PRICING STANDING FORAGE

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From time to time, farmers want to buy or sell standing forage. A key is the agreement on price. Following are several factors which should be considered when calculating a value for standing forage.

Price - Price reflects weather and yield risk. Price also reflects the cost of alternative feeds that could include commercial hay purchases delivered. Generally, prices show a seasonal decline at first cutting unless there have been significant losses of hay stands due to drought or winterkill, or low inventories due to problems during the previous growing season.

Risk - Lower than expected yields or rain or weather delays that lower forage quality can greatly reduce the net gain of purchasing standing hay. Producers need to adjust the numbers in the example below to reflect current market conditions, yield, and harvest timeliness. The value of risk is difficult to estimate but can be based on a typical value of the desired hay quality. For example, high-quality alfalfa hay may average $150 or more per ton. Contracts signed well before harvest and full-season contracts should reflect a lower price due to the level of yield risk and quality loss that the buyer is assuming. In contrast, an agreement made close to harvest would be much closer to the current hay price because the buyer knows the value and status of the crop being purchased. A rule of thumb is to value risk at 20% of hay value.

Yield - Yield can be estimated before harvest from historic records or from stand evaluations. Stand evaluations can estimate yield potential. If the alfalfa stand has at least 55 stems/sq. ft., one can estimate yield to be 126 lbs dry matter/ac per inch of height (e.g., 24" height x 126 lbs/ac = 3,024 lbs/ac). Thinner stands will have proportionately lower yields. Sales based on actual yield minimize risk for both buyer and seller. Actual yield can be determined by weighing loads or estimated by weighing a few bales or wagon/truck loads and counting total bales/wagons/trucks harvested.

The moisture content of the haylage, if chopped for silage, would have to be determined to convert to a dry hay equivalent. This step simplifies pricing and price comparisons.

Dry Matter Loss in Storage - This is loss attributed to respiration or the curing process after harvest and is approximately 2% for hay and 10% for silage.

Quality - Timeliness of cutting and the percentage of alfalfa versus weeds in the stand will impact forage quality. A dense, clean stand of pure alfalfa should be of higher value and would deserve a premium in a competitive forage market when compared to an older stand with weeds. Forage samples can provide better estimates of harvested quality for ration balancing than visual inspection of the hay crop.

Harvest Costs - Price determination can start with calculating the minimum price a seller would want to receive and the maximum price a buyer would be willing to pay. The example is three cuttings sold to a buyer who also harvests the forage (total 3-cut yield estimated at 4 tons/acre).

Seller's Minimum Price (annual costs/ac)**:**

Land Charge (4-6% of land value, e.g., $3,500/ac x .05)	$175/ac
Est. & Maintain Stand (seed, fertilizer, lime)	230/ac
Total Annual Cost of Established Alfalfa	**$405/ac**

Note that the seller needs to recover the cost of fertilizer and insecticide applied or at least the value of nutrients removed.

Buyer's Maximum Price:

Market value of hay (4 tons x $200/ton)	$800
Subtracting harvest expenses per acre:	
Cut, Rake, Bale, Haul, ($60/harvest, 3 cuttings)	-$180
Weather Risk ($30/cutting)	- 90
Dry matter loss (2% for hay)	- 16
Price for Standing Hay/ac	**$514**

Both buyer and seller would like to gain in this sale. This means negotiating a price between $405 and $514 per acre for 3 cuttings or proportionately less for fewer cuttings. If a single harvest is purchased, the seller's and buyer's prices can be proportioned according to actual yield or percentage of total yield expected in any one cutting (see table).

Table 1. Approximate Yield Distribution – 3 or 4 cuttings			
Cutting	% total yld	Cutting	% total yld
1	40	1	35
2	30	2	25
3	30	3	20
		4	20

A written agreement prior to start of harvest, especially when multiple cuttings are sold/purchased, should be made and should include price, payment schedule, who is paying insecticide and fertilizer expenses, method of determining yield when selling by the ton, and other factors. A written contract clarifies the sale agreement for all parties.