.Now is the Time to Invest in Alfalfa

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With commodity prices rising, small investments to improve alfalfa yields can pay big dividends. Better yields could result in extra hay to sell when demand is high, or meeting alfalfa needs on fewer acres, freeing up more land for corn.

Consider annual alfalfa yields of 5 tons/ac. When hay prices are low, $100/ton for example, a 1% yield improvement would result in an extra $5/ac. When hay prices jump to $200/ton, a mere 1% yield improvement results in an extra $10/ac. Furthermore, if yields improve by 5%, 10%, or 15%, it results in an extra $50, $100, or $150 per acre, respectively.

What investments can be made to achieve this kind of yield improvement? It starts with the seed. A variety costing an extra $25 (planted at 20 lbs/ac) but resulting in an increased yield of just 1%, will pay for itself in a single year of production (with a high hay price of $200). A variety that improves yield by 5%, 10%, or 15% will increase the crop value by $125, $250, or $375 per bag of seed respectively, in just a single year of production. Extended three years, $375, $750, and $1,125 in added profit from a bag of seed can be achieved. Paying for seed performance is very cost effective.

A review of public state trial data summarized over locations demonstrates that the best varieties can easily average 5% better than the other varieties being tested, and when compared to poor varieties, a 10% advantage is common. Generally, varieties that were developed with the primary goal of yield vs. varieties that are developed to have special traits will fall into the good vs. poor category for yield. Experience suggests that when on-farm wheel traffic and other stresses are more pronounced in less than perfect fields, the advantage that the best varieties have can be even greater. By investing in the seed first, producers will gain returns for the entire life of the stand.

In addition to increasing yields, another priority is keeping stands young. As stands age, yields decrease. The average yield decline in the third full production year is 10%, and in the fourth production year it declines by 24%. If hay is up to $200/ton, producers could lose $100/ac of yield potential in the third year and $240/ac of yield potential in the fourth year.

Aside from improving alfalfa yields, there are other good reasons to keep alfalfa stands young. Turning over a stand before it gets old allows producers to take the rotation advantage of corn following alfalfa more often. Looking at the legume nitrogen benefit, a good three year old stand of alfalfa can contribute 150 lbs of N/ac to the following corn crop. With a conservative price of $0.60/lb of N, this turned over alfalfa is saving $90/ac in N fertilizer costs for a corn crop. Besides the N credit, the corn will see an average 10% increase in yield due to the rotation advantage following alfalfa. An extra 10 or 15 bushels of corn is worth another $60-$90/ac.

Keeping alfalfa stands young and rotating sooner offers several benefits: reduced risk of stand loss associated with older stands, weed-free young stands, and the possibility of not needing root worm control in the following corn crop.

In addition to starting with the right variety and keeping stands young, maintaining good fertility levels is a priority when trying to improve yields. The most common yield limiting factor that producers have control over is soil pH. Just because a soil test for a field suggests that the pH is fine does not mean that pH is not a limiting factor in that field. Fields can be extremely variable when it comes to pH and other nutrient levels. Producers should take paired soil samples from good vs. poor spots in alfalfa fields to help determine what the yield limiting factors could be.

Another way to improve yields may be foliar applications of micronutrients or fungicides. It is also important to protect yields with insecticide applications when necessary.

Just remember, with high hay prices, an investment in alfalfa which improves yield by 5%, 10%, or 15%, can translate to an extra $50, $100, or $150 per acre, respectively. If a producer is not buying or selling alfalfa, improving alfalfa yields by 5%, 10%, or 15% translates into more acres that are available to plant to another cash crop. Producers should work with their local seed representative and agronomist to get the most from their farm.

Notes & Acknowledgements:

- *"Value of Short Rotations for Alfalfa," Dan Undersander, UWEX Pub. X1092.*
- *"Nitrogen Credit Contribution by Alfalfa to Corn," Craig Sheaffer, George Rehm, and Paul Peterson, University of Minnesota.*
- *For hybrid alfalfa value, visit www.dairylandseed.com to calculate profit potential.*

Figure 1. *As value increases, yield improvements result in greater returns.*