NORTH DAKOTA-Quality of Hay from Road Rights of Way in North Dakota

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Hay harvested from forages growing in road ditches is commonly used as feed for beef cattle, yet little is documented regarding nutrient content of ditch hay, amount of ditch hay harvested, or intended use of ditch hay in North Dakota. Extension agents collected 182 ditch hay samples from 36 counties across North Dakota, and samples were analyzed to reveal factors contributing to variation in nutrient quality and recommendations for balancing quality and quantity of forage harvested. Project results revealed there are many factors influencing ditch hay quality, however, management practices can be implemented to improve ditch hay quality, including forage testing.

Summary. Extension agents engaged farmers in 36 North Dakota counties to collect a total of 182 hay samples harvested from road rights of way (ditch hay). Samples were classified based on county, cutting date, whether hay was rained on, type of binding material used, target species for feeding, and whether it was going to be fed on the ground, in a hay feeder or as part of a total mixed ration (TMR). Each sample was analyzed for concentrations of dry matter (DM), ash, crude protein (CP), neutral detergent fiber (NDF), acid detergent fiber (ADF), in vitro organic matter digestibility (IVOMD), calcium (Ca), and phosphorus (P). Samples were bound with plastic twine (40.6%), net wrap (40%) or sisal twine (19.4%). Farmers primarily planned to feed ditch hay to cattle (~90%), with the remaining hay produced for horses, sheep, and bison. Farmers intended to feed bales using a bale feeder (63.9%), directly onto the ground (36.8%), or with a TMR (11.6%). The mean nutrient content value for samples was 91.4% DM, 10.8% ash, 8.5% CP, 65.1% NDF, 52% total digestible nutrients (TDN), 0.61% Ca, and 0.2% P. Crude protein content was impacted by cutting day ($P<0.01$), with forage harvested early in the year having greater concentrations compared with those harvested later. Rain during the cutting to baling interval reduced TDN content by 2 percentage points ($P=0.01$). Results highlight the variability observed in ditch hay nutrient content and reinforce the importance of testing individual feeds to ensure appropriate delivery of nutrients to different classes of livestock.

Complete results can be found at: www.ag.ndsu.edu/pubs/ansci/beef/as1815-21.pdf.