

TIMELY INFORMATION

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Highest Horn Fly Populations Found During June, July, and August

The horn fly is the most important external pest found on cattle. They develop very large populations (300 to 800 avg. flies per animal) during the summer months. Horn flies suck blood and large populations of the fly aggravate and stress cattle doing most of their economic damage by reducing milk production in both dairy and beef cattle.

Several evaluations have shown that high horn fly populations reduce milk production in dairy cattle an average of about 20% and reduce weaning weights in beef cattle by 20 to 40 lbs. per calf where horn fly populations are not controlled. These figures show that it is well worth the cost involved to control horn flies on cattle. Additionally, several studies indicate that growing yearling cattle gain 20 to 25 lbs. more during the summer where horn flies are controlled vs. no control.

Horn flies are somewhat smaller than house flies and spend their entire adult life on the animal (feeding and resting) leaving only to deposit eggs in fresh cow manure. The eggs develop soon after being deposited and the larvae are ready to pupate in four to six days in the summer months. They pupate in the soil near the manure pile. During this period the entire life cycle is shortened from about 21 days in the spring and fall to 10 to 14 days during the summer months.

Since the horn fly spends its adult life on the cow, treating the animal with an effective insecticide can be very effective in controlling the horn fly. However, the short life cycle, multi-generations and the very high reproductive potential of the horn fly has allowed it to survive and develop high levels of resistance to most insecticides used for its control. A rotation of insecticide classes (organophosphates and the synthetic pyrethroids) is effective in reducing the effects of insecticide resistance in horn flies. A three year rotation program (2 yrs. with organophosphates and 1 year with synthetic pyrethroids) has a good track record for reducing the effect of insecticide resistance when treating the animal for horn fly control.

Likewise, the manure is also a treatment site since the horn fly develops only in fresh cow manure. Feed through larvicides have been effective in controlling horn flies on cattle. Insecticide resistance has also been a serious problem with feed through larvicides. Relatively recently more effective larvicides have been developed and have been effective in controlling the horn fly. Additionally, the recent release and establishment of several species of imported dung beetles has proven to substantially reduce horn fly populations in some areas across the south. The judicious use of medications for internal parasite control and the elimination of the use of feed through larvicides will allow dung beetle populations to build up to levels where most of the manure may be buried by the dung beetles within 48 hours. This level of manure burial substantially reduces horn fly larvae development and may lower adult horn fly populations on cattle near to or below economic treatment levels (considered 200 flies per animal). Burial of the manure within this 24 to 48 hr. period also substantially reduces the infective stages of internal parasites of cattle.

CONTROL METHODS

Ear-tags are usually the most effective of the treatments available for horn fly control and last for a ten to fifteen week control period. A three year rotation of the insecticide classes i.e. organo-phosphates for two years and the third year a pyrethroid is important in maintaining a low level of insecticide resistance in the horn fly population. Some of the most effective organo-phosphates ear-tags are Patroit, Cutter One or Warrior used for two years without pyrethroids used in any form during these two years (sprays, pour-ons, dust bags or back rubber). The third year a pyrethroid ear-tags should be used. Other methods of application using one of the pyrethroid insecticides may also be used during this third year, but avoiding the use of an organo-phosphate insecticide during this third year.

The third year rotation with use of an organo-phosphates insecticide for two years and a pyrethroid insecticide for the third year is very important regardless to the method of application to the animal i.e. ear-tags, sprays, pour-ons, dust-bags or back rubbers. This is true for two reasons: (1) insecticide resistance builds much faster when pyrethroid insecticides are used for horn fly control (thus one year's use) than when organo-phosphate insecticides are used which accounts for the use of the organo-phosphates for two years in the rotation program to control horn flies on cattle. (2) where insecticide resistance to organo-phosphate insecticides exist in the horn fly population the use of a pyrethroid insecticide causes the level of organo-phosphate insecticide resistance to decline. Likewise, where insecticide resistance to pyrethroid insecticides exist in the horn fly population the use of an organo-phosphate insecticide causes this level of insecticide resistance to the pyrethroid insecticide to decline.

More recently the development of an effective feed-through larvicide available in a complete mineral mix fed free choice to cattle has also been very effective in controlling horn flies on cattle. This larvicide is now available from a number of sources in mineral mixes and is also available in some of the cattle lick tubs as well as some of the liquid feeds.