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POTENTIAL FOR PROFITS FROM ALFALFA IN EAST TEXAS

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Background. Alfalfa production on the acid soils of East Texas is a reality. Scientists at Texas A&M-Overton have evaluated input requirements for successfully growing alfalfa on several types of soils. Selection of a well-drained soil is of primary importance for success with alfalfa. Subsoil pH above 5.5 in depths to four feet greatly improves yield potential by allowing better root penetration. Once the proper site has been selected, the surface 6-inch-depth soil pH must be adjusted to 7.0 by limestone application. Additional inputs necessary to prepare the soil and establish alfalfa include proper fertilization based on soil nutrient levels as determined by soil analysis. High quality lime, fertilizer, and seed are important inputs critical to the production of alfalfa on acid soils. Other nutrients found critical for alfalfa production on acid, humid-region soils include phosphorus, potassium, calcium, magnesium, sulfur, and boron.

The final and probably most important item needed before planting is an economic analysis. Estimated yields, prices, and costs are incorporated into budgets to evaluate the potential profitability of growing alfalfa under conditions found on specific sites.

Research Findings. The experiences of growing alfalfa for three years at Texas A&M-Overton served as the basis for developing a budget format to estimate the potential profitability of this enterprise. The budget template was then used to illustrate the economic impact of different initial fertility levels and yields associated with growing alfalfa under alternative conditions and strategies. These results are reported in a companion paper.

Estimated costs of establishing alfalfa using 9-in rows on low fertility soils was \$343/ac. Projected net returns for the first year of production after paying annual production costs, overhead, and an amortized establishment cost was \$328/ac. Revenue was estimated by valuing alfalfa and hybrid bermudagrass using currently reported hay prices.

Application. Table 1 presents one scenario for a projected alfalfa budget. The budget reflects experimental results with sites being managed using best management practices as recommended by production specialists. It shows that under proper conditions and with sufficient attention to management, alfalfa can be a profitable alternative enterprise for East Texas.

Table 1. Projected costs and returns per acre during the establishment year for alfalfa grown on low fertility soils at 9" row spacing in East Texas.

REVENUE				
	Quantity	Units	Price	Total
Alfalfa	4.43	tons	\$135.00	\$598
Coastal Bermuda	1.60	tons	\$60.00	\$96
Total revenue:				<u>\$694</u>
EXPENSES				
	Quantity	Units	Price	Total
Establishment				
Soil sample - surface	1	samples	\$15.00	\$15.00
Soil sample - depths	4	samples	\$10.00	\$40.00
Disking	3	times	\$10.00	\$30.00
Rolling/seedbed prep.	1	times	\$5.00	\$5.00
Lime, ECCE 100	3	tons	\$30.00	\$90.00
Seed	20	lbs	\$3.25	\$65.00
No-till seeding-custom/equip rental	1	times	\$10.00	\$10.00
*Fertilizer (18-46-0)	261	lbs	\$0.13	\$33.28
*Fertilizer (0-0-60)	183	lbs	\$0.08	\$14.64
*Fertilizer (0-0-22) (K+Mg+SO ₄)	182	lbs	\$0.09	\$16.38
*Borate, 14.3% B	28	lbs	\$0.41	\$11.34
*Copper, 25% Cu	4	lbs	\$1.00	\$4.00
*Zinc, 20% Zn	5	lbs	\$0.17	\$0.83
Weed control-at planting	1	times	\$8.00	\$8.00
Total establishment				<u>\$343.46</u>
*Costs incurred during establishment, but included with annual production costs (not amortized) as these will be utilized in the first year of production.				
Annual production costs:				
Fertilizer (18-46-0)	0	lbs	\$0.13	\$0.00
Fertilizer (0-0-60)	250	lbs	\$0.08	\$20.00
Fertilizer (0-0-22) (K+Mg+SO ₄)	0	lbs	\$0.09	\$0.00
Zinc, 20% Zn	0	lbs	\$0.17	\$0.00
Borate, 14.3% B	0	lbs	\$0.41	\$0.00
Copper, 25% Cu	0	lbs	\$1.00	\$0.00
Insecticide-alfalfa weevil:	1	times	\$5.00	\$5.00
Insecticide-leathoppers/grasshoppers:	0	times	\$5.50	\$0.00
Insecticide-blister beetle:	0	times	\$9.00	\$0.00
Weed control-broadleaf:	1	times	\$6.50	\$6.50
Machinery:				
Fuel & Lube:	1	acre	\$6.50	\$6.50
Repairs:	1	acre	\$2.00	\$2.00
Labor:	1	hour	\$8.00	\$8.00
Other	0	acre	\$0.00	\$0.00
Total production costs - if grazing: (includes * from establishment above)				<u>\$128.46</u>
Hay harvesting - round bales	6.03	ton	\$25.00	\$150.75
Operating capital interest (6 mo):	279.2125	dol	10.00%	\$13.96
Total:				<u>\$293.17</u>
Overhead:				
Machinery & equipment:	1	acre	\$10.00	\$10.00
Establish	5 years	1 acre	\$52.60	\$52.60
Land:	1	acre	\$15.00	\$15.00
Total Overhead:				<u>\$77.60</u>
Total All Expenses:				<u>\$370.77</u>
Net Projected Returns (based on value of hay):				<u>\$323.28</u>

Sections may not add exactly due to rounding errors.

*Applied at establishment, but included as production costs for year 1.