

CATTLE GRUB CONTROL WITH BAYER 21/199 IN THE EVERGLADES¹

EMMETT D. HARRIS, JR., W. G. GENUNG, AND C. E. HAINES^{2 3}

Harris, Genung, and Chapman (1959)⁴ reported that a single application of Bayer 21/199 (Co-ral) was superior to one of ronnel (Trolene) when applied in May, June, July, or August to control the common cattle grub, *Hypoderma lineatum* (DeVill.). When each chemical was applied in September, ronnel was superior. They also stated that the number of grubs observed in the backs of cattle is much lower than in other areas of the United States, but the pest appears to be potentially of much greater importance. Although the peak of population was during the winter, animals with grubs encysted in the back had been found in every month but June and the common cattle grub could become a year round pest in the Everglades. A single application of either chemical probably would not be effective throughout the year if the cattle grub population were larger.

The primary purpose of this experiment was to compare 2 applications of Bayer 21/199 (in June and September) with single applications in June or September.

Applications were made by spraying a 0.5 percent wettable powder suspension of Bayer 21/199 at 100 psi over the back until run-off occurred. The nozzle was held about 1 foot from the animal's back. Application rates were approximately 0.65 and 0.67 quarts per animal for sprays applied on June 22 and September 12, 1958, respectively.

The numbers of cattle grubs encysted in the back of each animal were determined September 12 and November 19, 1958, and January 28 and March 25, 1959, by feeling for the resulting bumps under the hide. Among the animals examined were 10 steers and 12 heifers that were treated June 22, 10 steers and 8 heifers that were treated June 22 and September 12, and 11 steers and 12 heifers that were treated September 12. All were Brahman x Devon yearlings. In addition, 22 untreated steers and 19 untreated heifers of Brahman, Devon, Brahman and Brahman x Angus breeding were examined on each date. No animal had grubs encysted in the back on September 12. The average number of grubs per animal for untreated steers was 7.3 November 19, 14.3 January 28, and 5.1 March 25. Among untreated heifers the values were 4.4, 13.5 and 5.2 on the respective dates.

¹ Florida Agricultural Experiment Station Journal Series, No. 930.

² Assistant Entomologist, Associate Entomologist, Assistant Animal Husbandman, respectively, Everglades Experiment Station, Belle Glade, Fla.

³ The authors are indebted to Mr. Edward King, Jr., Draftsman, and Mr. Henry Ruffolo, Staff Assistant, for preparation of the graphs and to Mr. C. E. Seiler and Mr. A. B. Jimmerson, Field Assistants, for assistance in conducting this experiment.

⁴ Harris, Emmett D., Jr., William G. Genung, and Herbert L. Chapman, Jr. 1959. Comparison of two systemic insecticides and dates of application for cattle grub control in the Everglades. Journ. Econ. Ent. 52: 425-428.

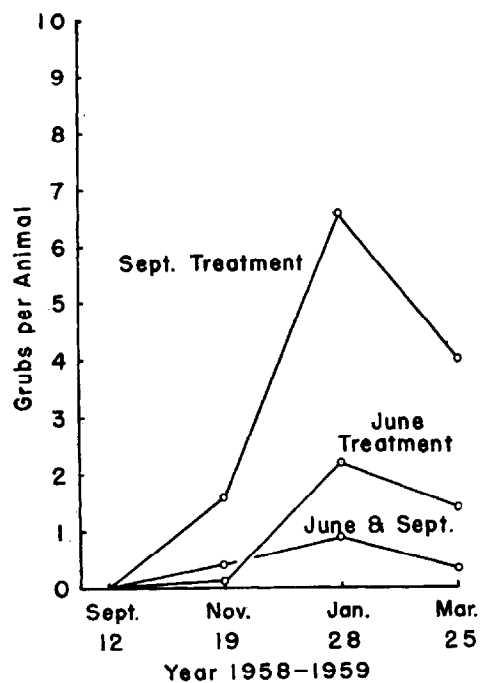


Fig. 1

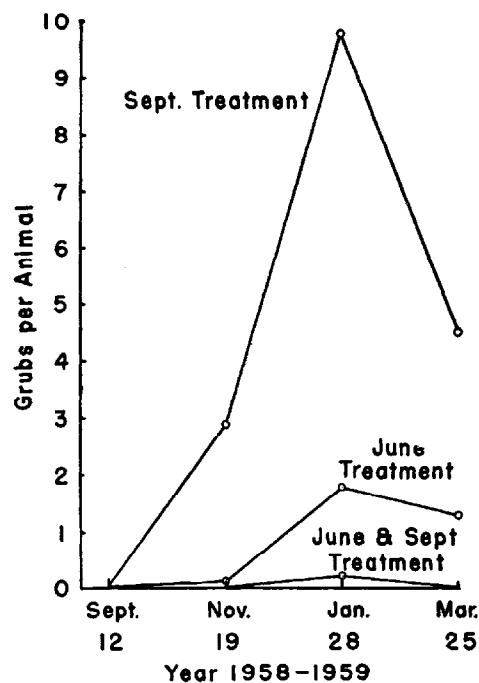


Fig. 2

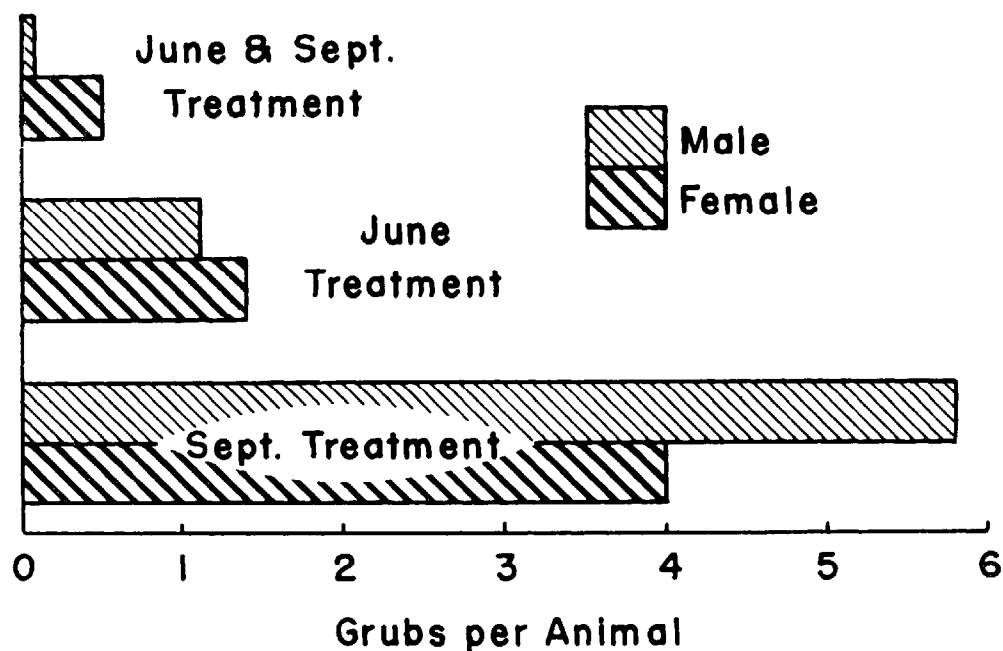


Fig. 3

Fig. 1. The effect of treatment date on common cattle grub control with Bayer 21/199 on Brahman x Devon heifers by observation dates.

Fig. 2. The effect of treatment date on common cattle grub control with Bayer 21/199 on Brahman x Devon steers by observation dates.

Fig. 3.—Seasonal effect of treatment date on common cattle grub control with Bayer 21/199 on Brahman x Devon cattle.

When the average numbers of grubs per animal over the observation period were compared for 9 steers and 9 heifers for untreated Brahman x Angus crossbreeds, the steers had significantly more (8.7) than the heifers (6.1). Also for the September treatment, heifers had significantly fewer grubs than the steers. As steers and heifers were not divided proportionately among the treatments, it seemed preferable to compare the treatments within each sex.

The average number of grubs for each treatment on each observation date is shown for heifers (Figure 1) and steers (Figure 2). On any one observation date, there were no significant differences among the treatments applied to heifers. On November 19, January 28, and March 25, significantly more grubs per steer resulted from the September treatment than from the other 2 treatment dates. When the observation dates were averaged to get a seasonal value for the number of grubs per animal, both the June treatment and the combination June and September treatments were significantly more effective than the September treatment for each sex (Figure 3). The difference between the June treatment and the combination June and September treatment was not significant and probably would not be economically important. The difference between the treatments might be much larger if the cattle grub population had been larger. Unless the population of cattle grubs becomes larger in the Everglades, 1 application of Bayer 21/199 during June seems to be sufficient.

NOTICE

The Forty-Third Annual Meeting of The Florida Entomological Society will be held in Jacksonville at the Robert Meyer Hotel on September 8-9, 1960. The program committee has been appointed and will begin planning in the near future for an outstanding session.