

Effect of Supplemental Feed and Stilbestrol Implants on the Performance of Heifer Calves Grazing Winter Wheat Pasture

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Story in Brief

Heifer calves grazing winter wheat pasture consumed over 10 lb. per head daily of a concentrate mixture, but gained only 0.61 lb. more per head daily than calves without supplement. Implanting with 12 mg. stilbestrol increased gains of calves on wheat pasture without supplement by 0.22 lb. per head daily. No response from the implant was obtained when supplemental feed was available. The most profitable results were obtained by implanting with 12 mg. stilbestrol without additional concentrate.

Introduction

Numerous opinions are available on the best way to utilize winter wheat pasture in Oklahoma. Procedures vary from straight pasture utilization to a rotating program with various levels of supplemental feeds being used by different producers. It is apparent that some reserve of supplemental feed (roughage or concentrate) should be available to maintain carrying capacity in those years which adverse climatic conditions are encountered.

Procedure

The test involved forty head of weaner Hereford heifer calves weighing approximately 480 lbs. These animals were randomly allotted to four lots of 10 heifers each. Lots 1 and 3 served as the control groups and were maintained on wheat pasture only from November 21, 1967, to March 14, 1968. Lots 2 and 4 were placed on wheat pasture with access at all times to a high concentrate ration during this same period of grazing. The groups were rotated on the four pasture areas to eliminate field differences. The concentrate feed consisted of:

| | |
|---------------------|---------|
| Ground Milo | 77.00 % |
| Molasses | 8.00 % |
| Chopped Alfalfa Hay | 15.00 % |

Within each lot, one-half of the calves were selected at random to receive a 12 milligram stilbestrol implant at the beginning of the

Table 1. Treatment Design for Wheat Pasture Study

| | Wheat Pasture Lot 1 | Only Lot 3 | Wheat pasture + Lot 2 | Energy Feed Lot 4 |
|--------------------|------------------------|---------------|--------------------------|----------------------|
| 12 mg. Stilbestrol | 5 | 5 | 5 | 5 |
| No Stilbestrol | 5 | 5 | 5 | 5 |

test. Initial and final weights were taken after a 12 hour shrink without feed and water. Wheat pasture was in good supply during the entire grazing period; however, snow covered the pastures for a total of 11 days during the grazing period. Lots 1 and 3 received 21 bales each, while Lots 2 and 4 received 14 bales each of alfalfa hay during this time. Mid-term weights were taken at 58 days on test.

Results

The average response of calves to supplemental energy feed on wheat pasture are summarized in Table 2. Calves having access to a high-concentrate ration while on wheat gained .61 lbs. daily more than the heifers in the control lots. These higher gaining heifers consumed 10.7 lbs. of feed daily in addition to the wheat pasture. It is reasonable to believe that these calves consumed a limited amount of wheat pasture since they were nearing their maximum energy intake by the quantity of concentrate feed consumed. Differences in plant growth of the four lots could not be detected since stocking was at a rate to insure adequate pasture.

Feed conversion based on total concentrate feed consumed against total gains of these calves was a respectful 5.4 to 1. The realistic feed conversion, however, for that additional gain which was apparently obtained as a result of the concentrate feeding was a dismal 17.5 to 1.

Table 2. Response of Heifer Calves to High Energy Feed on Wheat Pasture

| | Wheat Pasture Only | Wheat Pasture + High Energy Feed |
|------------------------------|--------------------|----------------------------------|
| No. of Heifers | 20 | 20 |
| Initial Wt. (11/21/67), lbs. | 481 | 482 |
| Final Wt. (3/14/68), lb. | 637 | 708 |
| Total Gain (114 da), lb. | 156 | 226 |
| Average Daily Gain, lb. | 1.37 | 1.98 |
| Feed Consumed per head | | |
| Hay (during snow cover) lb. | 135 | 90 |
| Concentrate Feed, lb. | | 1216 |

Results associated with the stilbestrol implants gave very similar results to that work which was done in the preceding year. A marked advantage in average daily gains of .22 lb. per day was made by those calves on wheat pasture only when implanted with 12 milligrams of stilbestrol (Table 3). This advantage was closely related to the .24 lbs. per day advantage that was obtained in the preceding year. Results were likewise repeated in this trial whereby no response was obtained from stilbestrol implants on those calves that had access to a high concentrate feed.

The 12 milligrams may not be adequate for the higher energy intake of these calves.

Summary

Four lots of 10 weaner Hereford heifers each were utilized to measure response to high energy feeding on wheat pasture and to evaluate the response to stilbestrol implants. Access to high energy feed while grazing wheat pasture resulted in an increase of .61 lb. of gain daily over those calves on wheat pasture only; however, the added gain was much too low to offset the cost of high energy feed consumed. Stilbestrol implants of 12 mg. showed an increase daily gain of .22 lb. on calves consuming wheat pasture only; however, no response was made on the calves which had access to the high energy feed.

Table 3. Response of Heifer Calves to Stilbestrol Implants

| | Wheat Pasture Only | | Wheat Pasture + High Energy Feed | |
|--|--------------------|----------------|----------------------------------|----------------|
| | <i>Control</i> | <i>Implant</i> | <i>Control</i> | <i>Implant</i> |
| No. of Heifers | 10 | 10 | 10 | 10 |
| Initial Wt. (11/21/67) lb. | 481 | 480 | 478 | 486 |
| Final Wt. (3/14/68) lb. | 625 | 649 | 705 | 711 |
| Total Gain (114 da) lb. | 144 | 169 | 227 | 225 |
| Average Daily Gain, lb. | 1.26 | 1.48 | 1.99 | 1.97 |
| Daily Gain Advantage over Controls, lb. | | + .22 | | — .02 |