UNIVERSITY OF KENTUCKY

COLLEGE OF AGRICULTURE ● DEPARTMENT OF ENTOMOLOGY

ENTFACT-505

INSECTICIDE-IMPREGNATED CATTLE EAR TAGS

Lee Townsend, Extension Entomologist

Insecticide-impregnated cattle ear tags release small amounts of an insecticide which are distributed over the animal during grooming or rubbing. In general, ear tags have provided excellent, long term control of horn flies and a reduction in face fly numbers.

Factors to consider when using these products:

•Read the label before you purchase and use insecticide ear tags.

All tags are labeled for beef cattle while only those with certain active ingredients are approved for use on lactating dairy cattle. Check for any limitations for use, such as animal age.

Look for the common name of the active ingredient (for example, permethrin). In some cases, different brands of tags contain the same active ingredient. You can save money by comparison shopping, or avoid inadvertently using the same active ingredient if resistance is a potential problem.

Consider the recommended number of tags per head. Some brands are used at the rate of one per animal. UK research trials have generally shown that systems which use two tags per animal seem to provide better face fly control than those which rely on a single tag.

•Animals only need to be handled one time to apply the tags.

However, this is not necessarily when you would normally work your animals. For fly control, it is best to tag animals after horn fly numbers reach 50 or more per side. This reduces the chances of developing resistance to the active ingredients that are being used. Normally, tags provide 12 to 15 weeks of fly control. Tagging too early in the season can mean that the tags are not providing good control in the fall that will help to control the overwintering population.

•With insecticidal ear tags, the control system moves with the animals.

This may be an advantage if animals are moved at intervals and dust bags or back rubbers are not in place in every pasture or grazing area.

What areas of the animal are treated by ear tags?

Research with insecticide ear tags fitted with a dye showed that the area immediately behind the ears and forward to under the eye and down to the back of the mouth are treated pretty thoroughly. No dye was transferred to the legs, back-line, belly or hips. There is additional spread of the insecticide as the animal grooms itself and mingles with other cattle.

Why do ear tags tend to work better against horn flies than face flies?

Differences in behavior between these two fly species is probably part of the story. Horn flies spend most of their time on the animal. They suck small amounts of blood frequently and leave only to lay their eggs on fresh cattle droppings. This constant presence on the animal means they are certain to come in contact with some of the insecticide and be killed.

Face flies spend only a small amount of time on the animal. Usually, they are off resting on vegetation. They visit the face, primarily under the eyes and around the mouth. Insecticide residues may not last as long on these surfaces, or the fly may not remain on the treated area long enough to pick up a lethal dose.

However, some of the newer synthetic pyrethroid insecticides are active against flies in such small quantities, that much better reduction in face flies is seen.

What types of insecticide ear tags are available now?

There are three main types based on the active ingredient(s) that they contain.

•Organophosphate (OP) insecticides such as diazinon, fenthion, pirimofos methyl, or a diazinon + chlorpyrifos combination. These tags provide good horn fly control and moderate face fly control.

•Synthetic pyrethroid (SP) insecticides- fenvalerate and permethrin are the original members of this group. These tags are sold under a variety of brand names. Usually they are less expensive than the new, more

expensive synthetic pyrethroids, such as cyfluthrin, lambda-cyhalothrin, and zeta-cypermethrin. These tags provide good horn fly control and better face fly control than the OP tags.

The two groups of tags contain insecticides that attack the nervous system of the fly in different ways. Seasonal rotation between an OP and an SP insecticide can be useful in combating insecticide resistance that has developed in horn flies in some areas of the state. Resistance, indicated by a failure in horn fly control, can develop when tags containing the synthetic pyrethroid permethrin have been used for several consecutive seasons. No resistance to organophosphates, or the new synthetic pyrethroids, has been seen.

•A relatively new group of combination tags has appeared. These couple an OP and a SP in the same tag. Current examples pair lambda-cyhalothrin and pirimiphos methyl or cypermethrin and chlorpyrifos. The assumption is that the OP would control SP-resistant horn flies.

Tags need to be removed at the end of the fly season in the fall to reduce the potential for insecticide resistance in both lice and flies.

Are there any safety precautions associated with using insecticide ear tags?

Non-permeable gloves should be worn when tagging animals. Tags should not be handled bare-handed under any circumstances. The concentration of insecticide in the tags varies from 8% to 36%. The tags are manufactured so that the insecticide is rubbed off the surface and on to the animal. Any handling of the tags leaves some insecticide on the hands. The insecticide then can be transferred easily to the mouth, eyes, face or other areas of the body.

Signal words on the label range from CAUTION to WARNING. Several products carry statements about the potential for allergic reaction following exposure. Many are easily absorbed through the skin or eyes, some have irritation vapors. Wear protective gloves and wash hands thoroughly with soap and water after tagging or when taking a break.