

# The Oink Report



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Webinar – Tuesday, March 22, 2011 - Developing Replacements from Birth to Breeding  
Visit [www.swinehealthalliance.com](http://www.swinehealthalliance.com) for more information

## Integrated Pest Management in Swine Units

Guest author Kevin Thorne, Bioprotection Expert for Novartis Animal Health Company wrote the following article about gnats:

### Gnats

A common question in swine production units in regards to insects is about gnats! These gnats frequently rise up in swarms of twenty to thirty as one walks through the unit. The gnats immediately drop back down to their resting place. They can also be found roosting on areas of condensation, especially on water lines. There are a large number of different gnat species but it is important to note they are mostly of the order entitled Diptera, or two winged flies. The common gnats include Fungus Gnats, Sewer Flies, Eye Gnats, Buffalo Gnats, and Black Flies. Liquid is a critical part of their life cycle not only as adults but also as larvae, or maggots, much like mosquitoes. In swine units there is ample food source, i.e. manure, and an environment as the larvae prefer liquefied manure. Population peaks are sometimes observed shortly following wash down due to the increased liquid in the pits and on the floors.

The Fungus Gnat's life cycle lasts about a month with the adult stage lasting as little as a week. It is common for gnats to lay eggs, either as singles or in small groups. In a few days larvae emerge, which resemble tiny maggots, usually white in color. The next stage will last about one week in which they pupate

from a larval stage into an adult. The life cycle of gnats vary by species, temperature, humidity, abundance of food source and any chemical measures already in place, but the point is within a short time more adult gnats are present after a treatment.

The control of gnats varies by presentation and product chosen. It should be noted that common fly baits are not generally considered viable as some of the attractants used are not designed for these species.

#### Sprays:

- Pyrethrins - effective quick knockdown products with little lasting effect. BP-100, BP-50, or Microcare is labeled to be used with animal's presence.
- Pyrethroids - the latest classes, i.e. 4<sup>th</sup> generation products, are microencapsulated and have residual effects. OXYFLY, Stanguard, and Tempo are good examples. Label directions do not allow for application on the animals.

**Insect Growth Regulators (IGR)** are treatments that are effective in stopping larval stages developing into adults. Two products that are good examples are **Rabon** that is placed in the animal's feed and **NEPOREX** that is sprinkled or sprayed into the pits or areas where larvae accumulate.

Integrated Pest Management is best used in controlling gnats and timing an IGR product like **NEPOREX** and an adulticide spray like **OXYFLY** together is very effective. Killing the adults and inhibiting active larvae from developing into adults at the same time has a synergetic effect. If rooms are to be depopulated

effective methods can be developed and timed with depopulation, manure disposal and product choices as part of an SOP. If rooms are not depopulated pyrethrins need to be substituted as the spray or fogging agent.

Your veterinarian has processes and product availability to help you with integrated pest management problems.

**More information is available at:**

<http://www.ento.okstate.edu/ddd/insects/blackflies.htm>

<http://ohioline.osu.edu/hyg-fact/2000/2114.html>

[http://extension.entm.purdue.edu/eseries3/view.php?article=articles/fungus\\_gnats\\_and\\_shore\\_flies.txt&id=4&section=Landscape%20and%20Ornamentals](http://extension.entm.purdue.edu/eseries3/view.php?article=articles/fungus_gnats_and_shore_flies.txt&id=4&section=Landscape%20and%20Ornamentals)

**Our annual client meeting will be held Tuesday, August 23, 2011 at the Jasper County Fairgrounds**

**The following SOP has been a standard for fogging to control insects in swine and poultry buildings – please note that some Permethrins cannot be fogged:**

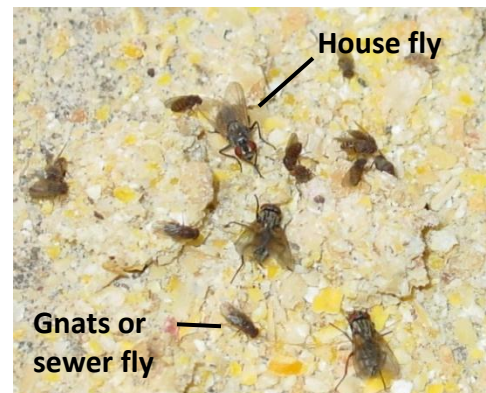
- ✓ Atroban spray that some of you have used in the past is excellent against adult sewer flies but cannot be fogged.
- ✓ Some synthetic forms of Permethrins will cause reactions in the animals if put into small droplets, but can be sprayed in more coarse applications with no problems.
- ✓ Atroban is used in poultry buildings as an overhead spray to control sewer flies, house flies and other arthropods.

**Fogging through a Hurricane fogger:**

- ✓ Bonide is 13.3% Permethrin and used frequently in poultry and swine units, especially in the SE part of US.
  - It is safe to use in most fogging equipment – especially the Hurricane foggers.
- ✓ Hurricane foggers will work for fogging Permethrins but will not reach all aspects of the large breeding and gestation buildings, so more than one location might be needed to complete the task. Clients have also mentioned that they walk the fogger along the incoming air end when only one fan is running or pit fans are

running to pull the fog to the opposite end of the barn (please wear appropriate mask).

- ✓ Permethrins need an oil designed for fogging to be most successful;
  - There are two kinds of fogging oils – water based and oil based oils.
  - To reduce resistance build-up in the resident population of insects, as complete of a “kill” of the adults as possible is necessary.
- ✓ Hurricane foggers and Permethrins work best together when water based oil is used.
- ✓ The formulation formula is Length X Width X Height. A 200 ft. X 50 ft. X 10 ft. building = 100,000 cubic feet and will require
  - Six ounces of Bonide – Permethrin compound,
  - Plus Four ounces of PBO-8 (Piperonyl butoxide—has little or no insecticidal activity but potentiates that of pyrethrins),
  - Plus Sixteen ounces of Fog Additive is recommended but ten ounces is on the label for light fogging. This product will allow the chemicals to be suspended in the air longer for a more thorough application.
  - Plus 38 ounces of water to have a final mixture of 0.5 gallon in the Hurricane fogger.



Meal moth infestation can be controlled by using **Rabon** in the feed for a three week period prior to the use of **NEPOREX** and **OXYFLY** products. A repeat pulse may be needed later in the summer as a follow up treatment if the meal moth problem continues. **Rabon** will kill the moths and larvae in the feed boxes. Please reference Newsletter Vol.43 at RSS website for more information.

## Swine Dysentery

Authored by: Dr. Randy Jones

It has been with amazement that I have experienced the re-emergence of this disease in many swine herds. As a young practitioner twenty-five years ago, I saw and diagnosed swine dysentery in many small farrow to finish farms that I serviced at that time. The disease was chronic and usually devastating to production. We controlled this disease with antibiotics that were available at the time and even eliminated it in some herds. But with time, these farms were either closed or production was converted to three site production. Many flush gutter facilities were closed as well.

What I have experienced in the last year and a half is a re-appearance of swine dysentery in finisher sites. The disease is much milder than in the past on some sites but can be more severe on others. We are only beginning to understand why that is the case. The point, however, is that it is all swine dysentery and should be dealt with in that manner. Where you have the opportunity to eliminate this disease, I would advise that you do so. There may be new novel strains or milder strains of the old disease. The big risk you still face is that you will infect sow farms and other farms downstream.

Work up all enteric disease on finishers with mucous and/or blood. Fecal samples can be a source of a diagnosis with culture being the gold standard. The addition of lesions with tissue samples makes the diagnosis more firm. There are screening methods that can be used but even then we have to come back to bacterial culture to be convinced of its presence.

Once you have confirmed the presence of the disease, then you have to decide whether to live with the disease or eliminate the disease. The choice of elimination brings with it a dedication to biosecurity measures that will prevent the re-entry of the pathogen. This includes rodent control, trucking and any other means that pigs can be infected. Living with the disease means looking at the cost of the medication to be used and whether you can contain the disease to that site or whether it will spread to more sites and further increase your cost.

Be proactive in your biosecurity protocols to prevent the introduction of this disease. Rodent control is a very important part of this control program, but also dead carcass removal, trucking, people movements and any other means where pigs can be exposed to fecal

material from infected pigs is critical to controlling the spread of swine dysentery.

Producers should be aware and watch for loose stools in all phases of production. The fact that there is not mucous and blood in these samples does not mean that swine dysentery is not there. Submit samples that are suspicious and sacrifice animals as needed. A negative result does not mean it is not in the herd. A positive sample is somewhat more valuable.

Swine dysentery is on the rise and producers should be active in its prevention, early diagnosis and prompt treatment and control.

## Mark Your Calendars

**The World Pork Expo** will be held June 8-10, 2011 in Des Moines at the Iowa State Fairgrounds.

**Indiana State Fair** – August 5-21, 2011

**Jasper County Fair** – July 16-22, 2011

**Site Assessment Deadlines** – Tyson: July 1, 2011

Swift: December 31, 2010 (passed)

IPC: December 31, 2010 (passed)

**Annual Client Meeting** – August 23, 2011 at the Jasper County Fairgrounds

**Allen D. Leman Swine Conference** – September 17-20, 2011

## Swine Health Alliance Website

The new Swine Health Alliance website is up and running at [www.swinehealthalliance.com](http://www.swinehealthalliance.com)!

