Agricutural Extension Service
The University of Tennessee

Hay Production, Marketing and Storage

Variables to Consider

- Number of cows
- Land availability
- Age and reliability of equipment
- Cost of new equipment
- Time availability
- Adequate hay supply at reasonable price
- Tax considerations
- Desire of producer

Hay Production Cost
Variable Cost

• Fertilizer	31.40
• Overseeding	5.21
• Weed Control	1.01
• Twine	1.44
• Fuel & Oil	2.79
• Repairs	26.80
• Operating Interest	3.43
• **Total**	**72.08**

Hay Production Cost
Fixed Cost

- Pro-rated Establishment 29.41
- Machinery
  - Depreciation 17.34
  - Interest 24.95
  - Housing & Insurance 1.80
- **Total** **73.50**

Hay Production Cost
Total

• Variable	$72
• Fixed	74
• Labor (5.95 hrs @$8)	48
• **Total Cost Per Acre**	**$193**

Hay Production Costs Per Ton

Yield/Acre	Cash/Ton	Fixed/Ton	Labor/Ton	Total/Ton
1.5	$48.00	$49.33	$32.00	$128.67
2.0	36.00	37.00	24.00	96.50
2.5	28.80	29.60	19.20	77.20
3.0	24.00	24.67	16.00	64.33
3.5	20.57	21.14	13.71	55.14

Grass/Clover Hay

Cash Cost Only

					Price Per Ton					
		20.00	25.00	30.00	35.00	40.00	45.00	50.00	55.00	60.00
Yield										
1.5		-42	-35	-27	-20	-12	-5	3	11	18
1.75		-37	-28	-20	-11	-2	7	16	24	33
2		-32	-22	-12	-2	8	18	28	38	48
2.25		-27	-16	-5	7	18	29	41	52	63
2.5		-22	-10	3	16	28	41	53	66	78
2.75		-17	-3	11	24	38	52	66	79	93
3		-12	3	18	33	48	63	78	93	108
3.25		-7	9	26	42	58	74	91	107	123
3.5		-2	16	33	51	68	86	103	121	138

Grass/Clover Hay

Cash and Fixed Cost

					Price Per Ton					
		20.00	25.00	30.00	35.00	40.00	45.00	50.00	55.00	60.00
Yield										
1.5		-116	-109	-101	-94	-86	-79	-71	-64	-56
1.75		-111	-102	-94	-85	-76	-67	-59	-50	-41
2		-106	-96	-86	-76	-66	-56	-46	-36	-26
2.25		-101	-90	-79	-67	-56	-45	-34	-22	-11
2.5		-96	-84	-71	-59	-46	-34	-21	-9	4
2.75		-91	-77	-64	-50	-36	-22	-9	5	19
3		-86	-71	-56	-41	-26	-11	4	19	34
3.25		-81	-65	-49	-32	-16	0	17	33	49
3.5		-76	-59	-41	-24	-6	12	29	47	64

Grass/Clover Hay

Total Cost

					Price Per Ton				
		20.00	25.00	30.00	35.00	40.00	45.00	50.00	55.00	60.00
Yield										
1.5		-163	-156	-148	-141	-133	-126	-118	-111	-103
1.75		-158	-149	-141	-132	-123	-114	-106	-97	-88
2		-153	-143	-133	-123	-113	-103	-93	-83	-73
2.25		-148	-137	-126	-114	-103	-92	-81	-69	-58
2.5		-143	-131	-118	-106	-93	-81	-68	-56	-43
2.75		-138	-124	-111	-97	-83	-69	-56	-42	-28
3		-133	-118	-103	-88	-73	-58	-43	-28	-13
3.25		-128	-112	-96	-79	-63	-47	-31	-14	2
3.5		-123	-106	-88	-71	-53	-36	-18	-1	17

Cost Varies By Type

Crop	Cost Per Acre	Avg. Yield
Alfalfa	$304	3.5
Cool Season Grass	220	2.5
Cool Season Grass/Clover	193	2.5
Summer Annuals	209	3.0
Winter Annuals	151	2.0
Bermudagrass	305	4.0

Assumptions

- 50 cow herd
- 1.70 tons hay consumed per cow
- 2.5 tons per acre yield
- 2 cuttings per year of grass/clover hay

Hay Requirements
50 Cow Herd

Storage Method	Percent Loss	Tons Hay Used	Acres	Total Cost
Barn	14.5	100	40	$7,720
Tarped on Rock Pad	20.7	108	42	$8,299
Tarped on Tires/Pallets	22.6	110	44	$8,492
Tarped on Ground	28	119	48	$9,168
Uncovered on Ground	37.3	137	55	$10,519

Annual Storage Costs

	Initial Cost	Life/ Years	Depr	Int. 6%	Repair Cost	Total Cost
Barn	10,500	20	525	315	260	1,100
Tarp	600	4	150	30		180
Rock Pad	300	20	15	9	15	39

Production + Storage Costs
50 Cow Herd

Storage Method	Annual Prod. Cost	Annual Storage Cost	Production + Storage Cost	Comparison to Barn
Barn	$7,720	$1,100	$8,820	0
Tarped on Rock Pad	8,299	219	8,518	-302
Tarped on Tires/Pallets	8,492	180	8,672	-148
Tarped on Ground	9,168	180	9,348	528
Uncovered on Ground	10,519	0	10,519	1,699

Add Land Cost

Storage Method	Comparison to Barn	Add Land @ $25/Acre	Net Difference
Barn	0	0	0
Tarped on Rock Pad	-302	50	-252
Tarped on Tires/Pallets	-148	100	-48
Tarped on Ground	528	200	728
Uncovered on Ground	1,699	375	2074

Hay Cost Per Cow

Storage Method	Tons/Hay Per Cow	Acres Hay Per Cow	Total Cost Per Cow
Barn	2.00	.80	$154.40
Tarped on Rock Pad	2.14	.86	165.98
Tarped on Tires/Pallets	2.20	.88	169.84
Tarped on Ground	2.36	.95	183.35
Uncovered on Ground	2.71	1.09	210.37

Hay Price/Ton Per Bale Weight

Weight	$15/Bale	$20/Bale	$25/Bale	$30/Bale	$35/Bale
800	$37.50	$50.00	$62.50	$75.00	$87.50
1,000	30.00	40.00	50.00	60.00	70.00
1,200	25.00	33.33	41.67	50.00	58.33
1,400	21.43	28.57	35.71	42.85	50.00
1,600	18.75	25.00	31.25	37.50	43.75

Hay Market Characteristics

- No elevator or auction market
- Many types (alfalfa, fescue, clover, etc.)
- Wide range in quality
- Variety of packages
- No standard grade
- Limited price data in Tennessee

Target Sales

- Type
- Quality
- Bale Package
- End Use

Types of End Uses

- Horses, ponies or mules
- Dairy animals
- Beef animals, sheep, goats
- Dealers
- Mulch, industrial and other

Pricing Factors

- Primary hay price determinants
  - Supply within an area
  - Demand for that hay
- Prices are lower at harvest then increase as supplies shrink

Storage Cost Considerations

- Interest or opportunity cost
- Loading, hauling and stacking
- Fire insurance premiums
- Shrinkage
- Barn expense
- Additional advertising

Promotion and Advertising

- Make potential buyers aware
  - Type
  - Package
  - Quality
- Develop reputation for providing desired quality
  - Repeat business is important

Promotion and Advertising

- Select pricing method
  - Bale
  - Ton
- Target specific markets for higher average price

Summary

- No single answer for every producer.
- Compile cost data for your farm.
- Measure and record yields.
- Cost varies by hay type.
- Study the economics hay storage options on your farm.
- Target a specific end use for cash hay sales.
- Profit potential is greater for a higher end use.

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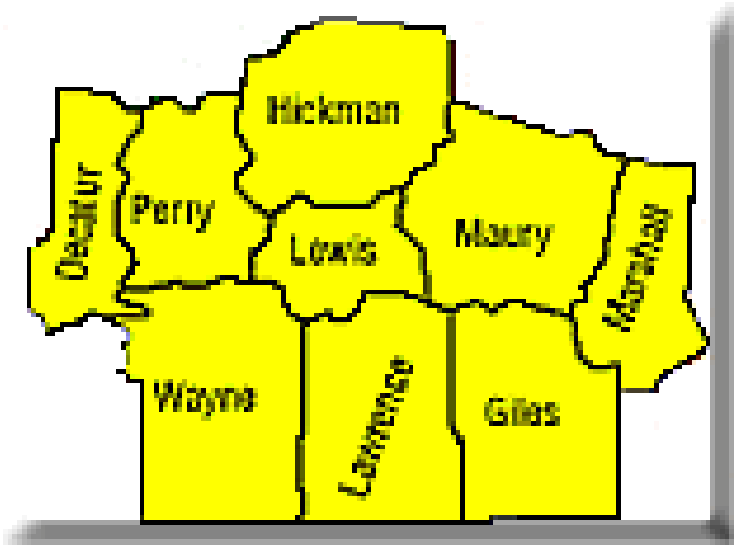

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