Influence of Ralgro® on Suckling Calf Performance on Tall Fescue Pastures with Various Levels of Endophyte Infestation[1]

Frank Brazle[2] and Jack Whittier[3]

Summary

Four hundred and ten cow-calf pairs were allotted to tall fescue pastures containing 40, 45, or 70% endophyte fungus infestation. One half of the calves in each pasture were implanted with Ralgro® initially and reimplanted about 110 days later. Calf gains on the 70% endophyte fungus pasture showed a greater ($P<.05$) response to implanting than those grazing the 40 and 45% endophyte-infested tall fescue pastures during the 165 day trial.

Introduction

Tall fescue pastures infested with high levels of endophytic fungus (Acremonium coenophialum) have resulted in poor gains for grazing animals. Earlier K-State research has shown more than twice the gain response to Ralgro implants in steers grazing 80% compared to 20% infested tall fescue pastures. Research with cow-calf pairs grazing tall fescue has shown a weaning weight response of 52 lbs with Ralgro implants. The objective of this study was to determine if Ralgro has a greater effect on calf performance with cow-calf pairs grazing high compared to low endophyte-infested, fescue pastures.

Experimental Procedures

Mixed-breed cows bred to Romognola bulls were randomly allotted in the winter of 1987 to either 40, 45, or 70% endophyte fungus-infested tall fescue pastures. In May, the calves within each pasture were weighed and randomly allotted by sex to either Control (no implant) or Ralgro groups. Calves in the Ralgro group were implanted with 36 mg zeranol (Ralgro) in May and again after about 110 days. At the end of the trial in October, calves were individually weighed and body condition was scored (1 to 9 scale). The pastures were tested for endophyte fungus level in the spring and again in the fall.

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[2]Extension Livestock Specialist, Southeast Kansas.

[3]Extension Beef Specialist, University of Missouri.

Results and Discussion

Performance of the heifer calves receiving Ralgro implants was improved 15% (P<.05) compared to controls on the 70% endophyte fungus, tall fescue pastures, but only 5% on the 40 and 45% endophyte pastures (Table 16.1). Similarly, the Ralgro-implanted steer calves showed a 12% improvement in gain on the high endophyte pasture compared to 2.5 to 3.5% responses on the 40 and 45% endophyte-infested pastures (Table 16.2). There was a trend toward lower body condition in the nonimplanted calves on the high endophyte-infested, tall fescue pastures, but this was not statistically significant.

This research supports our earlier work that showed a higher response to Ralgro implants on high compared to low endophyte-infested, tall fescue pastures.

Table 16.1 Effect of Ralgro on Suckling Heifer Performance on Endophyte-Infested Fescue Pastures

Item	40% Endophyte Pasture		45% Endophyte Pasture		70% Endophyte Pasture	
	Control	Ralgro	Control	Ralgro	Control	Ralgro
No. Heifers	51	49	45	47	13	14
Starting Wt., lb	169[a]	164[a]	167[a]	165[a]	185[b]	197[b]
Daily Gain, lb	1.72[a]	1.80[a]	1.75[a]	1.84[a]	1.72[a]	1.98[b]
Body Condition Score at Weaning	6.07	6.00	6.13	6.12	5.77	6.14

[abc]Means in a row not sharing a common superscript differ (P<.05).

Table 16.2. Effect of Ralgro on Suckling Steer Performance on Endophyte-Infested Fescue Pastures

Item	40% Endophyte Pasture		45% Endophyte Pasture		70% Endophyte Pasture	
	Control	Ralgro	Control	Ralgro	Control	Ralgro
No. Steers	39	41	42	39	16	14
Starting Wt., lb	179.6[f]	178.8[f]	165.4[e]	166.7[e]	200.3[g]	202.3[g]
Daily Gain, lb	1.73[a]	1.79[ab]	1.80[ab]	1.84[ab]	1.88[b]	2.10[c]
Body Condition Score at Weaning	5.87	6.02	5.83	5.85	5.75	5.93

[abc]Means not sharing a common superscript differ (P<.05).
[efg]Means not sharing a common superscript differ (P<.05).