KANSAS FARM MANAGEMENT & MARKETING HANDBOOK

KSU Farm Management Guide MF-997

Cane Hay Cost-Return Budget (W-CH-F Rotation) in Western Kansas

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Dryland "cane hay" is a popular winter feedstuff for cowherds in western Kansas. It typically will provide slightly less protein than alfalfa hay and as much energy as good quality prairie or alfalfa hay. Many different summer annual forages are included within this broad heading, each with unique growth and vegetative characteristics that allow them to fit into different forage systems.

Sudangrasses—Fine stems, tillers extensively when moisture permits and can regrow rapidly. Because of this, they are best suited to pasturing.

Hybrid Sudangrasses—Similar to true sudangrasses. They also can be grazed but when hayed will yield better than sudangrasses. Because of their regrowth ability, they can sometimes provide two cuttings when rainfall is plentiful in western Kansas.

Sorghum-Sudangrass Hybrids—High producing forage grasses which will out-yield hybrid sudangrasses on a per cutting basis, but will typically provide only one cutting annually. Under normal seeding rates more than 50 percent of their yield will come from the stems, making them better suited for green chop. At heavier seeding rates, the stems will be finer, making them a suitable hay crop.

Forage Sorghums—Are usually tall and mature late, having sweet and juicy stems and relatively small grain heads. Best suited as a silage crop but can be cut for hay, although their stems dry very slowly after cutting.

This guide estimates the costs and returns associated with a typical sorghum sudangrass hybrid planted at heavier seeding rates and harvested as a hay crop in western Kansas. For the best quality hay, harvest should occur before heads emerge or when the plants are 30 to 40 inches tall. A hay conditioner should be used to help speed drying of the stems.

Livestock Poisoning Potential

While not often a problem, the levels of both prussic acid and nitrates in summer annuals can be potentially high enough to be lethal to livestock. The content of these toxins in plants can be affected by variety, climate, soil fertility and plant maturity. Their presence should not deter producers from realizing the potential value of these summer annual forage crops. For more information concerning prussic acid and nitrate poisoning, see *Nitrate and Prussic Acid Toxicity in Forage*, MF-1018, or contact your local county Extension office.

Cost Return Projections and Yield Goals

The following estimated budget includes three different yield levels. Production costs and yield levels for individual farms will vary considerable due to soil type/ land quality, historical weather conditions, fertilizer and chemical rates, the type and amount of farm equipment owned, and management. Budgeting at multiple yield levels can help producers to compare the profitability of crop enterprises on farmland tracts with varying yield potentials. Land values have been adjusted for alternative yield goals in this budget. In customizing this budget to fit your farm, attention should be given to using land values representative of your farm s productive capacity.

Table 1. Factors Used for Cost-Return Budget

Item	Yield Level (tons) 2.00	2.75	3.50	
Fertilizer:				
N (Anhy.)	50	60	70	$0.15/lb
N (Dry)	0	0	0	$0.23/lb
P	0	0	0	$0.27/lb
K	0	0	0	$0.14/lb
Lime	0	0	0	$0.0045/lb
Seed, lbs	15	15	15	
Seed price, $/lb	$0.96	$0.96	$0.96	
Labor hours	1.54	1.80	2.06	
Labor price/hour				$10.80
Land value/acre*	$430	$540	$650	
Land interest rate				6.00%
Land real estate tax rate				0.50%
Machinery investment**				$191
Machinery life				10 yrs
Salvage value				35.00%
Interest rate on machinery				10.00%
Insurance rate on machinery				0.25%
Interest on variable costs				10.00%

All land costs were computed and then multiplied by a factor of 1.5 to account for fallow land.
**Investment required per crop and fallow acres.*

COST-RETURN PROJECTION — CANE HAY (W-CH-F ROTATION) — WESTERN KANSAS

	Yield Level (tons)			Your
	2.00	2.75	3.50	Farm
VARIABLE COSTS PER ACRE:[1]				
1. Labor	$ 16.66	$ 19.44	$ 22.22	
2. Seed	14.40	14.40	14.40	
3. Herbicide				
4. Insecticide				
5. Fertilizer and Lime	7.50	9.00	10.50	
6. Fuel and Oil	3.94	4.59	5.25	
7.				
8. Machinery and Equipment Repairs	18.55	21.64	24.73	
9.				
10. Crop Insurance				
11. Drying				
12. Custom Hire				
13. Crop Consulting				
14. Miscellaneous	5.00	5.00	5.00	
15. Interest on 1/2 Variable Costs	3.30	3.70	4.11	
A. TOTAL VARIABLE COSTS	$ 69.35	$ 77.78	$ 86.21	
FIXED COSTS PER ACRE:[1]				
16. Real Estate Taxes	3.23	4.05	4.88	
17 Interest on Land[2]	38.70	48.60	58.50	
18. Rent for Rented Land				
19. Depreciation on Crop Machinery	12.42	12.42	12.42	
20. Interest on Crop Machinery[3]	12.89	12.89	12.89	
21.				
22.				
23. Insurance on Machinery	0.48	0.48	0.48	
B. TOTAL FIXED COSTS	$ 67.71	$ 78.44	$ 89.16	
C. TOTAL COSTS (A + B)	$137.06	$156.21	$175.37	
D. YIELD PER ACRE	2.00	2.75	3.50	
E. PRICE PER TON[4]	$ 40.00	$ 40.00	$ 40.00	
F. NET GOVERNMENT PAYMENT[4]	$ 11.77	$ 12.80	$ 13.82	
G. INDEMNITY PAYMENTS	$ 0.00	$ 0.00	$ 0.00	
H. MISCELLANEOUS INCOME	$ 0.00	$ 0.00	$ 0.00	
I. RETURNS PER ACRE [(D × E) + F + G + H]	$ 91.77	$122.80	$153.82	
J. RETURNS OVER VARIABLE COSTS (I – A)	$ 22.42	$ 45.02	$ 67.61	
K. RETURNS OVER TOTAL COSTS (I – C)	$ -45.29	$ -33.41	$ -21.55	
L. VARIABLE COSTS PER TON (A ÷ D)	$ 34.67	$ 28.28	$ 24.63	
M. TOTAL COSTS PER TON (C ÷ D)	$ 68.53	$ 56.80	$ 50.11	
N. NET RETURN ON INVESTMENT [(K+15+17+20) ÷ INVESTMENT][5]	1.15%	3.18%	4.63%	

[1]Totals were derived using information listed in Table 1. [2]Assumes interest rate shown in Table 1. [3]Assumes one-half the average investment [(initial investment + salvage value) ÷ 2] at the interest rate shown in Table 1. [4]See MF-1013 "Prices for Crop and Livestock Cost-Return Budgets" and MF-2236 "Government Program Payments for Crop Cost Return Budgets" for additional information on crop prices and program payments. [5]Investment equals total value of all fixed assets shown in Table 1.

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