Integrated Pest Management, commonly referred to as IPM, is a control strategy for pests that combines cultural/physical, biological, and chemical control procedures to reduce or eliminate pests. Many types of operations, such as horticulture and pasture and hayfield management, currently use IPM strategies. Integrated Pest Management typically involves the following objectives for control of pests:

1. Monitoring the populations of pests and biological control agents (if available). Pest management should be proactive instead of reactive. Proper monitoring of pests will help keep you ahead of the curve instead of behind the eight-ball. Monitoring involves both the detection of pests and their identification.
2. Determining the significance of the problem. While we would all like for there to be zero pests involved in our operations, this is not a feasible goal. When determining the significance of a pest problem, the most common indicator is that of economics. An operator must

determine the level at which it is advantageous to apply control measures as it relates to the economics of the flock (economic threshold). This economic threshold will vary for different flock owners based on their particular situation.

3. Once it has been determined that the economic threshold for a certain pest has been reached, the most effective and cost efficient control method must be determined. Integrated Pest Management has controls that are cultural/physical, biological, and chemical. The type of pest and your situation will oftentimes determine the type of control method that is selected.
4. Finally, once the determined control method has been applied, the operator must evaluate the effectiveness of the applied control. This final step then circles back to Step 1 (monitoring), which will let the operator know if the goal was met.

Beetle Control

There are two species of beetles that typically inhabit poultry manure and litter: the darkling beetle (lesser mealworm) and the hide beetle. While these beetles actually compete with flies, they are potential vectors for diseases such as infectious laryngotracheitis (ILT), infectious bursal disease (IBD), Newcastle disease, fowl pox, avian influenza, *Clostridium spp.*, *Salmonella spp.*, *Campylobacter*, and *E. coli*.

The common control method is to apply insecticidal sprays or dusts to the litter.

However, this may cause a decrease in beneficial insect populations. A thorough cleanout, followed by a chemical treatment before new litter is placed will help to control beetle populations.

Additional resources for organic beetle control can be found on the [eXtension website](#). Additional information on traditional control methods can be found [here](#) and [here](#).



Fly Control

Flies are more than just a nuisance. They are also suspected of carrying disease organisms. Many different types of flies may be associated with a flock, including the house fly, little house fly, black garage fly, blow fly, and small dung fly.

Monitoring—Monitoring to determine if there is a fly problem is accomplished via fly speck count. A set number of 3x5 index cards (usually 4 to 10) are placed throughout the housing area where flies are likely to land. When they do, they will leave a black speck on the card. The cards are monitored each week, replacing old cards with new ones. A fly speck average count of 100 or more indicates that a control method should be used.

Cultural/Physical Control—Manure management is one of the easiest ways to control fly populations. Fresh poultry manure is 60% to 80% moisture and provides a perfect environment for fly reproduction. Have a good cleanout plan for your housing area to keep the manure level down and disrupt the life cycle. Screens and fly traps will also help, but are not considered a stand-alone measure.

Chemical Control—Control of flies by chemicals should be in conjunction with cultural/physical control. There are many products that can help reduce the fly level in the housing area, including: 1) area sprays, mists, & foggers, 2) residual sprays, 3) baits, and 4) larvicides.

External Parasites

There are several species of external parasites that may infest the poultry flock. These pests will often result in lower egg production and reduced weight gain.

Poultry Lice—Many species of chewing lice may infest the flock. In general, these pests do not suck blood, but rather chew on dry skin scales, feathers, or scabs. Some lice species will ingest blood from an open wound. Flocks that are infested with lice will have a poor appearance and exhibit skin irritation and damaged feathers. Young birds may die from secondary infections. Since lice rarely leave the bird, treatment of the surrounding areas will not provide control. Common active ingredients for lice control include permethrin, carbaryl, and tetrachlorvinphos + dichlorovos.

Poultry Mites—Several species of mite can infest a poultry flock. These pests suck blood from the host and can be transferred from poultry to humans. Of the most common species, the Northern Fowl Mite is the most important.

- **Northern Fowl Mite**—This mite is parasitic on many types of domestic fowl and wild birds. Infestation typically causes anemia, decreased egg production, decreased weight gain and general unthriftiness. Extreme infestations can cause death. Typical active ingredients for chemical control include permethrin, malathion, carbaryl, and tetrachlorvinphos + dichlorovos.
- **Common Red Chicken Mite**—Like other external parasites, this mite is parasitic on many types of fowl and wild birds. It can also be spread to humans. An infestation with this mite will exhibit anemia, decreased egg production, decreased weight gain, and general unthriftiness. Young birds that become



Northern Fowl Mite—causes anemia, lowered egg production, reduced weight gain, and potential bird death. Photo Credit: J. F. Butler, University of Florida.



Common Red Chicken Mite—causes anemia, lowered egg production, reduced weight gain, and potential bird death. This mite is also the vector for avian spirochetes. Photo Credit: J. F. Butler, University of Florida.



Fowl Tick—feeds on the blood of the host. Causes weight loss and decreased egg production. Photo Credit: J. F. Butler, University of Florida.



Sticktight Flea—A severe poultry pest in Florida. Photo Credit: J. F. Butler, University of Florida.

infested will typically die. This mite is also the vector for avian spirochetes. Red mites may be visible on the birds during the day as they prefer to hide in dark places. Feeding on the birds is usually performed during the nighttime hours. Treatment for these mites should be on the birds and on the premise. Common active ingredients for red chicken mite control include permethrin, malathion, carbaryl, and tetrachlorvinphos + dichlorvos.

Fowl Tick—The fowl tick is also referred to as the blue bug. Symptoms of infestation include weight loss and decreased egg production. The pest will hide during the daylight hours so it is difficult to control. Typical active ingredients for control include permethrin and tetrachlorvinphos + dichlorvos.

Sticktight Flea—The pest can be a severe problem in Florida. Symptoms of infestation include dark brown spots on the face, wattles, and comb. Young poultry may die from infestation. Older birds may exhibit decreased egg production. These pests tend to be prevalent in the cooler parts of the year. Common active ingredients for chemical control include permethrin, deltamethrin, lambda-cyhalothrin, and pyriproxifen.

Locating an Approved Pesticide

In 2014, a group of livestock entomologists, as part of Multi-State Hatch Project S-1060, developed an online system for obtaining the names of registered pesticides appropriate for use with livestock and pets. This is a state-specific database and Florida is included.

The database is easily searchable by the type of animal or site that you want to treat, as well as the targeted pest. To use this system, please visit:

http://veterinaryentomology.ucr.edu/vet_pesticides.html .

Please remember that while the creators of this database strive to keep it current, it is ultimately the responsibility of the applicator to make sure that the product is used in accordance with the label requirements and local laws and ordinances.

There is also a website available from Cornell University that may help you to identify the type of pest that may be infesting your flock. This website was developed with the help of Dr. P.E. Kaufman, who is currently an Associate Professor in the Entomology and Nematology Department at the University of Florida. The web address is

<http://vet.entomology.cals.cornell.edu/arthropod-identification>

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