

On-Farm Cultural, Biological and Chemical Controls for Fly Reduction *Notes from the SWAT Team*

Flies should not be, and do not have to be, just a part of farm life. Minimizing flies reduces transmitted diseases to or between livestock and poultry. If flies annoy dairy cows enough, milk production decreases. Young stock are more at risk because repeated annoyance may affect productivity over the lifetime of the animal. When flies leave livestock and poultry buildings or freshly applied fields of manure and congregate in surrounding neighborhoods, farmers face bad publicity and poor neighborhood relations. Really annoyed neighbors can put pressure on legislators to further regulate agriculture. So what can you do to minimize flies?

Fundamentals of Integrated Pest Management (IPM)

- Scouting
- Measurement/assessment of fly levels
- Control measures based on levels/conditions
- Review

This is a continual process....

Controls for Flies on the Farm—Examples

Cultural

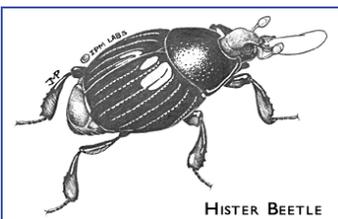
- Keep farm as clean, dry and sanitized as possible—this is critical!
- Fix leaking watering systems and have adequate ventilation
- Proper grading and drainage around buildings, including functioning rain spouts
- Keep curbs, corners, cracks and crevices as clean and dry as possible
- Cover and compost manure
- Injection of liquid manure into soil
- Weed and vegetation management

Biological

- Parasites that attach to flies
- Fungus and other plant-based controls
- Wasps
- Pheromone, feed stations and light traps



Muscidifurax raptor—a wasp that lays eggs inside fly larvae. M. raptor doesn't sting or bite other insects, humans or animals.



Hister beetles consume house fly eggs and small house fly larvae in poultry manure. They do not harm insulation or structures. They do not bother humans.

Illustration courtesy of and copyrighted by IPM Laboratories, Inc.

Predacious mites feed on eggs and young maggots.



Photo from www.novartis.com

Photo: Jim Kalisch, Wes Watson, UNL Entomology



Beauveria bassiana is a fungus effective at killing fly larvae inside poultry houses. Flies get a white coating on them. Studies using the fungus in calf hutches haven't had as much success. Poultry litter with B. bassiana can be spread without concerns.

Chemical

- Sprays and Fogs-- remember “sticker” additives
- Larvicides (directly applied to manure or fed to animals)
- Do NOT overuse!



Space sprays provide quick knock-down of adult flies in enclosed air space. Space sprays have little residual activity, so they are pretty effective in the Northeast. Spray must contact the fly to be effective. With no residual value, they may have to be applied at two or three day intervals. Space sprays are not compatible with adult fly parasitoids.

Baits should be distributed along walls, window sills or other areas where flies congregate inside and outside buildings. Baits should be inaccessible to children and animals. Baits are more effective when used in conjunction with residual or space sprays. Baits are compatible with fly parasitoids.



Flies have developed a resistance to residual sprays, and therefore they should only be used as a last resort when other management techniques are not effective. Direct applications of insecticides to manure and bedding should be avoided because of harmful effects on natural enemies of flies. Rotate the use of organophosphate, carbamate, pyrethroid, and other classes of insecticides if necessary. Always follow label instructions.

Websites for purchasing parasitoids- *Where trade names or vendors appear, no discrimination is intended, and no endorsement by Penn State Cooperative Extension is implied.*

www.ipmlabs.com
<http://spalding-labs.com/>

Possible websites for purchasing fly control products- *Where trade names or vendors appear, no discrimination is intended, and no endorsement by Penn State Cooperative Extension is implied.*

www.saferbrand.com
www.victorpest.com
www.zoecon.com
www.valleyvet.com/ct_farm.html
www.tractorsupply.com/livestock/

Diligent scouting is the key to good IPM for fly control. Be sure to log all average counts to help decide fly control needs and techniques. Using the proper level of control for each situation is KEY to fly control. Acting BEFORE fly levels climb is a goal for IPM.

If you choose to use biological controls, a “once and done” application of the biologicals will not be adequate to continually control flies. Waiting until fly levels are extremely high also will make it harder to control flies, and may cause conflict with neighbors. Contact your local Cooperative Extension Educator or contact the insectaries that sell biologicals for additional guidance.

Additional instructions on IPM scouting techniques and how many flies on a farm or around livestock should generate a response from farmers, are available from Penn State Cooperative Extension and Cornell Cooperative Extension, Cornell University Veterinary Entomology, NYS IPM Program handouts and websites.

Gregory P. Martin, Ph.D., PAS
Extension Educator, Poultry – Southeast Region
gpm10@psu.edu

Shelly O. Dehoff (revision 2010)
PA Agricultural Ombudsman Program
shelly.dehoff@gmail.com

SWAT – An integrated team of Extension educators, ag industry professionals, and farm individuals interested in animal IPM and the control of flies in rural and suburban locations. For more information on IPM, visit: <http://paipm.cas.psu.edu/index.html> and <http://www.nysipm.cornell.edu/>

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