

Practical Fly Control

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I have had many questions the last couple of months about fly control. Flies are a natural part of a cattle production system, and we all need to learn to do a better job of controlling them. One of the problem with fly control, is that no matter how hard you try you can never really completely get rid of flies on your cows (at least not for long!). Many of the questions I get are from producers that aggressively try to control flies, but despite their effort still seem to have a lot of flies on the average day.

This is a difficult topic that can't be completely explained in a short article, but I will try to cover some of the basics of practical fly control. The thing to keep in mind is that it is getting harder and harder to register new insecticides, and the answer to our fly control problem is probably not the discovery of a new super chemical. Improvements in the insecticides available may help, but you still need to learn how to use the tools in an integrated fly control program.

Know your flies

The first thing you have to know is what kind of flies you have. The most important fly pest across the whole state is the horn fly. This is the small fly that collects in groups around the shoulders, legs, belly and/or the poll of the animal and feeds on blood. Horn flies spend most of their time on the cattle which makes them one of the easiest flies to control. Horn flies will emerge in early spring and stay active through the first frosts in fall. They lay their eggs in cow manure.

The next most important fly is the face fly. Face flies are a medium sized fly about the size of a housefly. They gather around the head of the animal, especially around the eyes and muzzle. They feed primarily on the secretions from the nose, mouth and eyes of the animal. Face flies appear about mid-spring and they stay active all year. Face flies are a problem primarily in the Piedmont and Mountains and are rarely found in the Coastal Plain. They don't stay on the animal all the time, so they are difficult to control. Also, because they feed on secretions from the eye and tend to go from animal to animal they can be an important mechanism in the spread of pinkeye.

The next important flies are the housefly and stable fly. They are similar in size to face flies, but rather than feeding on animal secretions or blood, they feed and breed on rotting organic materials. They are rarely a problem in open pastures, but around barns and feeding areas they can be pests. Houseflies really don't cause many problems for the cattle, but stable flies bite them on the legs and really bother them, causing them to huddle up and even run when they are being bitten. If you have ever been bitten by flies around your barn those were likely stable flies. The good news about houseflies and stable flies is

that you can greatly control their numbers by cleaning up feeding areas, keeping barns clean and dry, and using simple premise treatments and traps.

Finally, the other biting flies, deerflies and horseflies, can be a problem if populations are large. Like face flies they don't stay on the animal long so they are difficult to control. Also, they eat a lot of blood each meal (especially the giant horseflies) and move from animal to animal so they have been implicated in the spread of diseases like anaplasmosis.

Controlling flies

The first and most important point in fly control is to have the animals as healthy and as well fed as possible. This can't be overemphasized because having a good mineral program, good body condition and a healthy immune system can help ward off many problems that might be aggravated by flies.

Second, remember that it is impossible to have 100% control of flies. One farmer recently told me he was throwing everything possible into fly control this year because his spouse just couldn't stand to have one single fly on a cow. The zero tolerance approach sounds nice, but unfortunately it seems sometimes the harder you try the worse the flies get, or at least they don't get that much better. This is because the flies can build resistance to the insecticides we are trying to use on them. I learned about this the hard way the first year insecticide fly tags came out. We had always used a backrubber and periodic spray system and had marginally good control. In other words we had flies but not too bad. We put the pyrethrin fly tags in that first year and got nearly 100% control; it was a miracle! The second year they worked well until the middle of the season and then the flies came back pretty strong. The third year they didn't work at all and we ended up with the worst fly year ever.

Because of that early experience I am not a big fan of tags because even with different chemical compounds that can be rotated, you still are setting up the situation where resistance can easily develop. This is because the insecticide is in the system at a relatively low level for a long time, selecting for flies that are naturally resistant to it.

Fly tags are a very important tool that many cattlemen successfully use, so I certainly don't discourage their use, but there are many other things you can do that will help with fly control and your program should be a combination of practices that fit the situation on your farm.

I like to use the principles of IPM (Integrated Pest Management) in thinking about a fly control program. You need to be able to identify the pest, understand when an economically important population is reached, and then use one or more controls when the time is right.

Think of all the fly control practices as tools that you can choose from as you develop your own program. The economic threshold for horn flies is about 200 per cow. For other flies there is less data, so it is up to you to decide how many flies you can stand before you start control. Personally I think about 200 horn flies, 20 face flies, or 2 horseflies per cow are reasonable thresholds, and the goal should be to do all the small things to keep populations under those numbers, and then when they get that high do something to knock them down.

Tools for fly control

Habitat control. A first basic principle is to do everything you can to reduce the habitat for flies to reproduce. Using rotational grazing to better distribute manure out in the sun where it can be recycled into pasture with the help of dung beetles will help break down and dry out those nice big cow pies that are the ideal environment for horn flies and face flies. Also, keeping a clean and dry barn, and cleaning up left over hay in round bale rings, spilled feed, etc. will greatly reduce housefly and stable fly populations.

Feed through growth regulators. There are several insect growth regulators (IGR) that impact larval development in cattle manure. These are fed to the animal (or administered as a bolus) and once in the manure they control growth of fly larvae. Altosid (methoprene) is the most common IGR administered through feed, but Rabon (tetrachlorvinphos) is another that is sometimes used. Another product available in this type is the Vigilante Bolus (diflubenzuron) which is given to the animal one time and lasts about 150 days.

The key with these feed through products is that all animals need to eat a certain amount every day. Also, neighboring producers that don't use this approach will raise flies that can migrate to your farm, so rarely will the use of an IGR completely eliminate the need for other control practices. We have had the best results with this approach when a group of neighbors gets together to use it, and they monitor mineral intake carefully to make sure the cows are eating it. The bolus product has less of this variation in intake problem, but make sure you put them in all the animals including the bulls, calves, etc. The other problem with the most common IGR Altosid is that it does a good job on horn flies, but not a very good job on face flies.

Dust bags and Backrubbers. If it is convenient for a producer to place a dust bag or backrubber where cattle must go through it daily to get to water or minerals then they can provide you with good control. Most of the different classes of insecticides are labeled for use with a backrubber, and diesel fuel is an excellent carrier. The thing I don't like about backrubbers is getting diesel (and insecticide) on me when recharging them. When I do use a backrubber, I use a laundry detergent bottle with a spout to pour the solution on the backrubber to limit the amount I get on myself. The key to making them work is to rotate the type of chemical used, to charge them regularly, and then place them such that the cows have to contact them. These mechanical devices to administer insecticide are especially helpful for face flies if they are hung around the entrance to the mineral feeder.

Sprays and pour-ons. Sprays and pour-on insecticides can be an important tools because they allow you to get a high concentration of insecticide on all the animals and this can kill a large percentage of the adult flies. Sprays are most effective if they are applied at the labeled rate where cattle are gathered in a pen allowing the producer to treat every animal. Sometimes sprays are used in the field with feed or a fresh strip of grass as a bait. This might work on very tame animals, but if there are animals that stand off and will not allow you to spray them it will not be very effective. Pour-ons are another tool that can be applied at chuteside when processing cattle and should be considered. In general, I would recommend spraying or using a pour-on insecticide anytime you have the cattle gathered for processing if the fly populations are approaching the economic threshold.

Fly tags. Fly tags gradually release insecticide onto the animal, and if the flies are sensitive to the insecticide they can be very effective. However, because of their slow pay out they also create an environment for resistance to develop. It is important when you use fly tags that you wait as late as possible to put them in. We have a long fly season and most tags will not work the whole season, so using sprays or backrubbers in spring and then going to a tag with a different chemical for the summer is a good program. It is also critical to remove the tags once the fly population starts to come back. Leaving them in will just create more resistant flies, and it is very common to see cattle in winter that still have last year's fly tags in. There are several classes of insecticide now available including pyrethrins, organophosphates, and avermectins. Rotating classes and following label directions for the number of tags (usually two!) to be applied are critical to getting the most out of fly tags.

Avermectin pour-ons. The avermectin pourons including Ivomec, Eprinex, Dectomax, and generic ivermectins all give several weeks of horn fly control. Cydectin will give less, but still will provide some horn fly control. Because of the cost of generic pour-on ivermectin, it is tempting to use that for fly control. The problem with that is that **these compounds are important dewormers, and should be reserved for that purpose!** Frequent use of these dewormers to get fly control will result in selection of worm populations resistant to them. However, it does make sense to use an avermectin pour-on at a strategic time to get effective worm control (mid-summer) when it also can help knock down the fly population. The key to getting some help with flies from your midsummer deworming is to get it on all the cattle on the farm over a short period of time.

Flytraps. Another completely different approach is to trap the flies. We have worked with a variety of walk through traps designed to control horn flies at the Center for Environmental Farming Systems in Goldsboro, all the way from a simple wood and wire "Bruce" trap to a solar powered trap equipped with fly zappers. It is important for animals to pass through these traps frequently, so setting them up where animals go to water is your best bet. Our experience is that the simpler traps probably do have potential for smaller producers and may be a tool you should try.

You can also get traps for horseflies and stable/house flies. These can be as simple as fly paper, or can be more elaborate in the case of the horsefly traps.

Parasitic wasps. Parasitic wasps lay their eggs on fly larvae and can do a very good job if released throughout the fly season. They only help with house and stable flies, but when you have a concentration of animals at a location where house and stable flies may be an issue they are not a bad idea, and might be something to try in combination with other premise controls.

Chickens. There is some interesting work going on using chickens in combination with cattle because they will scratch through cow pies, breaking them up and scattering them out. It is also effective to have a few yard birds around you barn where they will eat a lot of fly larvae.

Pheromone baits. Pheromone baits are a granular material that attracts flies and contains an insecticide. They are useful around barns, and can be used in combination with improved sanitation, premise sprays, and traps to control nuisance flies around your farm.

Integrated fly control programs.

Wow...it is clear that there are a lot of tools and very many ways you could combine them to keep your fly populations in check. It is not possible for me to lay out a program that would work for all or even most producers so it is important that you learn to identify and count your flies, and then work with an advisor to develop the best strategy for you. Keep in mind that your goal should not be to have no flies, but to have a population you can live with.

What I can tell you is what we do at home. I think the most important thing we do is to practice rotational grazing so the manure is well distributed with a lot of it out on pasture in the sun. This also helps maintain a healthy population of dung beetles, as well as turkeys, crows, and other critters that help spread out and break up the manure piles. Cattle also move all around the farm, so that they may be far away by the time flies hatch which undoubtedly helps some.

We fall calve, so significant cattle working times for us in fly season are 1) vaccination of calves in March, 2) weaning of calves in late April, 3) palpation in late May, and 4) mid-summer deworming in July. We start the year by cleaning up after winter feeding, especially up near the house and barns. We also put out pheromone bait up around the barn, and use some premise spray as necessary. When we work cows and calves in March we will generally put on lice dust to knock down the lice population that usually is showing up by that point. There usually are very few flies at that time.

We will spray the cows for flies in late April/early May when we wean if horn fly populations are at threshold which is usually the case. This was an unusual year, and we actually had very few flies at weaning so we didn't spray. We will again spray the cows when we have them up for palpation in late May (again if the horn fly population is above threshold as it usually is), and also the face flies will normally be out by then. If populations start to creep up in June we will deploy backrubbers or perhaps do a bait and spray application. We also might put face rubbers on the mineral feeder if face fly populations get up before our July gathering.

The next time we will handle the cows will be in early July when we sort off bred cows we will sell. We generally spray the cows with a different chemical than we used in the earlier spraying and then apply a pour-on avermectin product. This is done to every animal on the farm including all the bulls, cows, yearlings, and weaned calves. We make every effort to do every animal within one weeks time. We have been doing this now for about 5 years, and generally we will not have horn fly populations back to threshold until late August or early September when we will gather the cows and spray them when we move them into our calving area.

I think this program works well for us because we use rotational grazing, and have very gentle cows that are easy to gather, handle and spray. The key is to scout the populations and be flexible with your application. We deviate from the basic program I described above if we get a sudden hatch of horseflies, or if things get out of control with one of the other species. Again, you need to determine the best program for your operation and your local livestock extension agent would be happy to help you think through a control program for your farm.