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***Forage Focus: Salvaging Standing Corn as Baleage***

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This summer's high temperatures and lack of precipitation has played havoc on grain fields. In some cases the standing corn looks fair while other fields it is completely burned up. In many fields in which the standing corn looks decent, upon further inspection it is seen that the ears are poorly pollinated or completely barren. Some producers are looking into options for salvaging this corn crop as silage for feeding to their cows and feeder calves by baling the crop into round bales and wrapping it in plastic.

When considering ensiling of standing corn that is barren or has little grain, it is important that the corn be at the proper moisture content. Moisture levels of 60%-65% should be the target for the whole plant when baling. It may be wetter than this at cutting if it is allowed to wilt. Because much of the moisture is in the stalk, it is difficult to dry this portion of the plant without using a mower conditioner or other method, such as a rotary mower (i.e. brush hog), that allows the moisture from the inner stalk to escape. Waiting until the whole plant reaches the moisture level rather than cutting and wilting provides flexibility to use a disc mower or other hay cutting equipment. Either method is acceptable, just be sure to monitor the whole plant moisture to ensure the proper moisture level at baling.

Once cut, depending on the method of cutting, it may need to be raked. Rotary mowers will spread the material over a large area. The material will dry quickly if conditions are right and moisture level should be monitored to ensure the target is hit at baling. When raking, the tines will need to be set low as the material can be difficult to windrow. When using a mower conditioner, the corn may not need to be raked depending on the width of the throat on the baler. One side may need to be windrowed in some cases as the mower conditioner or disc mower may have left the fallen corn in a wider swath than the baler can pick up.

Upon baling, the use of a net wrap baler will reduce the chance of stalks puncturing the plastic at wrapping. If using a twine baler, consider adding a few more wraps of twine to minimize corn stalks protruding from the bales. Bales should be wrapped tightly to exclude as much air as possible so a good fermentation will occur. Proper fermentation will only occur if oxygen is kept away from the material. Some balers can process or cut the material as it enters the baling chamber. This will reduce the size of the stalk which may reduce waste later on at feeding. The use of an inoculant may aid in getting a good fermentation and if the baler is equipped with this option, it should be considered.

Once bales are made, they should be wrapped with stretch plastic as quickly as possible. In-line tube wrappers or individual bale wrapping machines can be used. In-line wrapping is less expensive, but less portable than individual bales. Individually wrapped bales can be stacked as well. In-line wrapped bales take less time to remove the plastic at feeding. There are pros and cons of both types, you will need to decide which is best for your operation. Ensure that you apply the appropriate thickness of plastic. In general, it is suggested that 2-3 more wraps be added than what is normally used for grass or alfalfa because of the greater chance of the stalk puncturing the plastic. Any punctures should be quickly fixed by taping the punctures.

Once wrapped, the bales should be allowed to ferment for 4-6 weeks. After this period, one should take a sample from several bales and have them analyzed for nitrates and quality. Corn that was marginally high in nitrates at cutting will generally have a reduction in nitrate levels by 30-60%. Because of the variability, it is important that a nitrate test be conducted prior to feeding. Be sure to obtain a representative sample from multiple bales, at least 10. A sample should be submitted for a fermentation profile and nutritional quality. The fermentation profile will provide useful information on how well the corn preserved. This will include a pH and volatile fatty acid profile. This information can be used to determine if the forage can be stored and whether there may be a risk of listeria or other pathogens. The nutritional information will allow for the proper supplementation strategy to meet the animals' needs. Often the protein level in drought stressed corn is higher than normal corn silage, but the energy value is often 60-80% due to the lack of grain. With high feed prices, it is best to ensure that one feeds to meet the needs of the livestock and spend limited dollars wisely.

Baling corn for silage can be a viable way to salvage a failed corn crop. There is a risk of a failed fermentation with the resulting feed being unacceptable for livestock. By baling at the proper moisture, tightly wrapping the bales and ensuring adequate plastic covers the bales, there is a low risk for a failed fermentation.