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Sources of supplemental protein for cows wintered on milo stubble

Abstract

We used 63 pregnant Hereford cows in mid gestation to evaluate need and source of supplemental protein on milo stubble. Cows fed free choice a 16% experimental nonprotein-nitrogen-based liquid supplement lost significantly more weight than cows receiving 2 lbs/head/day of a 16% natural protein cube or cows getting no protein supplement. Cows with access free choice to an 18% commercial nonprotein-nitrogen-based liquid supplement lost significantly more than cows receiving 2 lbs/head/day of 16% natural protein cube.

Keywords

Report of progress (Kansas State University. Agricultural Experiment Station); 291; Cattlemen's Day, 1977; Beef; Protein; Milo

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Sources of Supplemental Protein for Cows Wintered on Milo Stubble

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Summary

We used 63 pregnant Hereford cows in mid gestation to evaluate need and source of supplemental protein on milo stubble. Cows fed free choice a 16% experimental nonprotein-nitrogen-based liquid supplement lost significantly more weight than cows receiving 2 lbs/head/day of a 16% natural protein cube or cows getting no protein supplement. Cows with access free choice to an 18% commercial nonprotein-nitrogen-based liquid supplement lost significantly more than cows receiving 2 lbs/head/day of 16% natural protein cube.

Introduction

Milo stubble is economically important to cow herd operators. Type of protein supplement for cows grazing milo stubble is a part of the total program.

Experimental Procedure

Ninety-four acres of milo stubble was divided into four equivalent areas for grazing. Sixty-three pregnant Hereford cows were allotted into three groups of 16 and one of 15 to graze the stubble. Grazing started November 20, 1975, and ended January 12, 1976 (53 days). Snow cover one day necessitated feeding 400 pounds of wheat straw to each group. Cows were weighed on and off test. At weighing each cow was visually appraised for condition by three persons. Scores of the three were averaged to assign each cow a condition score.

One group of cows went through the test without protein supplementation. A second group was fed 2 lbs/head/day of 16% natural protein cube. The third and fourth groups had free access to non-protein-nitrogen-based liquid supplements. One of the supplements was an 18% protein equivalent provided by a commercial products group, the other was a 16% protein equivalent experimental mixture.

Results

Cow performances are shown in Table 12.1. The cows receiving the cubes had the least change in visual condition score and gained 13 pounds (average). That weight change differed significantly ($P < .01$) from either group on liquid supplement. The cows without supplementation lost less weight and had less change in condition than either group on liquid supplement.

Table 12.1. Performance of cows supplemented with different protein sources while grazing milo stubble (20 Nov. '75 to 12 Jan. '76 - 53 days).

Protein source	No. cows	Avg. daily consumption	Cow weights, lbs. ¹			Condition scores ²		
			Initial	Ending	Change ¹	Initial	Ending	Change
16% natural protein cube	16	2 lbs	996	1009	+13 ^a	5.63	5.18	-.45
No supplement	16	-----	986	982	-4 ^{ab}	5.56	4.91	-.65
18% commercial NPN-based liquid supplement	15	7 lbs	1035	1007	-28 ^{bc}	5.87	4.65	-1.22
16% experimental NPN-based liquid supplement	16	7 lbs	994	947	-47 ^c	5.44	4.41	-1.03

¹Average weights with different superscripts differ significantly ($P < .01$).

²Condition scores visually assigned on scale of 1-10; 1 = extremely thin, 10 = extremely fleshy.