Kansas Agricultural Experiment Station Research Reports

Volume 0
Issue 1 *Cattleman's Day (1993-2014)*

Article 1287

1977

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## Recommended Citation

Schwartz, F.; Smith, E.; Riley, Jack G.; and Corah, L. (1977) "Feeding Monensin to yearling cattle on summer grass," *Kansas Agricultural Experiment Station Research Reports*: Vol. 0: Iss. 1. https://doi.org/10.4148/2378-5977.2690

# Feeding Monensin to yearling cattle on summer grass


## Abstract

Two grazing trials conducted at different locations in Kansas evaluated feeding Monensin to grazing yearling cattle. In one trial Monensin was fed with and without implant treatments of diethylstilbestrol or Ralgro. Monensin increased weight gain on summer grass; diethylstilbestrol and Ralgro implants also increased weight gains, and the combination of Monensin with either implant was more effective than Monensin alone.



## Keywords

Report of progress (Kansas State University. Agricultural Experiment Station); 291; Cattlemen's Day, 1977; Beef; Monensin; Yearling cattle; Weight gain





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# Feeding Monensin to Yearling Cattle on Summer Grass

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## Summary

Two grazing trials conducted at different locations in Kansas evaluated feeding Monensin to grazing yearling cattle. In one trial Monensin was fed with and without implant treatments of diethylstilbestrol or Ralgro. Monensin increased weight gain on summer grass; diethylstilbestrol and Ralgro implants also increased weight gains, and the combination of Monensin with either implant was more effective than Monensin alone.

## Introduction

Previous research conducted at Kansas State with the newly released feed additive, Monensin showed average daily gain of cattle on growing rations increased by 5-8% and feed efficiency improved by 10-12%.

The current experiments reported here were conducted during the summer grazing season of 1976 at two locations in Kansas to study the effect of feeding Monensin to yearling cattle during the grazing season.

## Experimental Procedure

### Trial 1

Thirty-six Hereford and Angus-Santa Gertrudis cross steers were randomly allotted into two groups. Both groups were implanted with Ralgro and each grazed a 60-acre native bluestem pasture from April 28 to October 6, 1976. They had available in covered boxes commercial feed blocks[1] composed primarily of cane molasses; soybean meal feed, 20%; salt, 16-20%; and other feed ingredients. One group had Monensin added to the feed block at 327 mg. per pound. All steers were gathered the first of each month, penned overnight without feed or water, weighed the next morning, and rotated between pastures each month.

### Trial 2

Sixty-two yearling cattle of mixed origin were allotted at random to

[1]Feed blocks supplied by A. E. Staley Mfg. Co., Decatur, Ill., whose support is greatly appreciated.

two pasture groups at a ranch in northwestern Kansas.[2] The yearling cattle consisted of 52 steers and 10 heifers with the heifers randomly dispersed through the treatments. They were weighed directly off pasture initially and at the end of the trial. When weighed initially they were implanted, wormed, and vaccinated for black leg. Approximately one-third of the cattle in each pasture group received no implant, one-third were implanted with 30 mg. of diethylstilbestrol (DES), and one-third with Ralgro. The pasture was a typical northwestern Kansas short grass pasture; the two pasture groups were separated by an electric fence.

Two lbs of cracked corn were hand fed daily per head to both pasture groups. Monensin was mixed with the cracked corn to provide 100 mg. per animal per day to one of the pasture groups. The trial started May 2 with the cattle weighed directly off pasture July 21. The Monensin and grain were initially fed to cattle May 17 and then daily through July 21. Thus, Monensin was fed only for 65 days while the implanting comparison covered the full 80-day growing period.

## Results and Discussion

### Trial 1

Gain by steers getting Monensin on native bluestem pasture was 1.60 lbs. per steer daily compared with 1.32 for those not getting Monensin (Table 11.1). Intake of feed blocks available free choice averaged 0.32 lb. per steer daily for the Monensin group, slightly less for the non-Monensin. At that level steers received 123 mg. of Monensin per steer daily.

### Trial 2

Use of Monensin over a 65-day trial increased the average daily gain .26 lb. which resulted in an extra 20.5 lbs. for the full 80-day trial period (Table 11.2). DES and Ralgro implants increased summer gains per animal 12.5 and 18.4 lbs., respectively (Table 11.3). Implants and Monensin in combination gave the best improvement in summer gains--37.6 extra pounds with the DES-Monensin and 35.2 extra pounds with Ralgro-Monensin (Table 11.4).

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[2]Appreciation is expressed to Mr. Stan Albers and Ed Karnes, Hoxie, Kansas, for providing the cattle and pasture and to Sheridan County Extension Agent, Jim Grider, for assistance in conducting the trial.

Table 11.1. Feeding Monensin to steers on summer bluestem pasture - Trial 1.

| | No Monensin lbs. | Monensin lbs. |
|---|---|---|
| Initial weight | 471 | 476 |
| Final weight | 683 | 733 |
| Daily gain | 1.32** | 1.60** |
| Feed block, lbs. consumed per steer daily | | |
| May | 0.17 | 0.23 |
| June | 0.22 | 0.23 |
| July | 0.26 | 0.46 |
| Aug. | 0.43 | 0.30 |
| Sept. | 0.24 | 0.40 |
| Avg. | 0.26 | 0.32 |

** Differ significantly (P<0.01).

Table 11.2. Effect of Monensin on summer gains - Trial 2.

| | Treatment | |
|---|---|---|
| | Control | 100 mg. Monensin/ hd/day |
| No. cattle | 31 | 31 |
| Starting weight, lbs. | 533 | 514 |
| Final weight, lbs. | 681.9 | 683.4 |
| Lbs. gained | 148.9* | 169.4* |
| Average daily gain, lbs. | 1.86* | 2.12* |
| Treatment response, lbs. | | +20.5 |

*P<0.05.

Table 11.3. Effect of implants on summer gains - Trial 2.

| | Treatment | | |
|---|---|---|---|
| | Control | DES | Ralgro |
| No. cattle | 19 | 20 | 23 |
| Starting weight, lbs. | 503.8 | 535.5 | 528.0 |
| Final weight, lbs. | 652.4 | 696.6 | 695.0 |
| Lbs. gained | 148.6[a] | 161.1[b] | 167.0[b] |
| Average daily gain, lbs. | 1.86[a] | 2.01[b] | 2.09[b] |
| Treatment response, lbs. | | +12.5 | +18.4 |

[ab]Means followed by dissimilar letters differ significantly (P<0.05).

Table 11.4 Effect of using Monensin and implants in combination - Trial 2.

| | Control | DES and Monensin | Ralgro and Monensin |
|---|---|---|---|
| No. cattle | 10 | 10 | 12 |
| Starting weight, lbs. | 510 | 524.5 | 517.5 |
| Final weight, lbs. | 646 | 698.1 | 688.7 |
| Lbs. gained | 136[a] | 173.6[b] | 171.2[b] |
| Average daily gain, lbs. | 1.70[a] | 2.17[b] | 2.14[b] |
| Treatment response, lbs. | | +37.6* | +35.2* |

[ab]Means followed by dissimilar letters differ (P<0.05).