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Energy levels and roughage sources for bulls on 140-day test

Abstract

Eight Hereford, 16 Angus, and 36 part Simmental bulls were tested for 140 days (October 15, 1974 to March 4, 1975) for weight gained. Bulls were divided into four groups and fed four rations that had been formulated for two energy levels (high or medium) and two sources of roughage (corn silage or oats and prairie hay). Average daily gains (lbs.) on the four rations were: high energy silage, 3.36; high energy oats and prairie hay, 3.31; low energy silage, 2.77; and low energy oats and prairie hay, 3.25.

Keywords

Cattlemen's Day, 1976; Report of progress (Kansas State University. Agricultural Experiment Station); 262; Beef; Energy; Roughage; Average daily gains

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Energy Levels and Roughage Sources for Bulls on 140-day Test

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Summary

Eight Hereford, 16 Angus, and 36 part Simmental bulls were tested for 140 days (October 15, 1974 to March 4, 1975) for weight gained. Bulls were divided into four groups and fed four rations that had been formulated for two energy levels (high or medium) and two sources of roughage (corn silage or oats and prairie hay).

Average daily gains (lbs.) on the four rations were: high energy silage, 3.36; high energy oats and prairie hay, 3.31; low energy silage, 2.77; and low energy oats and prairie hay, 3.25.

Introduction

This continued a similar test reported in the 1975 Cattlemen's Day report.

Experimental Procedure

Sixty bulls (8 Hereford, 16 Angus, and 36 part Simmental) produced in the Kansas State University herds were randomly allotted by breed to four rations (table 20.1). Two bulls on the low energy oats and prairie hay ration were removed during the test. Neither was attributed to ration.

Prairie hay was chopped to two-inch lengths so that all rations were completely mixed. Bulls were fed all they would eat twice daily.

Results

Bull performances are reported in table 20.3. Bulls on low energy silage gained significantly less than those on other rations. Similar results were reported from the 1973-1974 test.

Table 20.1 Rations for 140-day weight-gaining test by beef bulls.

Ingredient	Ration ^{***}			
	A	B	C	D
	Silage	Oats and prairie hay	Silage	Oats and prairie hay
	Percentage of feedstuffs on dry matter basis			
Rolled milo	68.3	68.3	6.7	16.7
Supplement*	16.7	16.7	16.7	16.7
Corn Silage	15.0	---	76.6	---
Chopped prairie hay	---	7.5	---	33.3
Rolled oats	---	7.5	---	33.3
NE _m **	90.6	89.9	75.8	74.9
NE _p **	58.4	58.0	45.5	45.3

* Formulation given in table 20.2.

** Calculated.

***A&B = high energy.

C&D = low energy.

Table 20.2 Composition of supplement used with all rations in weight-gaining test.

Ingredient (lbs./ton)	Rations		
	A&B	C	D
Soybean oil meal	1330.0	1686.0	1176.0
Milo	511.3	189.3	694.3
Dicalcium phosphate	16.0	54.0	10.0
Calcium carbonate	80.0	8.0	57.0
Salt	30.0	30.0	30.0
Fat	20.0	20.0	20.0
Trace minerals	5.0	5.0	5.0
Vitamin A	3.0	3.0	3.0
Aurofac-10	4.7	4.7	4.7

A&B = High energy

C&D = Low energy

Table 20.3 Performances of bulls on indicated rations during 140-day test.

	<u>Ration</u> ¹			
	A	B	C	D
No. of bulls	15	15	15	13
Avg. wt. 10-15-74, lbs.	626.5	631.9	623.0	625.5
Avg. age 10-15-74, days	223	227	221	222
Avg. wt. 3-4-75, lbs.	1097.3	1095.3	1011.3	1073.8
Avg. daily D.M. intake, lbs.	19.77	19.53	15.69	20.37
A.D.G., lbs.	3.36	3.31	2.77	3.25

¹ Rations listed in table