The Use of IVOMEC® (ivermectin) Pour-On and Permethrin Ear Tags for Season-long Horn Fly Control

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Benefits of Horn Fly Control

The horn fly is a major pest of cattle. Drummond et al have reported estimated annual losses from horn flies for cattle production in the United States of $730 million. They have also reported that horn flies cause an estimated weight loss of 12 lb. per calf, 10 lb. per head of stocker cattle, 4.6% weight loss of slaughter cattle as well as a 1% reduction in milk flow during the 6-month horn fly season. Accepted estimates of the economic threshold of horn flies on cattle range from 50 to 200 flies per animal, depending on geographic location.

Extensive data are available to document the efficacy and duration of internal and external parasite control with IVOMEC Pour-on following a single treatment. Effective control of horn flies for the duration of the season, however, often requires several treatments, and may also require several different products. These trials demonstrate the benefit of using IVOMEC Pour-On in conjunction with permethrin ear tags in a strategic program to obtain season-long control.

The Bottom Line

Recommendations for the use of IVOMEC Pour-On generally suggest the use of other commonly used horn fly control products in conjunction with IVOMEC Pour-On in order to obtain season long control. Two studies were conducted in Louisiana in 1994 and in Alabama in 1995. The objective was to evaluate the efficacy of a spring and mid-summer application of IVOMEC Pour-On in conjunction with a spring application of permethrin ear tags as a program for season-long control of horn flies. The results of treatment of cattle with IVOMEC Pour-On for parasite control in these studies were:
Spring application of IVOMEC Pour-On alone resulted in significantly fewer horn flies compared to untreated controls and fly numbers below the economic threshold of 100 flies per side - $P<0.05$ through week 5 in 1994, and $P<0.01$ through week 8 in 1995.

Spring application of IVOMEC Pour-On in conjunction with permethrin ear tags resulted in significantly fewer horn flies compared to untreated controls and fly numbers below the economic threshold of 100 flies per side - $P<0.05$ up through week 5, 7, 9 and 11 in 1994 in, and $P<0.01$ through week 11 in 1995.

An additional mid-summer application of IVOMEC Pour-On, with or without application of ear tags in the spring, resulted in significantly fewer horn flies compared to untreated controls and fly numbers below the economic threshold of 100 flies per side - $P<0.05$ an additional 4 weeks post-treatment in 1994 in, and $P<0.01$ an additional 5 weeks post-treatment in 1995.

The Field Trials

These trials were performed in Louisiana in 1994 in cooperation with Louisiana State University, and in Alabama in 1995 in cooperation with Auburn University. Both trials were conducted under the same protocol. All cattle were spring calving commercial cross-bred beef cattle with the exception of one herd which was purebred Angus. Each trial utilized 4 separate cow/calf groups on each of 4 different farms. Each group was separated from all other cows by a minimum of 1000 feet to minimize horn fly movement between treatments or into treatment groups from surrounding herds. All non-test cattle on each farm were treated for horn flies in an identical manner to equalize horn fly numbers on the farm. All management practices were identical for each treatment group on each farm, with the exception of the test treatment.

Each treatment group consisted of a minimum of 20 cows and their calves. The groups received the following treatments:

Group 1: Control - No treatment for horn flies.

Group 2: Ear Tags only - Spring application of ear tags.

Group 3: IVOMEC Pour-On only - Spring and mid-summer application.

Group 4: IVOMEC Pour-On plus Tags - Spring and mid-summer application of IVOMEC Pour-On plus ear tags in the spring only.

All cattle designated to receive ear tags received two (2) permethrin insecticidal ear tags (one in each ear) in the spring if they were 6 months of age or older. Ear tags were removed at the mid-summer treatment for cattle of Group 4.

Horn fly counts were made weekly by counting horn flies on 1 side of 10 or
12 cows in each treatment group. The same cows were used for fly counts each week from each group. All fly counts were made before 8:30 am. Adequate horn fly control is considered to be the economic threshold of less than 200 flies per cow (less than 100 flies per side). Results from each study are presented in Figures 1 and 2.

Results

Spring Treatment
Treatment with ear tags alone provided 4 to 8 weeks of adequate horn fly control (1994 and 1995 respectively). Treatment with IVOMEC Pour-On alone provided 5 to 8 weeks of control. Treatment with IVOMEC Pour-On in the spring in conjunction with ear tags provided control through week 11 in both years.

Mid-Summer Treatment
Treatment with ear tags alone (applied in the spring) provided no additional control at the time of the mid-summer treatment or thereafter, compared to the untreated control. An additional mid-summer treatment of IVOMEC Pour-On applied to cattle in both Groups 3 and 4 provided 5 more weeks of control in addition to that resulting from the spring treatment.

Summary
Recommendations for use of IVOMEC Pour-On generally suggest the use of other commonly used horn fly control products in conjunction with IVOMEC Pour-On in order to obtain season-long control. Data from these trials indicate that treatment with IVOMEC Pour-On for parasite control in the spring and mid-summer, in conjunction with application of permethrin ear tags in the spring provided better and longer lasting horn fly control than either product alone.

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