

Is Fertilizer Too High To Buy?

Estimated Yield Loss From
Reduced Nitrogen Application

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Assumptions

- Nitrogen Cost
 - \$475 per ton for 34% ammonium nitrate
- Yield reductions calculated from “Beef Cattle Management & Marketing Systems” software



Selecting Hay Value

- Depends on individual situation
 - Buying
 - Selling
 - Feeding own production
- Cost of Production
- Buy/Sell Price
- Bale Type
- Bale Weight



Gain/Loss From Reduced AN Grass Hay

Units N	Less Cost	Yield	Hay Value Per Ton			
			\$40	\$60	\$80	\$100
60		2.26				
45	\$9.93	2.05	\$1.53	-\$2.67	-\$6.87	-\$11.07
30	\$19.85	1.84	\$3.05	-\$5.35	-\$13.74	-\$22.15

Grass/Clover Hay

- 30% Clover
- 60 lbs. N application – 2.26 tons/acre
- 30 lbs. N application – 2.25 tons/acre



Gain/Loss From Reduced AN Summer Annual Hay

Units N	Less Cost	Yield	Hay Value Per Ton			
			\$40	\$60	\$80	\$100
120		5.08				
90	\$19.85	4.47	-\$4.54	-\$16.75	-\$28.95	-\$41.15
60	\$39.71	3.85	-\$9.49	-\$34.09	-\$58.69	-\$83.29

Gain/Loss From Reduced AN Bermuda Hay

Units N	Less Cost	Yield	Hay Value Per Ton			
			\$40	\$60	\$80	\$100
240		6.04				
180	\$39.71	4.80	-\$9.89	-\$34.69	-\$59.49	-\$84.29
120	\$79.41	3.95	-\$4.19	-\$45.99	-\$87.79	-\$129.59

Input Costs

- Ammonium Nitrate (ton) \$450
- DAP (ton) \$675
- Potash (ton) \$850
- Fertilizer Application (acre) \$5.00
- Diesel (gallon) \$2.50

Grass/Clover Hay Establishment Variable Cost

• Seed	37.00
• Fertilizer (30-60-60)	96.00
• Lime (2 tons)	55.00
• Fuel & Oil	24.00
• Repairs	14.00
• Operating Interest	<u>9.00</u>
• Total Variable Cost	\$235.00

Grass/Clover Hay Establishment Fixed Cost

Grass/Clover Hay Establishment Total Cost

• Variable	\$235
• Fixed	17
• Labor (2.31 hrs @\$8.50)	<u>20</u>
• Total Cost Per Acre	\$272
• Pro-rated 6 years	\$45.33

Grass/Clover Hay Production

Variable Cost - 2 Cuttings/Year

• Fertilizer (60-30-30)	81.00
• Overseeding	6.00
• Weed Control	3.50
• Twine	1.25
• Fuel & Oil	26.00
• Repairs	28.00
• Operating Interest	<u>6.00</u>
• Total	151.75

Grass/Clover Hay Production Variable Cost - 2 Cuttings/Year

Grass/Clover Hay Production Variable Cost - 2 Cuttings/Year

Grass/ Clover Hay Production Costs Per Ton

Yield/Acre	Cash/Ton	Fixed/Ton	Labor/Ton	Total/Ton
1.5	\$101.33	\$46.00	\$22.67	\$170.00
2.0	76.00	34.50	17.00	127.50
2.5	60.80	27.60	13.60	102.00
3.0	50.67	23.00	11.33	85.00
3.5	43.43	19.71	9.71	72.86

Grass/Clover Hay

Cash Cost Only

Yield	Price Per Ton								
	60.00	65.00	70.00	75.00	80.00	85.00	90.00	95.00	100.00
0.5	-163	-161	-158	-156	-153	-151	-148	-146	-143
1	-133	-128	-123	-118	-113	-108	-103	-98	-93
1.5	-103	-96	-88	-81	-73	-66	-58	-51	-43
2	-73	-63	-53	-43	-33	-23	-13	-3	7
2.5	-43	-31	-18	-6	7	20	32	45	57
3	-13	2	17	32	47	62	77	92	107
3.5	17	35	52	70	87	105	122	140	157
4	47	67	87	107	127	147	167	187	207
4.5	77	100	122	145	167	190	212	235	257

Grass/Clover Hay

Cash and Fixed Cost

Yield	Price Per Ton								
	60.00	65.00	70.00	75.00	80.00	85.00	90.00	95.00	100.00
0.5	-232	-230	-227	-225	-222	-220	-217	-215	-212
1	-202	-197	-192	-187	-182	-177	-172	-167	-162
1.5	-172	-165	-157	-150	-142	-135	-127	-120	-112
2	-142	-132	-122	-112	-102	-92	-82	-72	-62
2.5	-112	-100	-87	-75	-62	-50	-37	-25	-12
3	-82	-67	-52	-37	-22	-7	8	23	38
3.5	-52	-35	-17	1	18	36	53	71	88
4	-22	-2	18	38	58	78	98	118	138
4.5	8	31	53	76	98	121	143	166	188

Grass/Clover Hay

Total Cost

Yield	Price Per Ton								
	60.00	65.00	70.00	75.00	80.00	85.00	90.00	95.00	100.00
0.5	-266	-264	-261	-259	-256	-254	-251	-249	-246
1	-236	-231	-226	-221	-216	-211	-206	-201	-196
1.5	-206	-199	-191	-184	-176	-169	-161	-154	-146
2	-176	-166	-156	-146	-136	-126	-116	-106	-96
2.5	-146	-134	-121	-109	-96	-84	-71	-59	-46
3	-116	-101	-86	-71	-56	-41	-26	-11	4
3.5	-86	-69	-51	-34	-16	2	19	37	54
4	-56	-36	-16	4	24	44	64	84	104
4.5	-26	-4	19	42	64	87	109	132	154

Grass Hay

\$293 Per Acre Total Cost

Yield/Tons	Cost/Ton
1.5	\$195
2.5	\$117
3.5	\$84

Summer Annual Hay

\$362 Per Acre Total Cost

Yield/Tons	Cost/Ton
1.5	\$241
3.0	\$121
4.5	\$80

Alfalfa Hay

\$526 Per Acre Total Cost

Yield/Tons	Cost/Ton
2.5	\$211
3.5	\$150
4.5	\$117

Bermuda Hay

\$617 Per Acre Total Cost

Yield/Tons	Cost/Ton
2.0	\$308
4.0	\$154
6.0	\$103

Winter Annual Hay

\$280 Per Acre Total Cost

Yield/Tons	Cost/Ton
1.0	\$280
2.0	\$140
3.0	\$93

Hay Price/Ton Per Bale Weight

Weight	\$25/Bale	\$30/Bale	\$35/Bale	\$40/Bale	\$45/Bale
800	\$62.50	\$75.00	\$87.50	\$100.00	\$112.50
1,000	50.00	60.00	70.00	80.00	90.00
1,200	41.67	50.00	58.33	66.80	75.15
1,400	35.71	42.85	50.00	57.14	64.35
1,600	31.25	37.50	43.75	50.00	56.25

Where am I?

Where do I want to be?

How do I get there?

FINPACK™

At A Glance



All information is confidential.

No cost to participating farm families.

FINPACK Components

- Balance Sheet
- Enterprise Budgets
- Long-range planning
- Cash flow planning
- Year-end analysis

Use FINPACK to compare:

- Returns for growing hay vs. purchasing hay
- Using custom operators vs. owning hay equipment
- Intensive grazing to continuous grazing
- Selling calves at weaning vs. pre-conditioning and/or retained ownership
- Raising replacement heifers vs. purchasing replacements

Questions

THE UNIVERSITY of TENNESSEE Extension

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Farm Financial Management and Marketing Educational Programs for All Tennessee Farm Families



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