Alfalfa Production Made Simple

by Dennis Gehler, Forage Product Manager, CROPLAN GENETICS Alfalfa

Successfully establishing, growing and harvesting alfalfa is achieved when you leverage your knowledge and the insight and expertise of useful resources. Resources that: recognize how complex your decisions are, derive satisfaction from your success, and take pride in staying on the cutting edge of the alfalfa industry. "Alfalfa Production Made Simple" is achieved when you and your trusted advisor collaborate to produce quality feed. Employ this three step method for profitable alfalfa production:
1) Select high quality genetics that yield and persist.
2) Use management practices allowing the genetics to express their full potential.
3) Harvest the improved production over the life of the stand.

Selection of high quality alfalfa seed genetics is both an agronomic decision and an intended use decision. The agronomic decision is a combination of the environment you will be placing the genetics in and the genetic potential of the seed.
- Do you need a winter-hardy product or is moderate winter hardiness satisfactory?
- Is this an irrigated field where you will be able to maximize productivity or dry land where drought tolerance is important?
- Are you planting with a cover crop and need insect resistance such as potato leaf hopper? Are you direct seeding so you will be able to spray for insects timely?
- Will this be a short 3-year rotation or do you want longer productivity?

Okay, now you have thought through the agronomics, what about the intended use?
- Will you harvest the crop as dry baled hay, baleage, or haylage?
- Will the crop be harvested both for hay and grazing?
- If you are selling the crop, what does your customer want? Precut bales, large square bales, small square bales, round bales, wrapped bales, etc.
- What type of equipment do area custom harvesters have? Does this limit your markets?

Employing management practices to allow the genetics to express their full potential is a very critical next step. You want the seed genetics to perform the way you intended. After all, you have thought through both the agronomics and the intended use when you made the purchase decision. Fertility, herbicides, insecticides and timing of application are all critical. In the first year of production, if you have any doubt in your mind if you should spray or not, spray. If you don't, you have lowered the productivity of the field over the life of the stand.

Review the charts with your agronomist and decide what the best decision for your management system is. Use the following guidelines when applying top-dress fertilizers:
- Make your application as soon as possible following the removal of forage. Try not to apply when new growth has occurred.
- Avoid making applications when the ground is soft. If you leave ruts – damage has been done to the alfalfa and production/stand life will suffer.
- If you are going to apply >500 pounds of fertilizer/ac, it is best to split application. Put 2/3 of the fertilizer on after 1st cut, and the remainder after 3rd cut. This avoids the potential for salt injury to the alfalfa!
- Foliar applications of micronutrients (boron, or Max-In for Alfalfa) can be made to foliage and is an excellent application method.
- If potash gets tight and you are not able to cover all alfalfa acres, focus on an application after 3rd cut. This will set the stand up for the winter and give it a head start for the following year!

Whether advice on insecticides, herbicides, or fertility programs, your trusted resource will help the genetics you select express their full potential over the life of the stand. When you are producing forage, you can select the very best genetics and employ all of the right management practices and still end up with poor feed if you do not pay attention to detail at harvesting. Find a resource that specializes in harvest management. The person who sells hay preservatives, inoculants for haylage or silage, and/or mold inhibitors is a good start for advice. They work with a number of farmers and can provide suggestions from their own expertise and observations. They also have access to experts from the companies they represent.

Find an advisor or advisors you trust, are knowledgeable, and who share your goals. Together you will discover how "Alfalfa Production Made Simple" is achieved.

Note: information from Todd L. Cardwell (Agriliance agronomist) was utilized in this article.

Top-dress Recommendations for Alfalfa:

Yield Goal Tons/ Acre	Very Low	Low	Opt	High	Very High
	----------Soil Test Interpretation----------				
Phosphorus (ppm)	***<10***	***10 – 15***	***16 – 23***	***24 – 32***	***>32***
1.5 - 2.5	65	55	25	10	0
2.6 - 3.5	75	65	35	15	0
3.6 - 4.5	90	80	50	25	0
4.6 - 5.5	105	95	65	30	0
5.6 - 6.5	115	105	75	35	0
Potassium (ppm)	***70***	***70 – 90***	***91 – 120***	***120 – 150***	***151 – 170***
1.5 - 2.5	140	130	100	50	25
2.6 - 3.5	190	180	150	75	40
3.6 - 4.5	240	230	200	100	50
4.6 - 5.5	290	280	250	125	60
5.6 - 6.5	340	330	300	150	75

Soil test values are for the "A" subsoil group (WI).

Sulfur: Apply 20 – 30 pounds/ac actual S. Sandy soils are generally more responsive than clay or loam soils. Sources: Ammonium Sulfate, Gypsum (both are immediately available sulfur), Elemental S (not immediately available for plant uptake).

Boron: Apply 2 – 4 pounds/ac actual B. Sandy and low organic matter soils are usually most responsive. Sources: Origin 15% granular Boron.

Crop Removal – Pounds of nutrient removed per ton of Alfalfa DM

Nutrient	Alfalfa DM (lb/ton)
Phosphorus*	6
Potassium*	49
Calcium	30
Magnesium	6
Sulfur	6
Boron	0.08
Zinc	0.05
Manganese	0.12
Copper	0.33
Molybdenum	0.002

* Removal may be higher if soil tests are in high or excessive range**.**