

COW-CALF PERFORMANCE ON IMPROVED AND NATIVE GRASS PASTURES FOLLOWING WORMING

BY

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North Dakota cattle producers have been encouraged through commercial advertising and other means, to worm their cattle as a good routine management practice. This advertising has also suggested that cattle harbor heavy numbers of worms and that their removal will result in increased economic returns.

Our concern relative to worming has been threefold. First, we want to identify how much intestinal parasitism exists in cows and calves grazing the semi-arid ranges common to southwestern North Dakota. Second, we want to evaluate the efficacy of the various wormers on the market. Third, and probably of most importance, is our concern with the economics and labor needed to administer a worming program, and what financial returns could be expected if cattle are wormed.

In other worming studies conducted at this station we have found little or no improvement in performance or economic advantage for routine worming. Although we have been unable to measure significant differences in favor of worming we have observed some interesting things about the growth patterns of worms and levels of parasitism from fecal analysis. Analysis of intestinal worms based on fecal egg shedding has shown that egg shedding among cows drops naturally from the time cows are turned out on spring pasture in May to a fairly stable low in the early part of July. Calves nursing these same cows, however, become infested, have lower resistance, and egg shedding among them increases to a peak in mid-July to early August. Based on this information, the present study was developed to evaluate the effect that worming cows just before spring turnout and delaying calf worming until mid-July has on performance and subsequent economic return.

Young livestock has repeatedly been shown to be less resistant to parasitism, so crossbred first calf cows nursing three and four way crossbred calves were used for this trial. In each year of the study, cows and calves grazed crested wheatgrass pastures from spring turnout time in early May to the middle of July, at which time they were moved to native range pastures. Only the cows were wormed at spring turnout time and worming of the calves was delayed until mid-July when the level of parasitism was predicted to be the highest, based on our previous work.

A new anthelmintic, Safe-Guard, manufactured by the American Hoechst Corporation was used to worm cows and calves in this study. Safe-Guard, the trade name for fenbendazole, was administered to cows at the rate of 2.3 ml. /100 lbs. body weight. Cows received 22 ml. and calves 7.5 ml. of a 10% suspension. Dr. Gil Myers, parasitologist representing the American Hoechst Corporation, cooperated by providing Safe-Guard wormer and technical assistance for analysis of fecal samples.

Animals used were allotted by weight, breed, sex of calf, and sire of calf. Cows and calves in each treatment were weighed and fecal sampled at selected intervals throughout the grazing season. In the first year of the study fecal samples were analyzed by Dr. Myron Andrews, NDSU parasitologist, using the Wisconsin Double Centrifugation Sugar Flootation technique. During the second year, due to Dr. Andrew's retirement, the fecal samples were analyzed by AEF Research, a private laboratory in Waunakee, Wisconsin.

Gain data for cows and calves have been summarized and are shown in Table 1.

Cow and calf gains, as well as the profiles of fecal egg shedding at selected intervals during the growing season have been charted and are shown in Figures 1, 2, 3 and 4.

Summary:

Worming of cows at spring turnout time in early May and delayed worming of calves until mid-July did not improve cow or calf performance. Cow gains varied somewhat during the growing season. However, the net seasonal growth performance of .65 lb. per day did not differ between treatments. The calves were quite similar in their yearly growth patterns. Calves that were wormed grew slightly slower than the control calves during the first year of the study and were no different in the second year.

Economically, worming under the conditions of this study resulted in a net loss. Since wormed calves grew at a slower rate and wormed cows possessed similar body condition going into the wintering period there was no return to management for the investment of \$3.53 per cow/calf pair.

Table 1. Two Year Summary of Weights, Gains and Partial Economics for Worming with Safe-Guard (fenbendazole) in Southwestern North Dakota

| Treatment | Safe-Guard | | Control | |
|---|------------|--------|---------|--------|
| | Cows | Calves | Cows | Calves |
| No. Head | 66 | 66 | 70 | 70 |
| Days on Pasture | 172 | 172 | 172 | 172 |
| Gains: | | | | |
| Initial Weight, lbs. | 938 | 159 | 938 | 161 |
| Final Weight, lbs. | 1051 | 501 | 1051 | 517 |
| Average gain/head lbs. | 112 | 342 | 112 | 356 |
| ADG lbs. | .65 | 1.99 | .65 | 2.06 |
| Economics: | | | | |
| Wormer cost/cow, \$ (22 ml. of 10% suspension) | 2.64 | | | |
| Wormer cost/calf, \$ (7.5 ml. of 10% suspension) | | .89 | | |
| Total Worming Investment per cow/calf pair, \$ | 3.53 | | | |

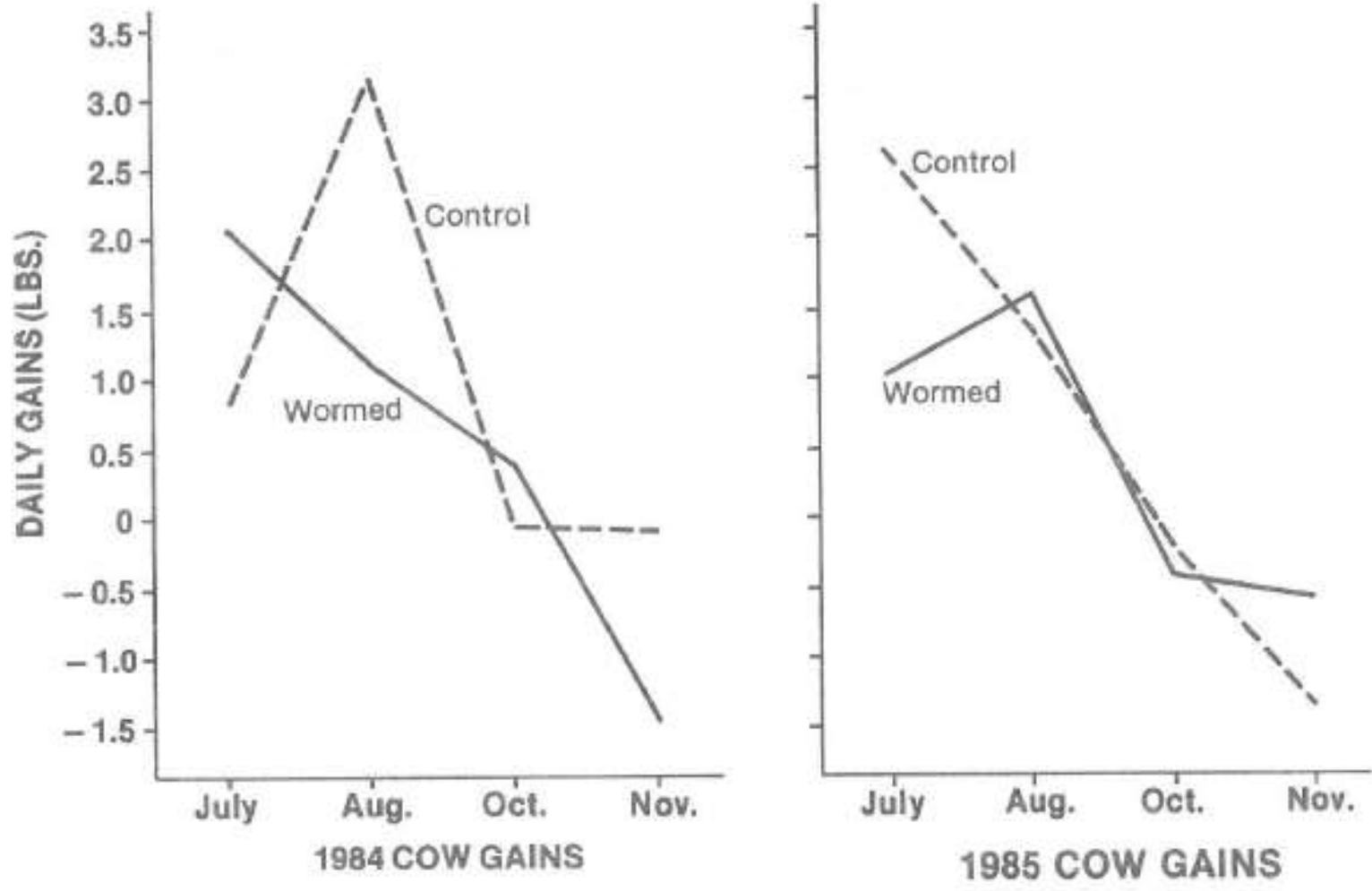


Figure 1. Cow gains during 1984 & 1985 grazing seasons.

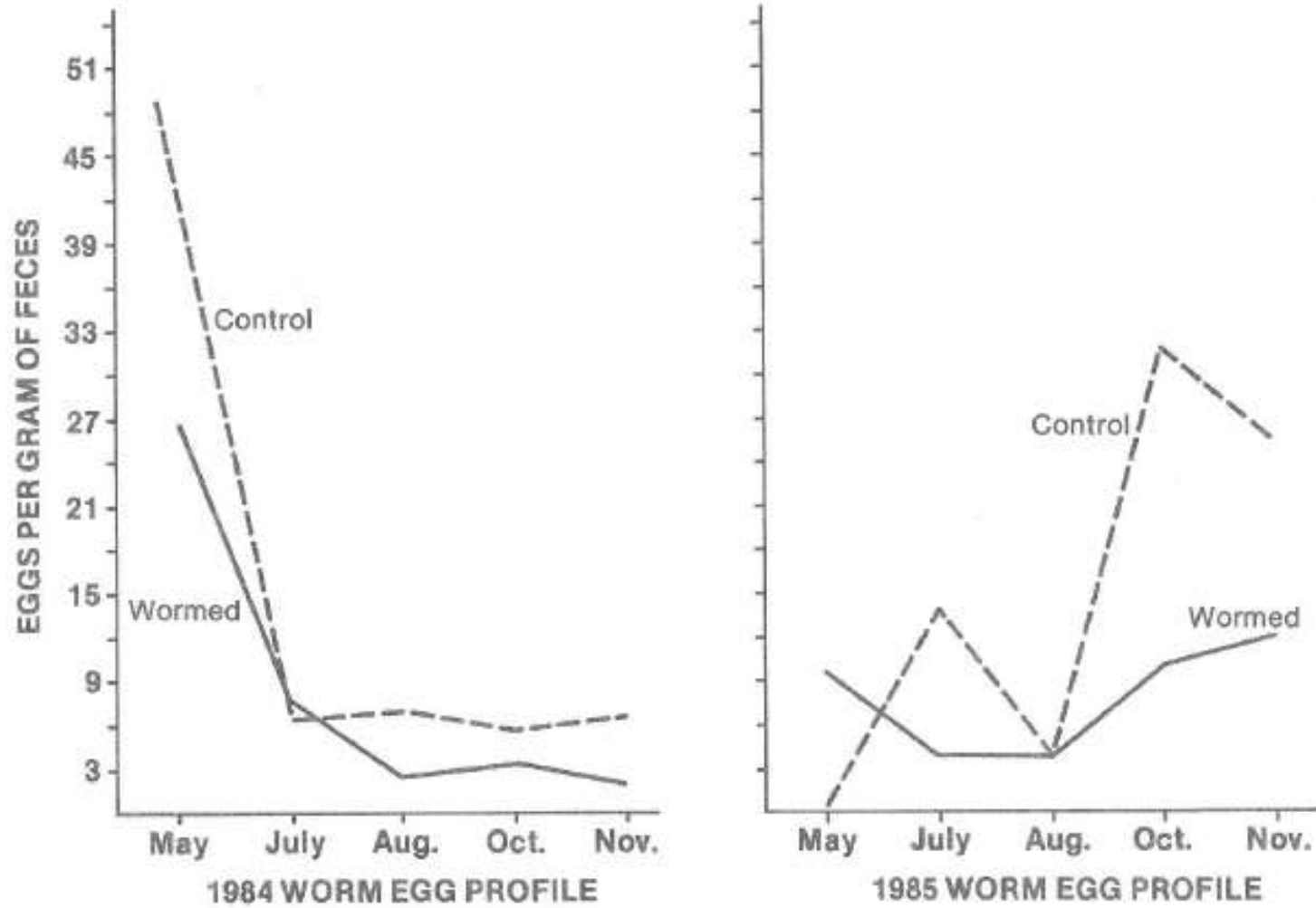


Figure 2. Profiles of fecal egg numbers being shed by cows at selected dates after worming during the 1984 & 1985 grazing seasons.

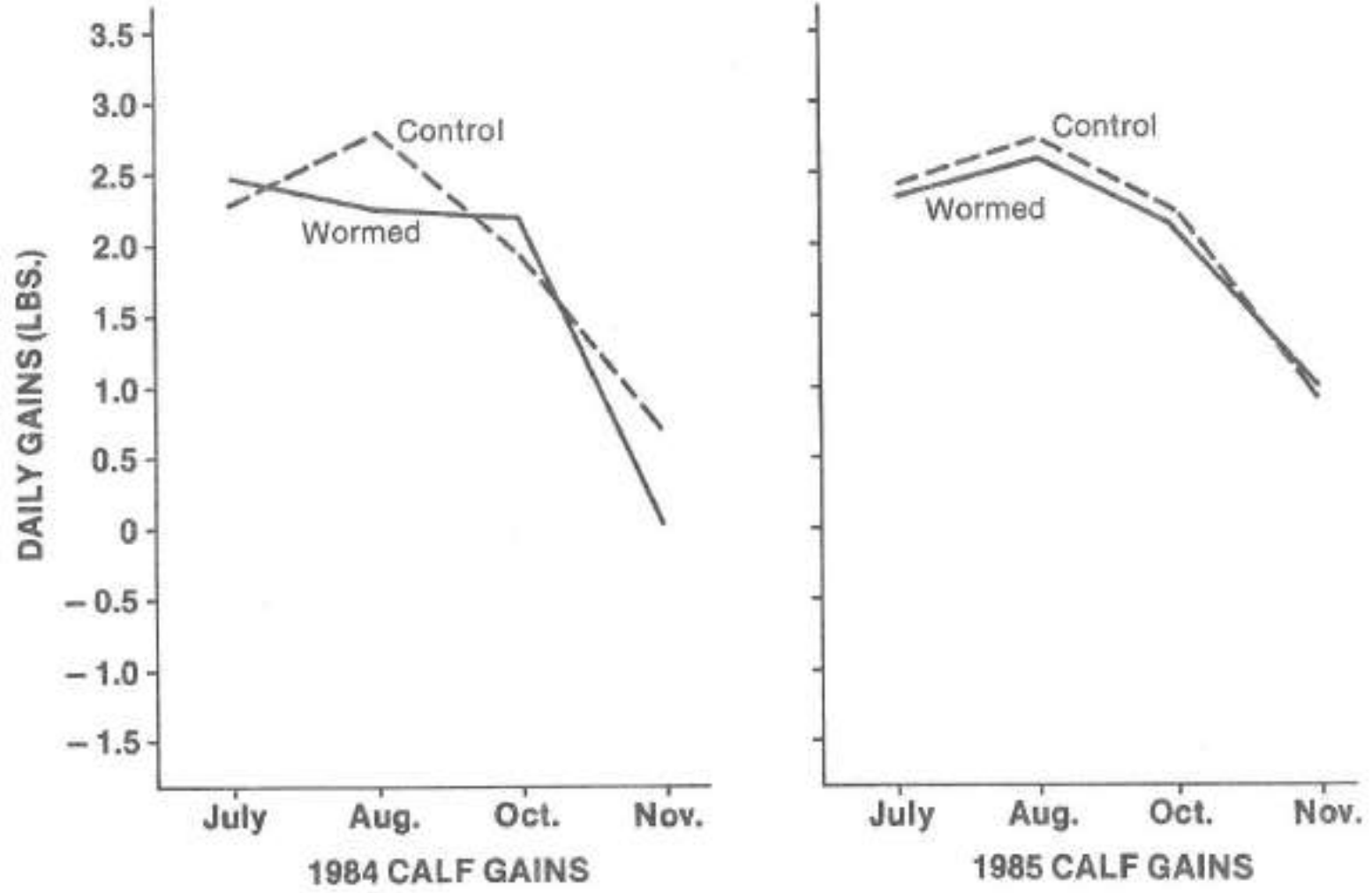


Figure 3. Calf gains during 1984 & 1985 grazing seasons.

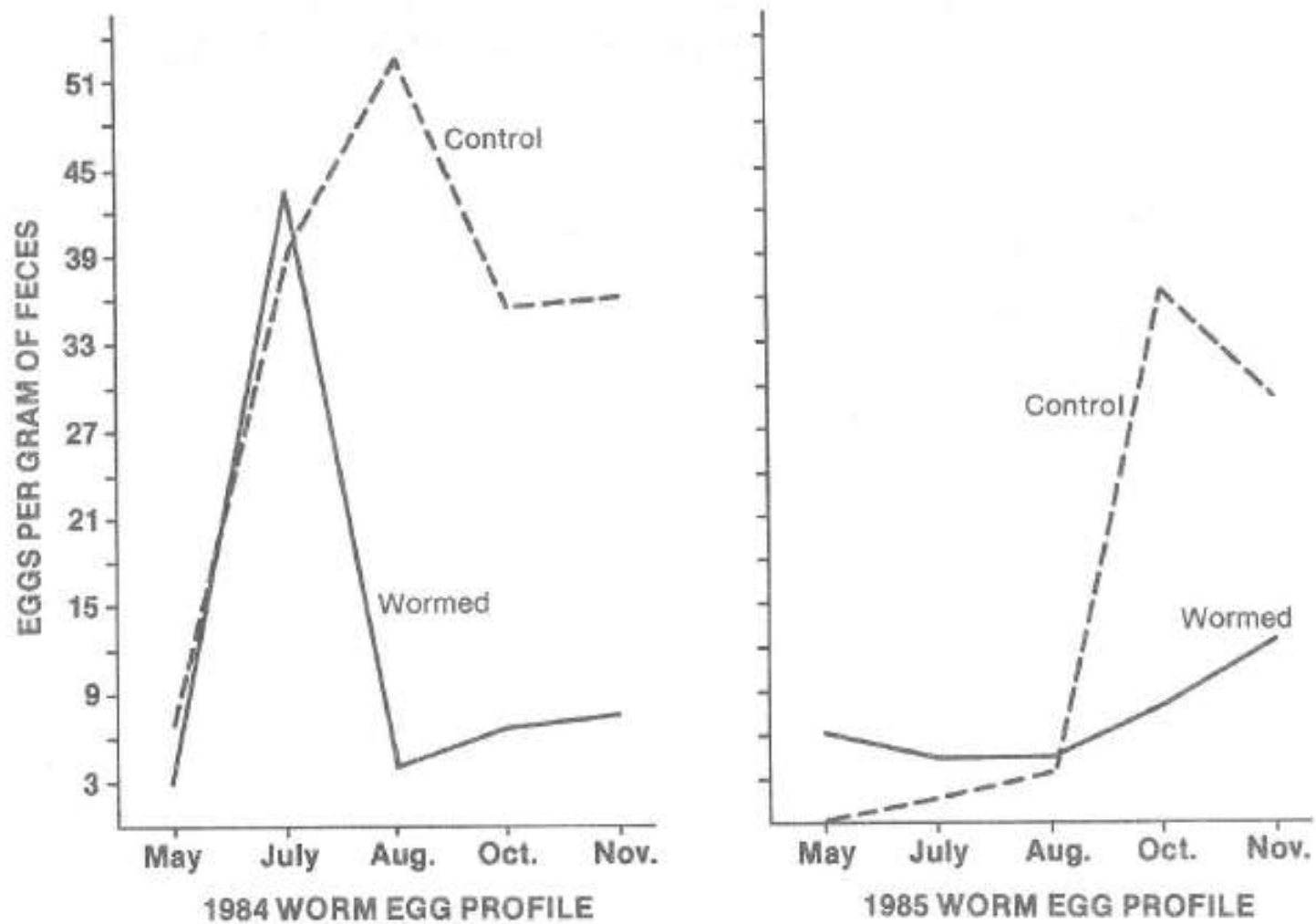


Figure 4. Profiles of fecal egg numbers being shed by calves at selected dates before and after worming in July during the 1984 & 1985 grazing seasons.