Winter Supplementation of Spring Calving Cows Grazing Midland Bermudagrass Year-Long

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Story in Brief

This report is a summary of a three-year study to determine the effects of feeding three levels of cottonseed meal (1, 2 and 3 pounds per head daily) to mature, spring-calving Hereford cows. All cows grazed a common pasture of Midland bermudagrass year-long and were fed their respective winter supplements in individual stalls.

Winter weight loss of the cows was slightly less with each increase in level of supplement. There was also a slight increase in milk production of the cows and in calf weaning weights with each increase in winter supplement. Although increasing the level of supplement reduced weight losses of cows during the winter, all losses were within the safe range for cattle of this age. Results of the study indicte that one pound of cottonseed meal daily was adequate for wintering cows under these conditions. However, under less than optimum grazing conditions it would be advisable to feed a higher level.

Introduction

The use of bermudagrass as pasture for beef cattle has increased considerably in the past 10 years. Because of the nature of the grass it appears to be better adapted to cow-calf operations than to stocker programs. The need for information regarding supplemental feeding of cows grazing bermudagrass during the fall and winter months prompted this study. This report summarizes a three-year study of the effects of different levels of protein supplment upon cow and calf performance.

Methods and Materials

The study was initiated in the fall of 1965 with 48 grade Hereford cows ranging in age from three to four years, bred to calve in February, March and April. The cows were divided into three groups of 16 based on age, weight and previous treatment. Lots 1, 2 and 3 received one, two and three pounds of cottonseed meal (41 percent C.P.) per head daily, respectively. All three treatment groups grazed a common pasture year-

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long and were fed their respective winter supplements in individual stalls. Cows were fed a two-day allowance of feed every-other-day to reduce labor.

The pasture contained approximately 140 acres of non-irrigated Midland bermudagrass which was cross-fenced to permit rotational grazing. In 1965 two hundred pounds of nitrogen was applied per acre in three equal applications during the growing season. In 1966, 1967 and 1968 fertilization consisted of the application of 50 pounds each of nitrogen, phosphorus and potassium per acre in the spring followed by two applications of 50 pounds per acre of nitrogen in mid and late summer. Cattle were rotated from one pasture to the next about every 7 to 10 days depending on rainfall and amount of grass. Pastures were mowed and dragged as needed.

Data were collected on cow weight change, milk production, blood minerals, calf birth weight and weaning weight. Milk production was determined by weighing the calf before and after nursing. Blood samples were taken from one-half of the cows in each treatment group at the start (December) and at the end of the wintering period (April).

Results and Discussion

Table 1 shows the effects of three levels of winter supplementation upon cow and calf performance. Cow weight loss through calving decreased with each increase in amount of supplement. However, weight losses of all groups were within the range found to be allowable for mature cows in previous studies.

Average daily milk production and calf weaning weights increased slightly as level of winter supplement increased. Calf birth weights were slightly lower when cows were fed one pound of cottonseed meal daily. An economic comparison of returns from cattle on the three treatments is also shown in Table 1. Although the gross returns were slightly higher with each increase in level of winter supplement of the cows, net returns

Table 1. Effects of Level of Winter Supplement on Performance of Spring-Calving Cows Grazing Midland Bermudagrass

Level of C.S.M. (lb./head/day)	1	2	3
Cow wt. loss including calving loss (% of fall wt.)	13.5	11.5	10.4
Ave. daily milk production (lb.)	12.7	13.0	13.6
Calf birth wt. (lb.)	74	78	78
Calf weaning wt. (lb.)	470	477	481
Ave. Gross Return/calf (@ 28¢/lb.)	$131.60	$133.56	$134.68
Ave. Winter Feed/cow (145 days)[1]	6.53	13.06	19.59
Ave. Net Return/cow (calf value minus feed cost)	$125.07	$120.50	$115.09

[1] Cost based on $89.50 per ton for cottonseed meal.

were greatest for the lowest level due to the increase in cost of winter feed on the other treatments. Conception rate and calving percentages are not shown but were essentially the same for the three groups.

Figure 1 shows the average monthly weights of the cows during the three-year period. Cows fed one pound of cottonseed meal daily lost more weight and were lighter from January to May than the other two lots. However, it is important to note that by July the Lot 1 cows were equal in weight with the other treatment groups. There was very little difference in cow weights at any time during the year between the groups receiving two and three pounds of supplement daily.

Figures 2 and 3 show the levels of certain minerals in blood serum of cows in December and April, respectively. Level of winter supplement apparently had no effect upon the level of any of the minerals measured at either sampling time.

The data from the three trials indicate that there was little or no advantage in feeding more than one pound of cottonseed meal per head daily to spring calving cows under these conditions. However, it is important to point out that the quality and quantity of winter forage were excellent during all three years.

In situations where forage is poor in quality and somewhat limited in amount it would probably be advisable to feed two pounds of protein

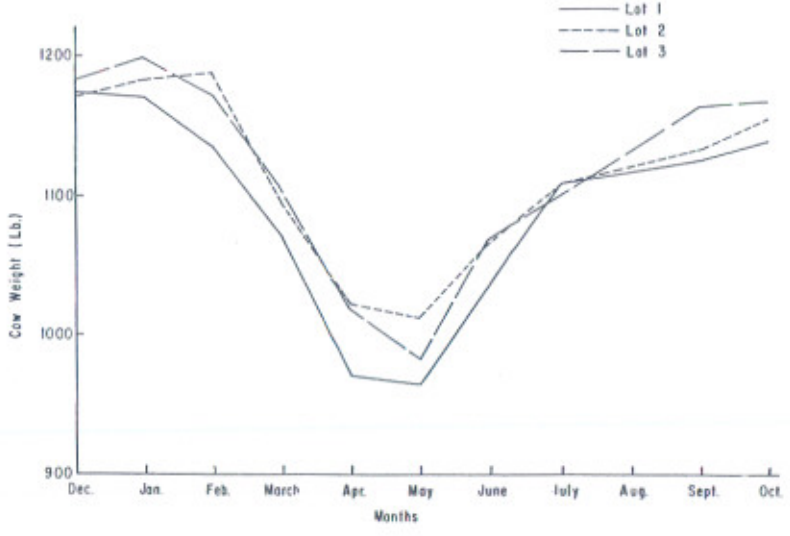

Figure 1. Monthly Cow Weights (Ave. of 3 Years)

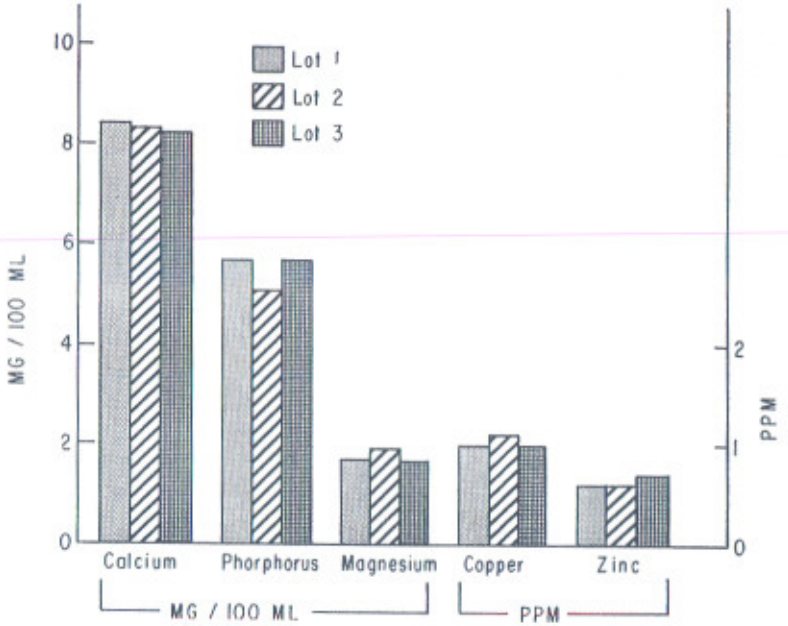

Figure 2. Mineral Content of Blood Serum Taken in December (Ave. of 3 Years)

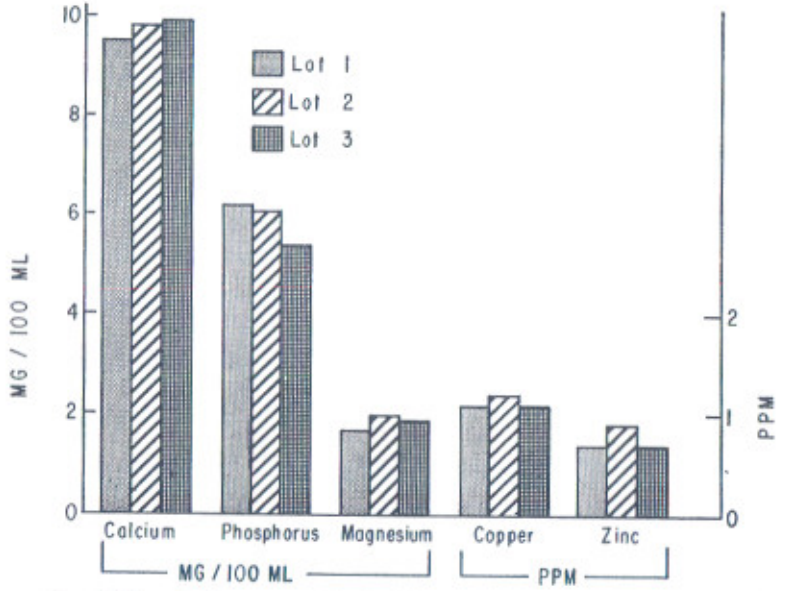

Figure 3. Mineral Content of Blood Serum Taken in April (Ave. of 2 Years)

supplement per head daily. It is important to consider the condition of the cattle, and feed enough supplement to keep the winter weight loss to about 15 percent of the previous fall weight. This may require feeding some grain as well as protein supplement during the winter if forage is quite deficient.

A Comparison of Hormones for Heifers Grazing Wheat Pasture

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Story in Brief

This study consisted of two trials comparing different hormones with heifer calves grazing wheat pasture. In Trial I Melengestrol Acetate (MGA) and Synovex-H were compared using 72 heifers averaging 431 pounds in weight. In Trial II, 20 heifer calves weighing approximately 260 pounds were used to compare Diethylstilbestrol and Synovex-H.

In Trial I Synovex-H increased gains 16.9 percent while MGA decreased gains 17.9 percent, when compared with controls. Cattle receiving both MGA and Synovex-H gained 7.5 percent less than controls. In Trial II gains were almost identical for calves receiving Diethylstilbestrol and Synovex-H.

Introduction

In recent years various hormones have been shown to improve performance of cattle in the feedlot. Most data indicate increases in gains of grazing cattle implanted with Diethylstilbestrol. There is only limited data available on the effects of other hormones upon grazing cattle.

This study was conducted to determine the influence of Diethylstilbestrol, Melengestrol Acetate (MGA) and Synovex-H upon gains of heifers grazing wheat pasture.

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