

DAIRY NEWS

Dairyland Veterinary Service

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Keep nutrition in mind when planning for Silage Harvest

Start with a harvesting plan:

1. Set goals for moisture level at harvest.
2. Adjust chop length to aid rumination.
3. Determine desired level of kernel processing.
4. Plan to fill and pack quickly to prevent spoilage.
5. Cove bunkers and piles to minimize loss.

Set goals for moisture level at harvest.

Silage that is harvested too wet can lose soluble nitrogen and carbohydrates to leakage. The risk of harvesting a bit on the wet side is that starch may not have fully accumulated but silage will pack well and have optimum digestibility.

On the other hand, silage chopped too dry undergoes a less vigorous fermentation and doesn't pack well. These two conditions can lead to development of undesirable yeasts and molds. Silage harvested in the low 60s can have poor starch digestibility even if processed well.

As a general rule, conventional silage that will be stored in an upright silo should be harvested at 62 percent moisture; in a bunker or pit, 65 percent to 68 percent moisture and in a bag, 62 percent to 68 percent moisture. Brown midrib (BMR) corn silage should be harvested 1 percent to 2 percent higher moisture than conventional.

Under normal conditions, expect moisture content to drop about .5 percent per day. However, moisture can drop more rapidly under high heat and wind conditions— as much as 1 to 2 percent per day or more.

Adjust chop length to optimize rumination

Forage particle length affects rumen function and dry matter therefore milk production. If the forage particles are too fine, rumination is decreased.

This reduces digestibility and can cause digestive upset.

If corn silage is harvested at optimum moisture, use a cut length of 1/2 -inch to 3/4-inch. Drier corn silage may need to be cut shorter to improve packing. Processed BMR corn silage should have a minimum one-inch theoretical length of cut.

Determine desired level of kernel processing.

Processed silage offers the potential for better nutrient utilization and can improve milk production. 70 percent of the kernels should be smaller than one-quarter of the full kernel size; cobs should be broken into more than eight pieces.

The drier the corn silage, the more imperative it is to have the rollers turned down tight. Kernel processor roller clearance of one mm will do the best job on the kernels, but will also decrease overall particle size of the stover. Particle size is very important, especially as high amounts of corn silage are fed.

It is important for the chopping crew to monitor particle size and kernel processing throughout the harvest window because moisture, ground speed, field and hybrid variation can change frequently.

Plan to fill and pack quickly to prevent spoilage.

As a rule of thumb, you will need approximately 800 pounds of pack weight for every ton of silage delivered per hour. For example, if silage is being delivered at the rate of 100 tons per hour, your packing

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tractor or tractors need to deliver 80,000 pounds of weight to properly pack the silage. Set a density goal of 16 pounds DM per cubic foot of corn silage in a bunker or pile. To accomplish this, push and pack thin layers evenly over the entire pile. Packing time should be one to three minutes per ton of forage. Pushing up a 6" layer at a time.

Bags protect silage from air exposure only after they are sealed, so it is critical to fill and seal bags as quickly as possible. If using bags, 13 lbs. DM per cubic foot of corn silage is a good target density.

Silos that are filled rapidly limit air exposure, so quick filling should be a top priority.

Cover bunkers and piles to minimize losses.

White plastic is more effective than black and two layers are better than a single layer. When covering a bunker, pay special attention to edges and seams, as gaps in these areas can easily let

air in. Consider placing sandbags at the edge of the bunker to keep the sides airtight. Bags and plastic coverings are effective only if they are intact, so monitor frequently and patch holes as needed.

Just because the silage is harvested, packed and covered doesn't mean it's time to stop managing the forage. The face of the bunker leaves the silage vulnerable to spoilage during feed out.

To prevent silage from spoiling when exposed to air, keep the bunker face clean and minimize damage. Managing DM loss in your silage pile is critical. Consider the feed value you could gain if you manage your pile properly and hold DM losses to 10 or 12 percent—compared with losses of 20 percent or more if management steps are skipped. Longer and less wide bunks makes it easier to manage the face. Take off 1 foot in winter and at least 2 feet in the summer.

If you have any questions about this discuss with your veterinarian.

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Don't let *Salmonella* sneak up on your herd

The clinical signs of *Salmonella* are easy to identify— sudden weight loss, weakness, fever, diarrhea and dehydration. While these symptoms signal clinical *Salmonella* on your dairy, they are only the tip of the iceberg. The majority of *Salmonella* infections in herds are sneaky and often can go undetected for long periods of time in the form of subclinical salmonellosis. These cases show no visible clinical signs of disease, so they are difficult to identify yet reduce a herd's productivity. What's worse, *Salmonella* pathogens can spread from animal to animal throughout an operation for months without detection.

A subclinical case of salmonellosis can develop as a result of exposure to these different types of pathogen carriers:

- Active carriers that shed the *Salmonella* organism in manure and / or milk
- Symptom-free carriers that infrequently shed organisms
- Dormant carriers that harbor *Salmonella* but do not shed bacteria.

Salmonella Control Plan:

- Maintain clean facilities. Evaluate your fresh cow, transition and calving pens. Apply fresh bedding on a consistent schedule and remove all manure from the facilities.
- Sanitation is key. Feeding equipment and loaders should not be used for manure handling. Help reduce the spread of bacteria by using chlorhexidine to clean calf-feeding utilities and oral treatment equipment, on a regular basis.
- Enforce biosecurity measures. Insist that all visitors, including your veterinarian, wear clean boots and clothing. Wash boots regularly and launder work clothes daily. Ideally, work attire should be left at the dairy.

Work with your veterinarian to develop a *Salmonella* control program. Don't wait until you've seen a clinical outbreak of the disease; start working on a program today.

For more information on ways to reduce your risk of *Salmonella*, visit: www.SalmonellaRisk.com

Client Appreciation is Thurs. Aug. 23, 2012—Mark your Calendars!