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Abstract
Last year in Kansas approximately 3.8 million acres produced 243 million bushels of grain sorghum plus a large amount of forage left in the field as a potential source of feed for livestock. The objective of this report is to indicate the quantity of forage available after normal and early (high-moisture) harvest of sorghum grain.

Keywords
Cattlemen's Day, 1974; Report of progress (Kansas State University. Agricultural Experiment Station); 210; Beef; Grain sorghum; Forage; Yield

Yield and Composition of Grain Sorghum Stover

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Introduction

Last year in Kansas approximately 3.8 million acres produced 243 million bushels of grain sorghum plus a large amount of forage left in the field as a potential source of feed for livestock.

The objective of this report is to indicate the quantity of forage available after normal and early (high-moisture) harvest of sorghum grain.

Experimental Procedure

Effects of sorghum heights, harvest dates, and hybrids on grain and forage yield and quality were studied in 1971 and 1972 at the Agronomy Farm, Manhattan, and the South-central Kansas Experiment Field, Hutchinson. How heights effect grain and forage yield has been reported previously.

Grain and forage were hand harvested from sorghum hybrids RS 650 and RS 702 at approximately 35 and 15 percent grain moisture. Each treatment was replicated six times at each location. Grain was threshed from the heads, and total grain and stover weights were taken and converted to per acre yields.

Crude protein (CP) (Kjeldahl nitrogen x 6.25) and *in vitro* dry matter digestibility (IVDMD) were determined for stover subsamples.

Results and Discussion

Table 12.1 shows the grain and stover yields and stover quality measurements. As plots were hand harvested, yields were total material present and would be greater than could be recovered by machine harvest.

Between the early and late dates of harvest, there were no significant decreases in stover tonage; but in some cases, late harvest gave higher stover yields. These increases (in 1972) were from late growth of branches. Similarly, protein content of the stover differed little between the two harvest dates. Percent IVDMD did not change consistently during harvest. 1971 Manhattan samples seemed to be low in digestibility. Data show that following grain harvest 1.5 to 2.5 tons of stover per acre is available from either early, high moisture or normally harvested grain sorghum.

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[1]Department of Agronomy.

[2]Windscheffel, J. A., R. L. Vanderlip, and A. J. Casady. 1973. Performance of 2-dwarf and 3-dwarf grain sorghum hybrids harvested at various moisture contents. Crop Science 13:215-219.

Table 12.1. Yields of Indicated Grain Sorghums (Grain and Stover) and Stover Quality at Indicated Kansas Locations

Location and year	Hybrid	Grain yield, lb./acre	Stover from high moisture grain harvest				Stover from normal grain harvest			
			Yield, ton/acre	CP, %	IVDMD, %	Grain moisture, %	Yield, ton/acre	CP, %	IVDMD, %	Grain moisture, &
Hutchinson, 1971	RS650	3654	1.63	6.1	43.2	31.9	1.55	6.1	41.9	11.0
	RS702	3543	1.74	5.9	42.6	32.5	1.62	5.5	39.4	11.3
Manhattan, 1971	RS650	6712	2.04	7.6	26.6	32.4	2.00	5.7	29.5	15.6
	RS702	6956	2.66	4.5	27.7	31.5	2.61	3.9	27.1	15.2
Hutchinson, 1972	RS650	3086	1.53	7.8	40.1	30.0	1.49	9.0	29.8	14.2
	RS702	3465	2.06	7.6	36.4	34.8	1.85	8.4	37.3	16.0
Manhattan, 1972	RS650	5437	1.72	10.6	28.2	38.7	2.67	8.7	46.4	15.4
	RS702	6043	2.40	8.9	38.7	38.1	2.84	7.8	39.1	16.1