Cereal Rye Forage for Beef Cows & Heifers

In the upper Midwest, cereal rye is a popular cover crop that can provide forage for beef cattle. But, an important key for successfully feeding cereal rye forage is to match the nutritional content of the forage with the nutritional requirements of the animal.

Nutritional requirements for cattle are dependent upon the stage of growth and production, such as calf versus cow or mid-gestation versus early-lactation. Table 1 below demonstrates that the crude protein requirement increases from mid-gestation to early-lactation, and the energy requirement (TDN %) is greater for younger cows or cows producing more milk.

Table 1. Estimated Protein (CP) and Energy (TDN) Requirements for Beef Cows[1,2]

Stage of Production	Adjusted CP (%)	TDN (%)[3]	TDN (%)[4]
Mid-gestation	8	50	53
Late-gestation	10	54	57
Early lactation	12	57	63

CP = crude protein TDN = total digestible nutrients

[1] Taken from Forage Field Guide: Third Edition. Nov. 2015. Purdue Crop Diagnostic Training and Research Center. p. 258.

[2] Estimates based on a dry matter basis for beef cows that can be compared to a forage analysis

[3] TDN in this column estimates the requirements for mature cows with average milk production potential

[4] TDN in this column estimates the requirements for young cows, or cows with above-average milk production

Data concerning the nutritional content of cereal rye forage is limited and variable depending upon the maturity of the forage. While the table below lists previously reported analyses, **the best analysis is to sample the forage you intend to graze or feed and send it to a commercial lab for nutrient analysis.**

Table 2. Nutrient Analysis and Yield of Cereal Rye Forage at Various Stages of Maturity

Stage of Maturity	DM (%)	CP (%)	TDN (%)	RFV	Yield (T/Ac)
Vegetative[1]	14	27	71	185	<1
Boot to Full Head (ryelage)[2]	21-32 Avg. 27	8-13 Avg. 12	53-63 Avg. 61	71-121 Avg. 101	2-3
Straw[3]	89	4	44	60	NA

[1] Preliminary data. April 19, 2016. Enhancing the value of cover crops through utilization by beef stocker cattle. Iowa State University Extension and Outreach.

[2] Richer, E., 2013. Forage Focus: Cereal rye - A cover crop with feed value? http://www.cattlenetwork.com/cattle-news/Forage-Focus-Cereal-rye---A-cover-crop-with-feed-value--226155861.html. Ohio State University.

[3] 2013 Feed Composition Tables. March 2013. Beef Magazine. p. 46.

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Grazing of Cereal Rye by Beef Cows and Heifers

Successfully grazing cereal rye with cows and heifers involves the following best management practices:

1. **Be aware of grazing restrictions** – Herbicides used earlier in the growing season may have restrictions on when the cereal rye may be planted after application.

2. **Supplemental dry matter may be needed** – Early in the grazing season, the dry matter content of cereal rye at turnout may be as low as 15%, but will increase with plant maturity. Hence, when the rye is in an early vegetative state, it may be necessary to offer dry, high quality forage in addition to the cereal rye.

3. **Provide palatable, free-choice mineral** – Lush, fast-growing cereal rye may be high in potassium and low in magnesium. To prevent grass tetany in the grazing animal, additional magnesium should be provided in the mineral.

4. **Begin grazing when the plants are ready** – Grazing should start when the plants have adequate root development and are a minimum of 6" in height. Root development can be determined by "plucking." Using your thumb and first index finger, try to pull up the plant. If it comes up easily, the cereal rye is not ready to be grazed.

5. **Be willing to adjust the stocking rate** – Typical spring stocking rates may range from 1-2 animals per acre. However, stocking rate is a function of plant growth, plant density, animal size, stage of production for the animal, and weather. Removal of the animals from the pasture during extremely wet weather may be necessary to prevent pugging of the soil.

6. **Use cereal rye to your advantage** – Cereal rye can be used to extend the grazing season, provide early spring forage or as an emergency area for calving when the weather is inclement.

Photo courtesy of Erika Lundy & Rebecca Vittetoe