

Changes Overtime in Dry Matter Yield and Forage Quality of Swathed Oat, Baled Oat, and Standing Corn (ABSTRACT)

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The most expensive component of any cattle operation is feeding expenses, more specifically, feeding throughout the winter months. Because of this, many operations are exploring alternative winter-feeding methods. One method that may be a viable option to cutting winter-feeding costs is swath-grazing oats. Swath grazing is defined as swathing an oat field and allowing cattle to graze the swaths during the winter months. This study analyzed changes in dry matter yield (DM, lb/ac) and crude protein concentration (CP, %DM) over time for the swathed oat (*Avena sativa*), oat hay, and standing corn (*Zea mays*) treatments. Two fields were split into two sections and were planted with either oats or corn. Eight oat swaths were selected in each field and every other swath was baled. Corn, oat swaths, and oat hay were sampled from early August through mid December. Forage samples were used to analyze DM yield and CP concentration. DM ($P<.02$) was highest in corn, lowest in oat hay, and intermediate in oat swaths. DM was affected by an interaction between sampling time and forage type ($P<.01$). Corn (-80.0 lbs/ac/wk) and oat swath (-60.0 lbs/ac/wk) lost DM over time, while oat hay stayed relatively constant (5.4 lbs/ac/wk). CP ($P<.01$) was greatest in oat hay while CP for oat swaths and corn remained relatively similar. CP was affected by an interaction between sampling time and forage type ($P<.01$). CP remained relatively constant over time in oat hay (0.0007 % units/week) and oat swaths (0.0005 % units/week), while CP declined (-0.0012 % units/week). Corn had the highest dry matter yield, followed by swaths and hay respectively. Hay consistently had the highest CP, followed by oat swaths and corn. These data show that by baling oat hay, producers can expect a higher crude protein concentration compared to oat swath grazing. However, there is a decline in dry matter yield from the baling process. Producers can capitalize on an increase of dry matter yield by using a swath grazing system, but may experience a decline in CP. All of these forage systems appear to provide a viable option for wintering beef cows. Balancing tradeoffs between DM yield and CP concentration over time will be essential for optimizing their use in beef cattle operations in southwest ND.