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Headline: Baleage Management

WARSAW, Mo. – Many beef cattle producers are utilizing baleage as an alternative to dry hay for conserving forage for wintertime feeding. Baleage, also known as haylage or round bale silage, is produced by baling forage at relatively high moisture levels and wrapping the bales with plastic. This excludes oxygen, resulting in fermented forage that can be excellent quality feed, or it can turn into a deadly, worthless mess. Management makes the difference.

The most recent issue of the Journal of the National Association of County Agricultural Agents had two excellent articles on producing baleage. One article dealt with actual baleage quality factors based on samples taken from West Virginia farms, and the second dealt with the results from a survey of management practices by West Virginia farmers when making round bale silage.

The second article contained the most direct, comprehensive list of Best Management Practices (BMP's) for producing well-fermented baleage I have read to date. The BMP's are listed below.

- Make haylage from high quality/early growth forage (late boot to early head) since it has higher sugar content that is needed to produce good haylage fermentation.
- Mow forage without conditioning once the dew has dried so that the moisture in the haylage is within the plant and not on the surface.
- Mow forage into a wide swath for rapid and uniform wilting to 50-60% moisture for best fermentation, which takes about 4 to 6 hours.
- The forage should not be tedded since tedding leaves the stems oriented at random while parallel stems will allow baling denser bales.
- Rake the forage into a windrow and bale in a tight, dense bale to reduce air (oxygen) inside the bale. Pre-cutters in the baler increase bale density and improve fermentation. Bale to a uniform bale diameter needed to exclude air where bales come together when using in-line tube wrappers. Also, bale size and weight need to be compatible with tractor and loader capacity.

- Wrap bales in plastic within 2-hours to exclude air using at least 6 mils of plastic and 50% overlap and 50 to 55% stretch. Wrap in dry weather for plastic to stick.
- Store bales in an area that is relatively level with no sharp stones. Stack bales to reduce sunlight exposure to save plastic and reduce sweating, north-south orientation of bales evens out sunlight on both sides of the bale.
- Inspect bales weekly, repair tears and holes to prevent spoilage and secondary fermentation using tape made for plastic, not duct tape.

The science and biology behind these BMP's are related to the fermentation process and have been well studied and documented. If you have questions about making baleage or the science behind the BMP's mentioned above, contact me at the Extension Center in Warsaw at (660) 438-5012 or by e-mail at schmitze@missouri.edu.

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