

Cool Season Grass Clover, Hay, Round Bale
Estimated Expenses per Acre^{1,2}

Item	Description	Unit	Quantity	Price	Amount (\$/acre)	Amount (\$/ton)	Amount (\$/bale)	Round
Income								
Hay	Orchardgrass/Clover	ton	2.00	\$ 220.00	\$ 440.00	\$ 220.00	\$ 78.10	4x5 710
Expenses								
Prorated Establishment Costs		acre	0.17	\$ 309.24	\$ 51.54	\$ 25.77	\$ 9.15	
Fertilizer	N ³	lb	60.00	\$ 0.60	\$ 35.92	\$ 17.96	\$ 6.38	
	P2O5	lb	30.00	\$ 0.61	\$ 18.41	\$ 9.20	\$ 3.27	
	K2O	lb	30.00	\$ 0.41	\$ 12.26	\$ 6.13	\$ 2.18	
	Custom Application	acre	1.00	\$ 12.71	\$ 12.71	\$ 6.36	\$ 2.26	
Lime & Application ^{4,5}	Custom Application	ton	0.33	\$ 43.63	\$ 14.40	\$ 7.20	\$ 2.56	
Weed Control								
Post-Emerge ⁶	Herbicide Application	acre	1.00	\$ 12.30	\$ 12.30	\$ 6.15	\$ 2.18	
	Custom Application	acre	1.00	\$ 11.81	\$ 11.81	\$ 5.91	\$ 2.10	
Pest Control	Pest Control Application	acre		\$ 6.51	\$ -	\$ -	\$ -	
	Custom Application	acre		\$ 11.81	\$ -	\$ -	\$ -	
Total Variable Expenses					\$ 169.34	\$ 84.67	\$ 30.06	
Return over Variable Expenses					\$ 270.66	\$ 135.33	\$ 48.04	
Custom Machinery Cost								
Disk Mowing		cutting	2	\$ 16.50	\$ 33.00	\$ 16.50	\$ 5.86	
Tedding		cutting	2	\$ 6.67	\$ 13.34	\$ 6.67	\$ 2.37	
Raking		cutting	2	\$ 8.67	\$ 17.34	\$ 8.67	\$ 3.08	
Baling		cutting	2	\$ 13.17	\$ 74.20	\$ 37.10	\$ 13.17	
Hauling		bale	5.63	\$ 5.42	\$ 30.54	\$ 15.27	\$ 5.42	
Total Custom Machinery Cost					\$ 168.41	\$ 84.21	\$ 29.89	
Interest on Operating Capital	6 months	acre	\$ 169.34	8.0%	\$ 6.77	\$ 3.39	\$ 1.20	
Cash Rent		acre	1		\$ -	\$ -	\$ -	
Storage								
Fixed Cost	Hay Barn	bale	5.63	\$ 4.43	\$ 24.97	\$ 12.49	\$ 4.43	
Shrinkage Loss ⁷		annual	3.5%		\$ 12.06	\$ 6.03	\$ 2.14	
Total Storage Cost					\$ 37.03	\$ 18.52	\$ 6.57	
Total Budgeted Expenses					\$ 381.56	\$ 190.78	\$ 67.73	
Return to Land & Management					\$ 58.44	\$ 29.22	\$ 10.37	

Cool Season Grass/Clover Hay, Establishment
Estimated Expenses per Acre

Item	Description	Unit	Quantity	Price	Amount (\$/acre)
Expenses					
Burndown	Burndown	acre	1.00	\$ 15.66	\$ 15.66
Seed	Orchardgrass	lb	12.50	\$ 3.02	\$ 37.75
	Red Clover	lb	4.00	\$ 3.33	\$ 13.32
	White Clover	lb	2.00	\$ 4.57	\$ 9.14
Fertilizer	N	lb	30.00	\$ 0.60	\$ 17.96
	P2O5	lb	60.00	\$ 0.61	\$ 36.81
	K2O	lb	60.00	\$ 0.41	\$ 24.53
	Custom Application	acre	1.00	\$ 12.71	\$ 12.71
Lime & Application	Custom Application	ton	2.00	\$ 43.63	\$ 87.26
Total Variable Expenses					\$ 255.14
Custom Machinery Cost					
Spraying		acre	1	\$ 11.81	\$ 11.81
No-till Drill		acre	1	\$ 17.08	\$ 17.08
Broadcast Seeding		acre	1	\$ 15.00	\$ 15.00
Total Custom Machinery Cost					\$ 43.89
Interest on Operating Capital	6 months	acre	\$ 255.14	8.0%	\$ 10.21
Total Budgeted Expenses					\$ 309.24

Establishment
Prorated Over Years
6⁸

Cool Season Grass Clover, Hay- Orchardgrass

Sensitivity Analysis

Sensitivity Analysis

Return Above Variable Expenses

		Price (\$/ton)				
		\$ 170.00	\$ 195.00	\$ 220.00	\$ 245.00	\$ 270.00
1.0	\$	0.66	\$ 25.66	\$ 50.66	\$ 75.66	\$ 100.66
1.5	\$	85.66	\$ 123.16	\$ 160.66	\$ 198.16	\$ 235.66
2.0	\$	170.66	\$ 220.66	\$ 270.66	\$ 320.66	\$ 370.66
2.5	\$	255.66	\$ 318.16	\$ 380.66	\$ 443.16	\$ 505.66
3.0	\$	340.66	\$ 415.66	\$ 490.66	\$ 565.66	\$ 640.66

Yield

Return Above Fixed Expenses

		Price (\$/ton)				
		\$ 170.00	\$ 195.00	\$ 220.00	\$ 245.00	\$ 270.00
1.0	\$	(211.56)	\$ (186.56)	\$ (161.56)	\$ (136.56)	\$ (111.56)
1.5	\$	(126.56)	\$ (89.06)	\$ (51.56)	\$ (14.06)	\$ 23.44
2.0	\$	(41.56)	\$ 8.44	\$ 58.44	\$ 108.44	\$ 158.44
2.5	\$	43.44	\$ 105.94	\$ 168.44	\$ 230.94	\$ 293.44
3.0	\$	128.44	\$ 203.44	\$ 278.44	\$ 353.44	\$ 428.44

Yield

Return Above Variable Expenses

		Variable (per bale)	Total Costs (per bale)
1.1	\$	\$53.44	\$120.40
1.5	\$	\$40.08	\$90.30
2.0	\$	\$30.06	\$67.73
2.5	\$	\$24.05	\$54.18
3.1	\$	\$19.24	\$43.35

Yield

Return Above Fixed Expenses

		Price (\$/bale)				
		\$ 68.10	\$ 73.10	\$ 78.10	\$ 83.10	\$ 88.10
1.6	\$	(165.44)	\$ (160.44)	\$ (155.44)	\$ (150.44)	\$ (145.44)
3.6	\$	(36.90)	\$ (31.90)	\$ (26.90)	\$ (21.90)	\$ (16.90)
5.6	\$	0.37	\$ 5.37	\$ 10.37	\$ 15.37	\$ 20.37
7.6	\$	18.12	\$ 23.12	\$ 28.12	\$ 33.12	\$ 38.12
9.6	\$	28.49	\$ 33.49	\$ 38.49	\$ 43.49	\$ 48.49

Yield
(bale)

Cool Season Grass and Cool Season Grass and Clover Assumptions

1. The budget is based on custom rates for machinery processes. Labor, operating, maintenance, and ownership costs are included in these rates. The baling rate includes binding.
2. The budget is based on no-till establishment.
3. Sixty pounds of nitrogen will be applied in March, with the remainder applied during the growing season. If clover is included, it is assumed that 60 pounds of nitrogen will come from the clover.
4. Lime prorated at one ton over three years.
5. For a more accurate fertilizer and lime recommendation, take a soil sample. ([Instructions on how to take a soil sample.](#))
6. The post-emergence weed control is based on an average of three common practices. Burndown is a common practice. For weed control and/or burndown recommendations, contact the county Extension office. ([County office contact information.](#))
7. Storage loss is based on an average of multiple studies.
8. Establishment pro-rated expenses for hay are set for six years.