

ENHANCING FEED QUALITY

SPRING
24



Selecting the right inoculant to tackle first-cut haylage challenges

Production of high-quality silage involves winning a war fought on a microscopic level between “armies” of microbes that occur naturally. Forage inoculants help by reinforcing the beneficial bacteria in this fight. These products mostly contain lactic acid bacteria (LAB) that provide an efficient front-end fermentation to maintain feed quality and hygiene. There are many different LAB inoculants to choose from, and producers should select a research-proven product that will deal with challenges due to:

1. The crop being ensiled
2. Local conditions
3. Farm practices and
4. Silage history

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Critical control points for great silage

Quality feed doesn't happen by accident. Consider these management tips to improve your silage.

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What is Hay Guard?

Hay Guard is a revolutionary new way to treat hay.

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Haylage Challenges

As a general rule of thumb, you can't go wrong with an inoculant that drops the pH of the ensiled forage mass as quickly as possible, making a good fermentation better.

A rapid pH drop will help maximize dry matter (DM) and nutrient retention, plus it will minimize the risk of spoilage, like clostridia, for example. To achieve a rapid pH drop, look for homolactic LAB strains such as *Pediococcus pentosaceus* 12455 that are proven to convert sugars efficiently to lactic acid.

Using the right number of colony-forming units (CFU) per gram of forage will ensure there are enough “good” microbes that can help producers win the fermentation battle. Look for an application rate of 100,000 CFU or greater for front-end fermentation inoculants. This is the effective level, as recognized by university researchers, and is based on using strains proven to dominate the fermentation. It's important to ensure the LAB are not limited by their food supply. A good inoculant will also contain enzymes to help feed bacteria and potentially aid the digestibility of the silage.

It's important to consider the specific crop to be fermented and the harvest conditions. Take for example, haylage. Haylage is unique in that it is harvested more than once, with the first cutting done in the spring or early summer, and each cutting provides slightly different challenges. Haylages have a higher buffering capacity, or resistance to pH drop, than cereal crops, grasses and corn, and they naturally have lower levels of LAB. This is an issue because a high population of LAB bacteria is necessary for an efficient fermentation and a fast pH drop, in addition to preventing the growth of undesirable bacteria such as enterobacteria and clostridia. Growth of these undesirable bacteria can lead to high DM and nutrient losses, and the presence of undesirable end products.

Haylage also tends to have high ash levels, due to soil being picked up as the crop is mowed close to the ground and raked. These soil particles harbor undesirable microbes such as spoilage bacteria and fungi, and also increase the buffering capacity of the forage mass – further challenging the fermentation. Therefore, it is important to use an inoculant containing the recommended level of proven efficient homolactic LAB to help ensure a good fermentation.

Typically, the first cutting represents about 30 to 40 percent of the total season DM yield. Neutral detergent fiber digestibility is often higher than any other cutting of the season, but haylage quality declines fastest for first cutting if there are any harvest delays. Timing is everything for maximum forage quality, especially with the first cutting of alfalfa.

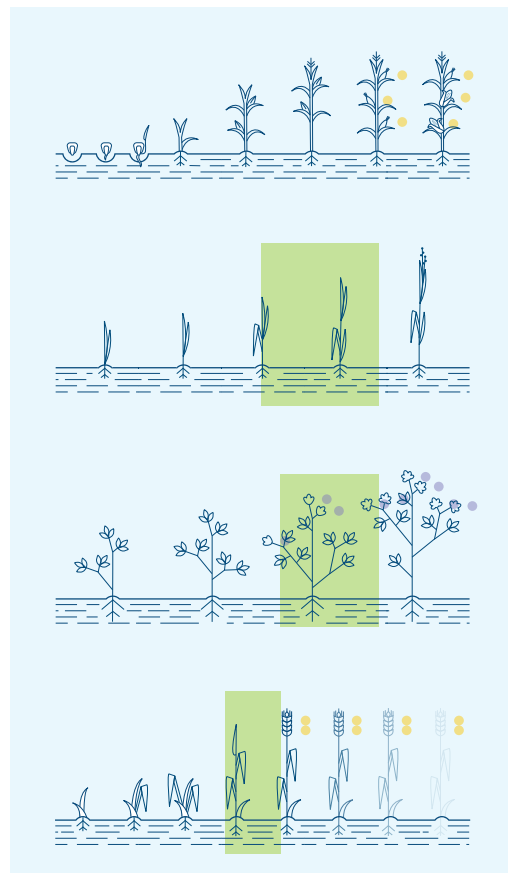
A forage inoculant is a small investment that can help save many tons of DM and help produce clean and high-quality silage. On top of that, make sure that all other management parameters are optimized – chop length, packing, fast fill, cover and seal, and feedout management – and you should be on the right path to high-quality first cuttings!

To learn more, visit magniva.lallemandanimalnutrition.com/en/northamerica



Critical Control Points for Great Silage

Keith A. Bryan, Ph.D., Global Technical Portfolio Manager, Silage Inoculants and Cattle Probiotics, Novonesis



Maturity stages for corn, grass, alfalfa and small grains

Experts know that silage quality can be impacted by a series of decisions within an operation. We've called out nine critical control points that you should consider if you're seeking to improve nutrition content, conversion rates, digestibility and more.

Safety

Agriculture ranks among the most hazardous industries. Every serious injury or fatality during the ensiling process could have been prevented. Safety matters!

Decision-Making

Identify the decision-makers and empower them to make the "right" decision in a timely manner.

Maturity

Maturity reflects the antagonism between quantity (yield) and quality (digestibility).

Dry Matter

Hitting target moisture is critical for reducing the risk of undesirable fermentation, minimizing effluent and achieving optimal density.

Particle Length

Chop length for silage affects compaction and fermentation in the silo as well as the level of effective fiber in the diet. A drier crop requires a shorter particle size.

KPS

Focus on kernel processing scores (KPS) for improved digestibility of corn silage.

Inoculant

SILOSOLVE® is a science-based, research-proven silage inoculant that will make good silage better.

Compaction

Oxygen is the enemy! Match forage delivery rate to packing tractor weight to exceed "the rule of 800" (packing tractor weight lb = 800 x tons of forage delivered/hour).

Sealing

Cover quickly. Consider oxygen barrier film. Add weights uniformly. Gravel bags at walls and ends. Inspect and repair holes with plastic tape.

For more information visit chr-hansen.com/en/animal-health/silage

Peter Vinelli, President

Here are some important points to know about Hay Guard:

- Eliminates oxygen, which prevents mold and yeast growth that cause heating in hay.
- Allows baling at moisture up to 25% while keeping green color throughout the bale.
- Works with both dew moisture and stem moisture.
- No acid. No inoculant. Noncorrosive. No smell.
- Ready to use. No mixing.
- Low application rate. Less refilling of applicator.
 - 2 lb per ton of hay up to 20% moisture
 - 3 lb per ton of hay from 21-25% moisture
- Safe for all livestock, including horses. No refusal due to acidic odors.

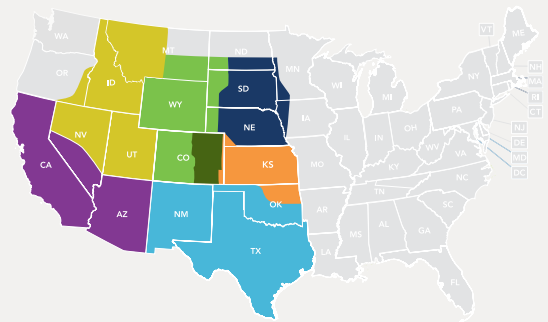
For more information on Hay Guard, contact your Animal Health International sales representative or visit animalhealthinternational.com/inoculants



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