Cane Hay Cost-Return Budget in Western Kansas

Department of Agricultural Economics — *www.agmanager.info*

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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 such as sudan grasses, hybrid sudan grasses, sorghum-sudan grass hybrids, and forage sorghums are included within the "cane hay" heading. Each of these summer-annual forages has unique growth and vegetative characteristics that allow them to fit into different forage systems.

This guide estimates the costs and returns associated with a typical sorghum sudan grass 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.

Table 1. *Production Inputs — Wheat-Cane Hay-Fallow*

Item	Yield Level (ton) 2.00	2.75	3.50	
Seed, lbs	15	15	15	$0.98/lb
Fertilizer:				
N (anhydrous)	30	52	75	$0.44/lb
N	0	0	0	$0.68/lb
P	33	45	59	$0.80/lb
K	0	0	0	$0.55/lb
Lime	0	0	0	$0.01/lb

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.

Income Per Acre

Crop production costs per unit and net returns are highly dependent on yields. The following estimated budgets include three different yield levels, which are intended to represent expected yields for land of varying quality for a given level of management. Producers can compare the profitability of crop enterprises on farmland tracts with varying yield potential by considering alternative expected yield scenarios. Land values and government payments have been adjusted for alternative yield levels in this budget. In customizing a budget to your farm, attention should be given to using land

Table 2. *Machinery and Land Resources — Wheat-Cane Hay-Fallow*

Item	Yield Level (ton) 2.00	2.75	3.50	Custom Rate
Tillage/Planting/Chemical Applications:				
Sweep	3	3	3	$7.92/a
Disk	0	0	0	$9.89/a
Field cultivate	0	0	0	$9.49/a
Plant	1	1	1	$13.81/a
Anhydrous application	1	1	1	$10.89/a
Fertilizer application	1	1	1	$5.36/a
Herbicide application	0	0	0	$5.47/a
Insecticide application	0	0	0	$5.54/a
Harvest				
Swathing and conditioning	1	1	1	$13.12/a
Sideraking	0	0	0	$4.160/a
Baling (number of bales/a)**	2.67	3.67	4.67	$15.688/bale
Non-machinery labor	0.95	1.08	1.22	$13.00/hr
Land charge/rent	$76.80	$96.00	$115.20	
Interest on capital				6.5%

** Assumes big round bales weighing 1,500 pounds, without net -- cost includes hauling to storage*

values representative of your farm's productive capacity and local farmland market conditions.

Costs Per Acre

Production costs at the three production levels are shown on lines 1-13. Kansas Custom Rates for specific field operations are used to represent fuel and labor costs as well as machinery repair, depreciation, and interest expenses in these budgets. Table 1 identifies the typical seed, fertilizer, herbicide, and insecticide requirements (rate and cost/unit) for conventional-till cane hay. Table 2 outlines the machinery and land resources used for conventional-till cane hay in a wheat-hay-fallow rotation. Each tillage, planting, and harvest operation is identified.

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

	Yield Level (tons)			Your
	2.00	**2.75**	**3.50**	**Farm**
INCOME PER ACRE				
A. Yield per acre	2.00	2.75	3.50	
B. Price per ton	$ 98.82	$ 98.82	$ 98.82	
C. Net government payment	$ 11.22	$ 12.20	$ 13.17	
D. Indemnity payments	$	$	$	
E. Miscellaneous income	$	$	$	
F. Returns/acre ((A × B) + C + D + E)	$ 208.85	$ 283.94	$ 359.03	
COSTS PER ACRE				
1. Seed	$ 14.70	$ 14.70	$ 14.70	
2. Herbicide				
3. Insecticide / Fungicide				
4. Fertilizer and Lime	39.60	58.88	80.20	
5. Crop Consulting				
6. Crop Insurance				
7. Drying				
8. Miscellaneous	5.50	5.50	5.50	
9. Custom Hire / Machinery Expense	108.83	124.51	140.20	
10. Non-machinery Labor	12.30	14.07	15.84	
11. Irrigation				
a. Labor				
b. Fuel and oil				
c. Repairs and Maintenance				
d. Depreciation on Equipment and Well				
e. Interest on Equipment				
12. Land Charge / Rent	76.80	96.00	115.20	
G. SUB TOTAL	$ 257.72	$ 313.66	$ 371.64	
13. Interest on ½ Nonland Costs	5.88	7.07	8.33	
H. TOTAL COSTS	$ 263.60	$ 320.74	$ 379.98	
I. RETURNS OVER COSTS (F - H)	$ -54.75	$ -36.80	$ -20.95	
J. TOTAL COSTS/TON (H ÷ A)	$ 131.80	$ 116.63	$ 108.57	
K. RETURN TO ANNUAL COST (I + 13) ÷ G	-18.96%	-9.48%	-3.39%	

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