

## What is Standing Hay Worth?

I've been asked this question hundreds of times over the past 24 years, and I had developed a fairly straight forward and easy approach for formulating an answer. However, that all changed in 2008 and here's why...

First, the value of hay has gone up more than can be explained by annual fluctuation of supply and demand. The baseline value has increased mainly because fertilizer prices have skyrocketed. Land owners need to recoup the value of the Phosphorous (P) and Potassium (K) fertilizer that is removed by the alfalfa crops they are selling. This has led to the alternative of buying standing hay to be much more expensive than in the past with K fertilizer almost 5 times higher than it was a few years ago.

The value of renting bare cropland has also increased. Renting tilled crop land is different than renting a field of standing hay. In the latter case, you're really buying a product that is not yet harvested. However, the owner of an alfalfa field should get, at minimum, get a bare land price plus the cost of alfalfa establishment prorated over four years, plus the value of nutrients removed by the alfalfa crop. If he or she can't get that minimum, then there is more value in just renting bare land without the established alfalfa crop.

Because both bare land values and fertilizer values have increased, the base value needed for the landowner has also increased. These increased costs coupled with the extremely low milk prices results in a scenario in which dairy farmers may not be able to pay the amount that the landowner needs to replenish the P and K fertilizer, his return on land rental, and his establishing costs.

The value of nutrients removed by alfalfa has changed dramatically, and has become a major consideration. Let's look at potassium, the primary nutrient removed by alfalfa at a level of 55 pounds per ton of dry matter harvested. For years potassium hovered around \$0.13 to \$0.14 per pound (\$8.00 value per ton removed). Now with a value of \$0.68 per pound the value of potassium removed by a ton of dry matter alfalfa is \$37.40. With a 4.5 ton per acre yield, that adds up to a current value of \$168.30/acre (4.5 tons x \$37.40/ton) of potassium that needs to be purchased to replace what was removed by the crop if all 4 cuttings are sold.

If we assume the prevailing bare land cash rent value is \$110 per acre and prorated alfalfa seeding costs (seed plus seeding) are \$25 per acre per year. The minimum price needed for standing alfalfa is then \$135 per acre PLUS the value of potassium that is removed (\$168/acre) we come up with a number of over \$300/acre that the owner needs for 4 cuttings of alfalfa. Add to this amount another \$32/ acre to replace the phosphorous that is also removed in a 4.5 ton yield and you end up with a total cost of \$325/acre that the landowner needs to establish and maintain the alfalfa stand, and cover land rent costs!

What about the buyer's perspective? On average, it costs about \$35-40 to harvest a ton of dry matter. If this cost is added to the \$37/ton of DM for replacing the potassium and \$7/ton of DM for replacing the phosphorous fertilizer it totals a minimal investment of \$79-84/ton of DM, if the buyer is responsible for replacing the lost fertilizer. With that value also comes some weather risk of getting a quality crop harvested. If the owner has decided to charge \$135 plus fertilizer (which we already accounted for), the buyer' total investment for a 4.5 ton/acre yield is \$109-113 per dry matter ton (((\$135 per acre divided by 4.5 tons = \$30) + \$79-84 for harvesting and fertilizer = \$109-113). That price is equivalent to paying about \$55-56 per ton for Haylage @ 50% DM, or about \$92-96/ton for baled Hay @ 85% DM. Can you afford to pay these prices for standing hay at current milk prices? That answer will likely vary from farm to farm.

Keep in mind that the process is more important than the actual numbers, as cash rent values, harvest costs, and fertilizer values will vary with each situation. For example, some fields with soils that test high in phosphorus will not require any to be added for several years. The base cost is also going to differ by location, yield and quality of the hay. Even at today's prices, renting standing alfalfa may still be a good deal.....just not quite as good as it's been in the past.