GUEST COLUMN

Wrap It Up?

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Individually wrapping bales enables stacking of balage to reduce storage space.

Individually wrapping balage bales can promote aerobic stability during feed-out.

The weatherman predicted excellent drying weather; however, the thunderclouds on the horizon mean rain on your newly mown hay laying in windrows. This scenario seems all too common for many hay producers seeking to create high-quality, dry hay. To avoid this situation, some producers are considering baled silage, or balage, as an alternative to dry hay. Following some good management practices can help create nutritious and palatable balage.

Spreading the mown forage in wide windrows, for quick dry-down, minimizes the time between cutting and baling. Research and field experience suggest forage should be baled and wrapped at 40-60% moisture. Baling wetter forage may result in butyric-type fermentation and the growth of clostridia bacteria, especially if the forage was contaminated by soil during raking or baling. Conversely, baling at dryer conditions could result in yeast growth and heating to the point of spontaneous combustion. In practice, an operator baling a large cutting may start with too wet forage in the morning and end with too dry forage in the afternoon.

Silage inoculants or other preservatives may enhance the fermentation process by increasing lactic acid production to reduce forage pH which enhances dry matter and nutrient retention, or to deter yeast and mold growth. The inoculants and preservatives are "tools in the tool box" that complement, rather than replace, other management factors in producing high-quality balage.

Research and field experience indicate that quickly wrapping the forage after baling is critical. Yeasts and molds are grateful for every moment of oxygen exposure, and will express their gratitude by rapidly growing to the point of reducing nutrients, especially protein, digestibility, and potentially heating to dangerous temperatures. The speed at which balage is wrapped is often the rate-limiting step in producing high-quality balage. The amount of forage mown in a day must not exceed the amount of balage which can be wrapped before feed deterioration begins.

The quality of wrapping plastic is critical for balage. Plastic must be able to be stretched to the point of clinging to the forage, without ripping. Multiple layers, preferably 6-10 layers, of high-quality plastic will reduce penetration of oxygen into the feed, thereby enhancing dry matter and nutrient retention by hindering yeast growth. Baling wetter and less mature forage will reduce the likelihood of sharp plant stems puncturing the plastic and resulting in spoilage. The wrapped bales should be carefully handled during movement from the field to storage. The storage site should be carefully selected and maintained to limit attractiveness to rodents, birds, and their predators, which can also puncture the plastic wrapping.

In-line or tube wrapping may be faster than individually wrapping bales.

Producers must decide between wrapping bales in plastic tubes or individually wrapping bales. Those producers favoring tube wrapping often cite less plastic usage, faster wrapping, and a lower labor requirement than individually wrapped bales. In contrast, advocates of individually wrapped bales speak of less aerobic loss during feed-out, the ability to stack bales to reduce the storage area, and the ability to sell the wrapped bales. Each producer should evaluate their objectives and resources to determine which wrapping method is the most practical and suitable for their particular situation.

The production of nutritious and palatable balage is possible by reducing the time period between cutting, baling, and wrapping, fostering an appropriate fermentation, and correct wrapping with quality plastic and proper storage. Each producer considering balage should evaluate their operation's characteristics and objectives to determine balage's suitability as a proper forage storage system.