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Significance of Alfalfa

Alfalfa is a way bigger crop of importance in the U.S. than I had realized until recently. In farming, we often refer to the “Big 5” crops here in the U.S. as corn, soybeans, wheat, cotton, and rice. In Kansas, we would substitute grain sorghum for rice. However, dollar per dollar and acre per acre, alfalfa is actually well within the top 5. Of course, corn and soybeans are by far the biggest in terms of acres and economic output. Wheat, on the other hand, while it has twice the acres of alfalfa, it comes close to the same economic value. Alfalfa is also planted on more acres than in sorghum and rice combined. In the U.S., this amounts to around 15 million acres every year and close to \$10 billion in production value. We are not a big producer of alfalfa in Kansas, commonly growing around half a million acres, but there are areas up north and out west where alfalfa is a huge part of the dairy and livestock industry.

Alfalfa is often grouped into ‘hay and haylage’ in acreage reports. It is hay after all, but it is usually sold more like a cash crop. Grass hay can be traded and sold, but most of the time, the ranchers who are haying are using it for their own cattle. Alfalfa, on the other hand, is commonly sold to dairy and livestock operations. It’s a good source of protein and has plenty of carbohydrates. It’s nutrient dense enough to be worth shipping shorter distances. While it commands a higher price in comparison to other forages, it is actually a fairly cheap foodstuff booster in comparison to other high protein sources. The dairy industry uses a lot of alfalfa because there is something about the proteins, calcium, and enzymes in alfalfa that boost milk production. Stockers do well with alfalfa because it can be a cheaper protein source that can be part of a ration.

Production Advantages

In corn, wheat, soybeans, and even most hay fields, you only get one harvest per year. With alfalfa, 3 to 5 harvests per year are common, depending on weather and location. Alfalfa is semi-perennial with one planting lasting between 3 to 4 years. It also has lower inputs as it creates its own nitrogen, and herbicides are often cheaper with fewer applications. Alfalfa yields can be 2.5 to 3.0 dry tons per acre in a good year. Basically, if it has the water to grow, it will continue to make high-quality forage all summer long.

If you’re looking at growing alfalfa to sell, I’d recommend planting a glyphosate resistant variety. The broadleaves will be somewhat controlled by haying after establishment, but the grasses will slowly take over the field. A timely glyphosate application can clean all that up. If you are growing for your own cattle, you might not care about some weeds and grass in the mix.

Production Disadvantages

Alfalfa is not for everyone, though. Its growth ability comes with the downside that it takes a lot more work than other forages. Those 3 to 4 haying operations take more time than most farmers have room for. Invariably, rainy weather is going to make at least one of these haying's difficult. This year in my family's operation, our first alfalfa cutting came off great, but the second cutting was completely bloomed out by the time it dried out. It actually didn't turn out that bad, but it certainly was a little more stemmy than we would like (ok for us because it's all for our own herd).

Alfalfa takes up A LOT of phosphorus (P) and potassium (K). This can be 40 lbs P and 250 lbs K in an average production year. While this huge amount of K can balance well with other types of hay that are often lower in K, alfalfa basically mines these nutrients from the soil. The soils around here are low in background K, but alfalfa's expansive root system and tap roots can pull nutrients from deeper in the soil. It's possible that the subsoil is higher in K than the surface soils.

You will need to spray a decent pesticide every spring to control the alfalfa weevils. These little worms find every alfalfa field and will eat pretty much all of it every year unless sprayed.

Fortunately, there is only one generation per year, and they go dormant during the summer.

Planting Alfalfa

If you are thinking about converting your weedy patch of this or that to alfalfa, now is the time to prepare for a fall planting. You'll need to think about a burn down. The first one is often a few weeks after haying, so all the weeds and grasses have greened back up. Soil testing is entirely necessary because most old pastures and hay fields are very low in background nutrients. Liming the field could be needed. It's likely there will need to be a light tillage to incorporate the lime and fertilizer and smooth out the field. There could even be some more major dirt work involved. Remember that this field will be hayed many times over the next few years, so any roughness, obstacles, or avoided areas are going to be in the way every time. Ideally, a rain after tillage can pack the soil back down because the smaller alfalfa seeds do best with a firm seedbed. After planting, a pre- or post-germination herbicide application could be needed. Young alfalfa does not do well with competition or shading. Most importantly, good soil moisture is paramount for a decent stand. Alfalfa is slower to germinate and needs to be planted shallow, therefore easily subject to drying out. All of this is going to cost \$200 to \$300, or more, per acre. The reward of a highly productive alfalfa field is not a cheap or easy endeavor, but it can be well worth it.

For more information or questions about preparing for or planting, please contact James Coover, Crop Production Agent, at jcoover@ksu.edu or (620) 724-8233.

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