

Third Crop Options Hay

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Background:

The \$11 billion annual hay crop is the third most valuable crop in the United States behind corn and soybeans. In addition to being a major feed source, hay lands provide many environmental benefits including reduced soil erosion, enhanced water quality, increased wildlife habitat, and increased diversity on the landscape.

Many users of hay do not produce hay themselves. Supplying this demand with the quality and quantity of product desired is a 3rd Crop opportunity for growers interested in producing hay for market.

Uses:

- Dairy Animals
- Horses, Ponies, or Mules
- Beef Cattle, Sheep, and Other Livestock
- Organic Livestock and Dairy Production
- Dealers
- Mulch for Landscape and Gardening Needs
- Bio-Industrial
- Export
- Potential Biomass Energy Source

Production and Management Considerations:

Key management considerations include variety selection, proper fertilization, weed control, harvest timing and storage conditions. Your local Extension Technical Advisor or Regional Extension Educator can provide assistance regarding the production of hay crops. Numerous resources and websites relating to forage production are also available (see Resources and References for a partial listing).

Characteristics that affect the quality and ultimately the marketability of hay include:

- **Type** – Legume hays are normally higher in protein, vitamin A, and minerals but lower in fiber than grass hays.
- **Stage of maturity** - The younger the forage, the greater the protein content and relative feed value (RFV).
- **Leafiness** – The higher the leaf to stem ratio, the greater the protein content, digestibility, and mineral composition.
- **Color** – Color loss indicates nutrients have been lost, particularly vitamins.
- **Texture** – “Soft” to-the-touch hay indicates greater palatability than brittle hay.
- **Mold** – Causes nutrient loss and possible animal health problems, even death.
- **Impurities** – Weeds, insects, sticks, rocks, etc. reduce hay quality and palatability.
- **Disease and insect damage** – Reduces quality.
- **Hay storage** – Good storage conditions are critical. High quality hay can deteriorate quickly, resulting in substantial economic loss.

In addition to a visual inspection, laboratory analysis of each hay lot should be conducted prior to sale. A hay lot is defined as all the hay harvested and baled from one field at one cutting date and stored under similar conditions. A hay analysis typically includes moisture, dry matter, crude protein, mineral content, acid detergent fiber, and neutral detergent fiber. From these values, RFV, net energy, and total digestible nutrients are calculated.

Profit Potential:

Profit potential is generally greater with alfalfa hay compared to grass or mixed hay. Supply and demand greatly affect price, and prices can escalate dramatically in drought conditions. Premiums paid for quality, however, tend to remain constant over time.

Price should be based on quality and weight, not on a per bale basis. Smaller bales typically sell for a higher price per ton compared to large round bales (in part due to ease in handling).

On average, dairy producers demand the highest quality hay. While horse hay buyers also demand high quality hay, visual characteristics may be weighted more heavily than the forage analysis. Quality is not as important and price is of more concern to beef cattle producers. Landscapers or gardeners are a market for poor quality or even moldy hay. Overall, the horse hay market offers the greatest profit potential.

Returns from hay were similar to or exceeded returns with corn and soybeans in analysis of data from South Central Minnesota (1999-2002):

Crop Enterprise Analysis: Averages Based on Farms in South Central MN (1999 – 2002).

	Hay, Alfalfa 1999-2002	Hay, Grass 1999-2002	Corn 1999-2002	Soybean 1999-2002
Gross Ret/Ac	352.45	110.37	288.58	239.46
Total Expenses/Ac	237.70	142.23	321.26	225.90
Net Return/Ac	114.75	-31.86	-32.68	13.55
Net Ret/Ac with Govt. Payment	118.15	-25.84	-25.84	24.12
Range in Net Ret/Ac with Govt. Payment	51.26 to 222.88	-99.74 to 53.93	-68.57 to 20.66	7.10 to 38.79
Est. Labor hrs/Ac	4.00	2.07	2.81	2.27
No. of farms in analysis	503	72	1,703	1,626

Source: FINPACK Farm Financial Database, Center for Farm Financial Analysis. University of Minnesota.

Market Opportunities, Development, and Challenges:

Compared to crops like corn or soybeans, no standardized grades are used industry-wide to determine hay quality or value. Hay is also not a single “crop” and can vary dramatically based on type (i.e. alfalfa, grass, or type of mix), quality, and

bale type and size (medium-sized square bales tend to be preferred for transport).

An established network of hay auctions currently exists. Hay Exchanges, where buyers and sellers can list their needs or products, are also available on the internet. The following are some internet hay exchanges available in the Midwest:

- Hay Net. <http://www.fsa.usda.gov/haynet/>
- Internet Hay Exchange. <http://www.hayexchange.com/hay.htm>.
- Upper Midwest Haylist. <http://www.haylist.umn.edu/>
- The Hay Barn. <http://www.haybarn.com/main/index.asp>.
- The Hay Market. <http://www.case-agworld.com/cAw.HM.html>
- Hay Page. <http://www.agriculture.com/livestock/haypage.html>.

A number of characteristics of hay make it more difficult to market than a product like grain. Hay is of lower value by weight, more bulky, more difficult to transport, and blending is impractical. Unavoidable events, like a rainy period when hay should be cut, can prevent hay from being sold to high quality markets such as for dairy and horses.

Hay markets are growing internationally where land is at a premium. Japan, Korea, and Mexico, for example, have shown increased needs for U.S. hay products. Easily transportable forms of hay such as dehydrated pellets, alfalfa cubes, and compressed bales may best meet the needs of markets located a significant distance away.

The organic hay market also offers potential as demand for organic products is growing overall.

Producers interested in marketing hay should look at the livestock base in their area and contact potential buyers to establish a market outlet. Horse hay purchasers tend to be particularly interested in developing a consistent relationship with hay producers. Contracts between sellers and buyers may be established prior to production. Getting involved in organizations and events related to your target market can also be valuable in developing market relationships.

References and Resources:

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9. Lisa Behnken, Regional Extension Educator, University of Minnesota. Personal Communication 4/2004.
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