

Determining the Value of Standing Alfalfa in 2022, continued

5) Determining the Value of a Ton of DM Alfalfa: Hay Market Demand and Price Reports for the Upper Midwest are located at <https://cropsandsoils.extension.wisc.edu/hay-market-report/> on the UW-Madison Division of Extension Crops and Soils website with updates posted regularly. The most recent report (April 25, 2022) indicates large square bales of Prime Quality (>151 RFV/RFQ) alfalfa averaged \$228.00 per ton. The value of a ton of DM is determined via the following calculations:

Price for a Ton of DM

As baled hay, assume moisture of 15 percent, which means it is 85 percent DM or 0.85

$$\begin{array}{r} \$228.00 \text{ X} \\ \text{as fed ton} \end{array} \begin{array}{r} \text{as fed ton} \\ 0.85 \text{ ton DM} \end{array} = \begin{array}{r} \$268.24 \\ \text{Ton DM} \end{array}$$

When is the last time you successfully harvested all your alfalfa without any weather damage? You may harvest four high quality cuttings, or four lower quality cuttings depending on the weather. Earlier we identified the difference between purchasing alfalfa that has already been harvested. It is a known quality. Standing alfalfa must be adjusted for both field losses and potential weather risk, both of which can significantly impact the quality of the harvested forage. **The buyer and seller can decide if they wish to use a factor other than 25%.**

If we use \$268.24 per ton DM and apply a 25% risk adjustment, we end up with a risk adjusted value for a ton of DM standing alfalfa as follows: (\$268.24 X 0.25 = \$67.06), \$268.24 - \$67.06 = **\$201.18 per ton of DM.**

6) Harvesting Cost: Expenses are based on the costs reported in the Wisconsin Custom Rate Guide 2020 at <https://fyi.extension.wisc.edu/news/2021/05/12/2020-custom-rate-guide/> or the 2022 Iowa Farm Custom Rate Survey at <https://www.extension.iastate.edu/agdm/crops/pdf/a3-10.pdf>.

Using values cited in the rate guide, one may spend \$17 per acre cutting and conditioning the alfalfa, \$14 per acre merging the alfalfa, and \$55.00 per acre chopping, hauling, and filling an upright silo or a bunker silo (**adjust your costs as needed**) resulting in \$86.00 per acre invested for each cutting. **Your harvesting costs may be higher or lower than those cited here;** however, this is what is used for this example. If you harvest four (4) cuttings, total harvest costs are \$344.00/acre for the season (\$86.00 X 4 cuttings = \$344.00). **If the buyer's harvesting costs are less, you can adjust downward. If the buyer's harvesting costs are higher, you can adjust upward.** While the landowner who established the alfalfa has the expense of the land, taxes, seed, chemical, and fertilizer, the buyer assumes the risk of field losses and weather damage exceeding the 25 percent quality adjustment discussed earlier.

Once you have calculated or agreed upon the value of a ton of DM and have made a reasonable yield estimate, you may proceed. In this first example we used a 4.0-ton DM yield for the season at a value of \$201.18 per ton DM. Four (4) tons of DM X \$201.18 per ton DM = a final harvested value of \$804.72. After we deduct the cost of harvesting \$344.00, (4 cuts X \$86.00), we are left with the following:

Harvesting 4.0 tons of DM total value would be \$804.72 less harvesting costs of \$344.00 = \$460.72 residual

- 1st Cutting = \$ 460.72 X 36% of total yield (1.44 tons DM) for the season = \$165.86
- 2nd Cutting = \$ 460.72 X 25% of total yield (1.00 tons DM) for the season = \$115.18
- 3rd Cutting = \$ 460.72 X 21% of total yield (0.84 tons DM) for the season = \$ 96.75
- 4th Cutting = \$ 460.72 X 18% of total yield (0.72 tons DM) for the season = \$ 82.93

Every cutting of alfalfa removes a significant amount of potassium (K) from the soil. A one-hundred-pound application of potash fertilizer (0-0-60 or 0-0-62) provides 60 or 62 lbs. of K₂O per acre. If full alfalfa yield potential is to be realized, we need to replace the nutrients removed from the field during harvest. The UW Nutrient and Pest Management Fast Facts identifies the specific quantities of nutrients removed by various field crops and is available at <https://ipcm.wisc.edu/download/pubsNM/NutrientManagementFastFacts.pdf>.

One DM ton of harvested alfalfa removes 60 units of K₂O. Using a price of \$885/ton for 0-0-62, we can calculate the cost per unit of K₂O as follows: 2,000 lbs. X 0.62 = 1,240 lbs. of K₂O per ton of fertilizer, \$885/ton divided by 1,240 units of K₂O per ton = \$0.71 per unit. Pest management also needs to be considered. Guidelines for treatment thresholds for potato leafhoppers are at <https://fyi.extension.wisc.edu/forage/cut-bale-scout/>.

Additional Considerations: The best way to determine the potential value standing alfalfa may have for both the buyer and the seller in any transaction would be to use the most relevant local conditions, pricing, and data to develop a crop enterprise budget. This budget should accurately reflect the true costs of production (cropland rental rates, crop input costs, etc.) where a particular transaction is expected to occur. Crop enterprise budgets for forage and grain crops are available for viewing and download at: <https://farms.extension.wisc.edu/files/2022/05/UWCrop-enterprise-budget-spreadsheets.xlsx>.

Additional Methods for Determining the Value of Alfalfa – Is There an App for That? Additional methods to calculate the value of standing alfalfa include an app that can be downloaded for free at <https://play.google.com/store/apps/details?id=com.smartmappsconsulting.haypricing>. Those with iPhones and iPads can download the app from the Apple Store by searching "Hay Pricing".