

Consider both animal and plant needs in alfalfa planning

TIPTON, IN — Alfalfa management must be approached from both an animal nutrition and a crop persistence standpoint in order to get the most out of the investment.

"The idea is to produce forage with a high nutrient content, but at the same time, produce a crop that will persist," says Bill Fleet, an agronomist with the Eastern Division of Pioneer Hi-Bred International, Inc. "It is relatively simple to do one at the expense of the other, but combining both goals takes a great deal of planning."

To make the highest quality feed possible, alfalfa must be grown on soils where constant attention is paid to pH and nutrient levels. The soil's pH level is the backbone of a fertilization program, Fleet says.

"The plant is definitely handicapped if the level is not kept between 6.5 and 7.0. Lime is an important soil amendment not only for alfalfa, but for crops in general. It's a soil regulator, increases nutrient availability, prevents micronutrient toxicity, supplies calcium and magnesium and stimulates microbial activity."

Potassium and phosphorus are the two most crucial macronutrients with potassium being the most important to mature stands, according to the Pioneer agronomist.

"It acts much like an antifreeze in the plant to help it get through the winter, thus promoting winter hardiness. Potassium also promotes disease resistance."

Fleet says alfalfa plants like potassium so much that will continue to take it up whether or not it's actually needed at that

time. He recommends split applications to ensure that adequate amounts are available when the plants need them.

"Research shows alfalfa will utilize potassium more economically if it's split-applied after the first and fourth cuttings. After the first cutting in spring, it's needed to prevent deficiencies and get the stand through the summer growth and harvest periods. Application after the last cutting gets the plant ready to go into winter."

However, sometimes there can be too much of a good thing. This leads to imbalances between nutrients in the soil that Fleet compares to the imbalance between calcium and phosphorus in the bloodstream of dairy cows.

"Just like milk fever results when that ratio is off in dairy cattle, alfalfa has problems when ratios of one element are not in sync with another."

To prevent over-fertilization, Fleet recommends both fall soil testing and plant tissue tests.

"Tissue tests are extremely valuable during the growing season when alfalfa needs to maintain adequate levels of potassium, phosphorus and micronutrients such as boron and sulfur," he said.

Although alfalfa requires high levels of nutrients to sustain quality, other yield-limiting factors also need to be considered.

"Yield projections have to be adjusted to the capabilities of the soil. Certainly, enough fertilizer can be spread on a stand to give a high yield on paper, but that high quality and tonnage won't be coming off no matter how much is

invested if the soil's physical characteristics prevent it," the Pioneer agronomist says.

Yield can also be affected by the stand's age. A stand is considered to be past its prime after four years, although there can be exceptions to this.

"An older stand tends to lose both production and quality. It gets stemmy, weedy and loses feed value. Economically, it's better to turn it under and use the legume-produced nitrogen for a corn crop."

Timely harvest is as important as proper fertilization when it comes to feed value, according to Fleet.

"The first cutting on an established stand should be at full-bud stage and successive cuttings

Feel the buds to determine when they will break rather than waiting for flowering," the Pioneer agronomist recommends.

Properly timed harvests are crucial for both stand life and feed quality because of the way alfalfa manufactures and stores food. Energy, in the form of readily available carbohydrates, is stored in the tap root. This stored energy is used to support growth until the plant is 15 centimeters (six inches) tall and its own leaf system can manufacture enough to restock the supply and support continued growth.

"Each time the stand is harvested, the energy stores are used to begin the cycle again," Fleet explains. "But if the last cutting is made too late in the fall—if the

plant does not have at least four weeks to re-stock its carbohydrates—it will have a tough time making it through a hard winter."

In areas where forecasters predict an early freeze, Fleet advises waiting to harvest until after a killing frost.

"Even though the alfalfa may be past the optimum stage from a feed value standpoint, there won't be enough regrowth if the cuttings are taken off just days before a freeze. It's a case where quality has to be sacrificed to a degree to let stand persist."

Alfalfa management is often a compromise between feed value and crop viability, but it's a win-win situation when planning enters the picture.

Delaware's Ag Day slated for next Saturday

NEWARK, DE — Education and entertainment will strike a perfect balance at Ag Day, Saturday, April 27, on the grounds of the University of Delaware's College of Agricultural Sciences. The popular annual event will take place at Townsend Hall from 10 a.m. to 3 p.m. and is open to the public.

Among other activities, visitors can stroll through the college's attractive teaching gardens, tour the Agricultural Experiment Station farm on a hay wagon, learn about plant tissue culture, and watch computerized cows being milked in the college's new electronic milking parlor.

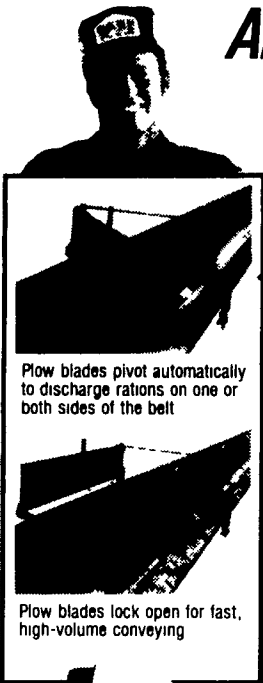
Ag Day is run by students in the College of Agricultural Sciences. By tradition it offers a festive array of experiences designed to show people what modern agriculture is all about and have fun in the process. Following are some highlights of this year's event:

- Petting zoo featuring young farm animals;
- Sick plant clinic;
- Horsedrawn carriage ride (from noon to 3 p.m.);
- Livestock shows featuring young beef cattle and lambs;
- Clown and balloons;
- Chucken barbeque (from 11 a.m. to 3 p.m.);
- Soft drinks and hot dogs (from 10:30 a.m. to 1:30 p.m.);
- Tractor tours of the experimental farm;
- Sheep shearing demonstrations;
- Plant sale (10 a.m., as long as supply lasts);

- Cow milking demonstration;
- Butter and cheese making;
- Poultry display featuring famous Delaware blue hen and other special breeds;
- Plant tissue culture display;
- Baby chicks hatching;
- College careers counselling;
- Ag college tours;
- Modern farm machinery display;
- Homebaked bread sale;
- Seed picture-making for children;
- Pony rides;
- Blood pressure testing;
- Beekeeping exhibit;
- Dairy cattle show;
- Tour of university's new electronic milking parlor (2:30 p.m.).

Ag day is open to everyone, and most events are free. Food and other items offered for sale will be available as long as supplies last. Townsend Hall is located on Route 896 across from the Chrysler plant.

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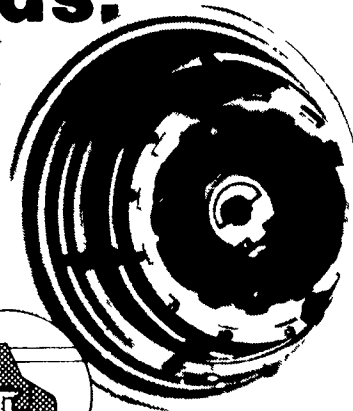
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