

Effects of Sampling Date on the Forage Quality and Quantity of Stockpiled Native Range in Southwestern North Dakota

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ABSTRACT: The objective of this study was to characterize changes in biomass and nutrient concentration of stockpiled native range from early November to late January. In each of four years, dry beef cows were grazed in a single pasture. For sampling purposes, the pasture was separated into two halves with five permanent sampling sites established in each half. Forage samples were collected from each sampling site on 14-day intervals. In the last three years, forage samples were pooled within each site, sampling date and pasture half for nutrient analysis. Forage samples were analyzed for concentrations of crude protein (CP), acid (ADF) and neutral (NDF) detergent fibers, calcium (Ca), phosphorus (P), magnesium (Mg), and potassium (K). Total digestible nutrient (TDN) concentration was calculated using a standard procedure. The concentration of all reported nutrients, with the exception of P ($P > .35$), was affected by advancing season. Concentrations of CP ($P < .1$) and Ca ($P < .05$) increased and then decreased with advancing season. Concentrations of TDN ($P < .02$), Mg ($P < .1$) and K ($P < .1$) decreased, and ADF ($P = .01$) increased, linearly with advancing season. NDF concentration ($P < .1$) increased in one year and remained constant in the other two years. Average total forage biomass available for grazing varied with year ($P = .03$). The lowest level was in year 1 and the highest in year 2 (900, 1584, 1370 and 1151 kg/ha for years 1, 2, 3, and 4, respectively). Biomass disappearance per animal unit (AU) was estimated to be 35.0, 30.9 and 4.1 kg/d for total, grass and forbs, respectively. Stockpiled native range is a readily available source of grazing for use in extending the grazing season of dry beef cows into the late fall and early winter. Nutritional supplementation that offsets declining forage quality, coupled with appropriate stocking rates, will be essential for optimizing the use of this grazing resource.

Key Words: Stockpiled Forage Quality, Biomass Disappearance

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