



Donated by Allen & Myra Charleston

INSECT CONTROL

This is by no means a complete list of pests we have to contend with on the farm, but it will give you an idea of some of the things we have to contend with in order to bring a healthy product to the table.

The Fly - Whether you are dealing with the common house fly, the small house fly or the stable or biting fly, one thing is certain - they all carry disease. In addition to typhoid fever, cholera, dysentery, trachoma and anthrax, flies also carry pinworm, hookworms and some tapeworms. Control of the fly population is a must, especially on a farm where the favored breeding ground is manure. In order to control flies, you need to know something about their life cycle. The female lays an average of 150 white eggs in a mass about 1 mm (about 0.04 in) long. The eggs are laid in emu manure or other decaying substances such as spilled feed. The female lives about two and one-half months and lays between 600 and 1000 eggs during her lifetime. The



eggs hatch in about 12 hours into white, legless larvae called maggots which grow to 12.5 mm (0.5 in) in length. The maggot goes through 3 molts or instars. The maggot pupates in five to six days. The pupa varies in color from cream to dark brown (just before the new adult emerges). If the weather is warm the new adult fly can emerge in four to five days. If the weather is bad, it will wait a month. Keeping in mind that the female will produce between 600 to 1000 eggs in her lifetime, and that it only takes a minimum of 11 days from egg to adult, AND that as many as 12 generations of house flies are produced in one year..... Whew!

Fly Control

Integrated pest management starts with good sanitation and utilizes sensible pest control. Start with a careful inspection to identify and eliminate fly breeding sites. Here are some other suggestions for safe, non-toxic fly control.

1. Proper drainage of fields. Flies thrive in a moist environment. Emu manure is pretty liquid and the sun will dry it out unless the field is too wet.
2. Using diatomaceous earth which will kill the larvae.
3. Removal of manure where necessary (ex. Chick Pens)
4. Clean up spilled feed - never leave longer than 2 days.
5. Keeping garbage cans clean. Use boiling water to kill larvae and clean the cans.
6. Using fly predators to eliminate the larvae.
7. Flies tend to hang from the ceiling at night. Fly paper comes in a variety of sizes. Covering the ceiling of a chick barn or shelter with one of the wider varieties is one way to reduce the fly population.
8. Pheromone or other non-toxic fly traps.
9. Boric acid in the bottom of dumpsters.

Mosquitoes, Gnats

We don't often think about these insects as being harmful to animals, but they are.

Blood sucking insects can drive an animal to distraction and cause it to hurt itself trying to get away from the source of the irritant. Emu chicks can be killed by a swarm of buffalo gnats. Mosquitoes carry diseases such as EEE which the emu can get. Control of these flying pests are very important.

1. Bug Zappers - yes, this works. It draws mosquitoes and gnats away from the birds and kills them. Every morning when we go out to the pens we tap on it to empty the dead 'skeeters'.
2. Encouraging insect eating birds such as barn swallows or purple martins to nest.
3. Drain the fields to eliminate breeding grounds.
4. Mow pens and any tall grasses, especially in "wet" areas.
5. Encourage bats or insect eating birds (purple martins, barn swallows) to nest nearby.



Ants

Drawn by spilled feed and/or manure, ants can quickly over-run a chick barn. Sick or sleeping chicks can be covered in seconds by fire ants and literally eaten alive. If you are thinking to yourself that your area does not have any of the 5 imported fire ants you read about in the newspapers, what about the native fire ants? Yes, the U. S. has native fire ant varieties along with harvester ants and other biting ants.

Amdro is the control of choice for fire ants. For other varieties, cleaning the area will usually suffice. If ants are a problem and the location is such that you do not wish to use a chemical, try boiling water.



Blister Beetles

Very young emu chicks can die a very painful death from eating just one of these. These beetles produce a chemical called cantharidin. When the beetle is crushed, the secretion can cause a blister on the skin of any animal or person touching it. While skin blisters are painful to both human and domestic animal alike, imagine the damage ingesting one could do. Agricultural hosts include alfalfa, sweet clover, soybean, potato, tomato, melon, cotton, and eggplant.

In the case of alfalfa, when it is cut and baled immediately, the beetles are trapped, crushed and die in the hay. Animals ingesting the hay and beetles may become very ill. It does not take many of these beetles to cause a problem and treatment is difficult, even after you have figured out what is wrong. Pelleted feeds made from hay harvested this way may be toxic to emus.

There are several different species of blister beetles and the life cycle varies, as do the size and shape of the larvae. As a general rule, the beetles complete one life cycle per year, with the adults emerging from the ground in June.

Commented [JR1]:

Darkling Beetle

The darkling beetle or lesser mealworm, *Alphitobius diaperinus* (Panzer), consume costly amounts of feed and carry numerous poultry diseases and host parasites (tapeworms, round worms, etc.) which are passed on to emu or other poultry. The life cycle of the beetle is affected by weather and larva hatch in 4 to 7 days and mature between 42 to 97 days. Adults will live from 3 months to a year. Females will lay between 800 to 2000 eggs in her lifetime. Depending on the strain, adults are either black or very dark reddish brown about 1/4 inch long. The 3/4 inch long larvae are yellowish-brown. Pupation occurs in litter, soil and wooden walls that are suitably moist. Although these are too small to 'catch the emu eye," if they are in the feed they may be eaten by accident. The adult beetles can fly up to a mile and the larva will travel several yards in order to find a safe area to pupate, eating through wood, Styrofoam, plastics and fiberglass.