

Storage, ensiling, and handling wet ethanol coproducts. K.F. Kalscheur* and A.D. Garcia, *South Dakota State University*.

Wet distillers grains (WDG) are an excellent source of energy and protein for ruminants. Unfortunately, their average shelf life ranges from 6 to 10 days during the winter, and is reduced by half during the summer. Its use is thus limited to livestock producers that can feed large enough quantities within a short period of time to minimize spoilage. Organic acids added to WDG can extend its shelf life to several weeks depending on application rate. Alternatively, WDG can be ensiled, which results in high air exclusion, minimizing spoilage and dry matter losses. One advantage of WDG is that it comes from the processing plant with a pH between 3.1 and 3.5. Fermentation experiments of straight WDG (30% DM) showed little changes when preserved in silo bags for 14 days. Preservation of WDG is excellent if bagged immediately most likely due to its low initial pH rather than to fermentation (very little changes in pH and volatile fatty acids over time). This can be used advantageously by mixing WDG with other feeds, which results in an initial drop in the pH of the blend. Blending WDG with other feeds that contain fermentable carbohydrates has resulted in fermentation patterns that differ from the traditional lactic acid fermentation towards a more acetic one. Blends of WDG and corn silage ensiled on an as-fed basis in 50:50 and 75:25 corn silage to WDG ratios, resulted in increased acetic acid concentrations and improved aerobic stability versus corn silage alone. Another advantage of blending feedstuffs with WDG is that the larger particle size of the blend makes feed removal easier during the winter months when straight WDG will freeze.

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