NC STATE UNIVERSITY

Ladino Clover-Cool Season Grass Pasture: Estimated revenue, operating cost, fixed cost, and net returns per acre in the establishment year (No-till).

Budget 87-1
6/1/2013

Description	Unit	Price	Quantity	Value	Comments
Operating inputs					
-Lime, applied	Ton	$50.00	2.00	$100.00	
-5-20-20, dry bulk	Cwt.	$29.70	5.00	148.50	
-Fert. Spread, custom	Acre	$7.00	1.00	7.00	
-Burndown Herbicide	Acre	$5.00	1.00	5.00	
-Grass Seed	lb.	$2.00	10.00	20.00	
-Clover Seed	lb.	$3.75	4.00	15.00	
-Clover seed inoculant	lb.	$0.20	4.00	0.80	
-Other:				0.00	
-Other:				0.00	
-Machinery Labor (From Table 2)				10.39	
-Other Labor	Hours	$12.00	0.00	0.00	
-Machinery Fuel, Maint, Repairs (Table 2)	Acre			10.04	
-Annual Operating Capital[a]	$	5.0%	79.18	3.96	
Total Operating Costs				**$320.70**	
			Amount	**Value**	
Fixed Costs					
-Machinery Depr, Taxes, Insurance,					
& Interest (From Table 1)				$12.54	
Total Cost				**$333.23**	
	Unit	**Price[b]**	**Quantity**	**Value**	
Production					
-Harvested as Pasture, Dry Matter	Ton	$40.00	0.00	0.00	
Total Receipts				**$0.00**	
RETURNS ABOVE TOTAL OPERATING COST				**-$320.70**	
RETURNS ABOVE ALL SPECIFIED COSTS[c]				**-$333.23**	

[a] Interest on operating expenses for an average of 3 months.

[b] Estimated value of pasture or the actual rent received if rented out

[c] This is the net cost per acre in the establishment year, calculated as the Total Establishment Cost LESS the value of the pasture produced during the establishment year, if any.

NOTES

Pasture typically is 65% digestible and provides 1300 pounds of TDN per ton of dry matter.
One half ton of pasture dry matter typically provides 43 animal unit days of grazing. A beef cow = 1 AU.
Budget does not include the cost of managing grazing animals.

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Table 1. Initial investment in specialized equipment and annual ownership expenses

Operation and Item		Life	Initial Cost	Salvage Value	Deprec-iation[a]	Interest[b]	Tax & Ins.[c]	Annual D.I.T.I.	Annual Use	D.I.T.I. per Hour	Acres per Hour	Expense per Acre[d]	Times Over[e]	Total Expense
		Years	$	$	$	$	$	$	Hours	$	No.	$	No.	$/Acre
Rate Charged, percent ====>						5.00%	1.40%							
Land preparation														
Tractor, HP=	55	10	23,150	7,177	1,597	758	212	2,568	500	5.14	3.5	1.47	0	0.00
+ Chisel plow		10	3,675	1,213	246	122	34	403	100	4.03	3.5	1.15	0	0.00
Tractor, HP=	55	10	23,150	7,177	1,597	758	212	2,568	500	5.14	5.4	0.95	0	0.00
+ Disc		10	6,150	1,845	431	200	56	686	100	6.86	5.4	1.27	0	0.00
Tractor, HP=	35	10	19,075	5,913	1,316	625	175	2,116	500	4.23	5.4	0.78	0	0.00
+ Harrow		10	1,500	450	105	49	14	167	100	1.67	5.4	0.31	0	0.00
Spraying														
Tractor, HP=	35	10	19,075	5,913	1,316	625	175	2,116	500	4.23	11.1	0.38	1	0.38
+ Sprayer		15	2,350	940	94	82	23	199	80	2.49	11.1	0.22	1	0.22
Planting														
Tractor, HP=	55	10	23,150	7,177	1,597	758	212	2,568	500	5.14	3.8	1.35	1	1.35
+ No-till Drill		12	15,850	6,340	793	555	155	1,503	100	15.03	3.8	3.95	1	3.95
Other														
Pickup Truck, 3/4 Ton		10	30,225	7,859	2,237	952	267	3,455	500	6.91	10	0.69	4	2.76
TOTAL														**$12.54**

[a] Depreciation = (Initial cost - Salvage value) / years of life

[b] Interest on investment = ((Initial cost + Salvage value) / 2) X interest rate

[c] Combined rate of property taxes and insurance premiums as a percentage of the average investment

[d] Per acre costs for self-propelled vehicles include an additional 10% allowance for travel time from farm to field

[e] Total number of trips across the field per year for this operation

Table 2. Operating expense for forage machinery and equipment per hour and per acre

Operation and Item		Repairs & Maint.[a]	Repairs & Maint.	Repairs & Maint.[b]	Fuel Use	Cost per Gal	Fuel & Lube[c]	Total Cost	Acres per Hour	Times Over	Equip. Op. Cost[d]	Labor Cost	Labor Cost[e]	Total Expense
		%	$/Year	$/Hour	Gals/hr	$	$/Hour	$/Hour	No.	No.	$/Acre	$/Hour	$/Acre	$/Acre
Fuel cost per gallon & Labor cost per hour ====>						3.45						12.00		
Tractor, HP=	55	2%	463	0.93	2.42	3.45	9.60	10.53	3.5	0	0.00	12.00	0.00	0.00
+ Chisel plow		3%	110	1.10	0	0.00	0.00	1.10	3.5	0	0.00			0.00
Tractor, HP=	55	2%	463	0.93	2.42	3.45	9.60	10.53	5.4	0	0.00	12.00	0.00	0.00
+ Disc		2%	123	1.23	0	0.00	0.00	1.23	5.4	0	0.00			0.00
Tractor, HP=	35	2%	382	0.76	1.54	3.45	6.11	6.87	5.4	0	0.00	12.00	0.00	0.00
+ Harrow		3%	45	0.45	0	0.00	0.00	0.45	5.4	0	0.00			0.00
Tractor, HP=	35	2%	382	0.76	1.54	3.45	6.11	6.87	11.1	1	0.68	12.00	1.24	1.92
+ Sprayer		3%	71	0.88	0	0.00	0.00	0.88	11.1	1	0.09			0.09
Tractor, HP=	55	2%	463	0.93	2.42	3.45	9.60	10.53	3.8	1	3.05	12.00	3.63	6.68
+ No-till Drill		1%	159	1.59	0	0.00	0.00	1.59	3.8	1	0.46			0.46
Pickup Truck, 3/4 Ton		2%	605	1.21	3.00	3.45	11.90	13.11	10	4	5.77	12.00	5.52	11.29
TOTALS											**$10.04**		**$10.39**	**$20.44**

[a] Repairs and maintenance costs are calculated as a % of the initial cost in Table 1. Percentages are higher for equipment that is bought used.

[b] Repairs and maintenance costs per hour based on annual use shown in Table 1.

[c] Total fuel cost plus lube costs estimated as 15% of the fuel cost.

[d] Per acre costs for tractors and other self-propelled equipment includes an additional 10% allowance for travel time from farm to field.

[e] Labor cost per acre includes an additional 15% allowance for travel time, setting up and finishing up.

Table 3. Sensitivity Analysis

This table shows the annual charge to recover establishment cost under various assumptions about costs and stand life or planning horizon. Specifically, the cost shown in the enterprise budget on the first page are believed to be fairly representative of conditions in North Carolina. However, there is a wide variation in conditions from one farm to another and costs can vary from year to year. The table shows the effects of costs that are 10% higher or lower than the basic budget, singly and in combination with variations in stand life or planning horizon. Stand life is affected by many factors including persistance and farming plans may call for a stand to be replaced by another crop for reasons other than stand persistance. The annual prorated costs shown in the table do not include an interest charge on this investment.

AVERAGE ANNUAL ESTABLISHMENT COST PER ACRE OVER THE LIFE OF THE STAND

STAND LIFE OR PLANNING HORIZON

COST	5 Years	10 Years	20 Years
-10%	-$59.98	-$29.99	-$15.00
Base	-$66.65	-$33.32	-$16.66
+ 10%	-$73.31	-$36.66	-$18.33