Grazing Opportunities with Cereal Rye

Cattle Producers

Cereal rye is commonly used in cow-calf production to extend the grazing season, provide early spring forage, or as an emergency area for spring calving during inclement weather. Cattle producers can utilize cereal rye in other ways as well – to develop replacement heifers, to graze stocker cattle, or to provide a soft-surfaced, dust-free area for incoming calves that will eventually move to a feedlot.

Crop Producers

Cereal rye is grown to provide green manure, but also to improve organic matter and soil structure. Crop producers may add value to cereal rye by (1) harvesting and selling stored feed, (2) leasing these acres to a cattle producer to graze, or (3) temporarily grazing stocker cattle themselves. Stocker cattle grazing can be a good fit for crop producers as it requires minimal investment in fencing, facilities, and time. Electric fencing and portable corral systems can be easily erected and taken down. But, the biggest advantage with stocker cattle grazing is short-term ownership. It is easy to "get in" and "get out" of cattle production and to quickly capture increases in market price.

Grazing of Cereal Rye by Stocker Cattle

Successfully grazing cereal rye with stocker cattle 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. **Start with the right animal**
   Ideally, the animal should have normal fill and be pre-conditioned (pre-weaned, vaccinated, and treated for external and internal parasites). It is suggested that calves weigh a minimum of 350 pounds and be at least 160 days of age. However, the heavier the calf, the more forage the calf can consume as the rumen is larger.

3. **Determine the nutrient content of the cereal rye**
   Data concerning the nutritional content of cereal rye forage is limited and varies with the maturity of the forage. Table 1 lists previously reported analyses. For best results, sample and get an analysis of the cereal rye that is to be grazed.

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Table 1. Nutrient analysis and yield of cereal rye forage at various stage 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]	21-23 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? Ohio State University. http://www.cattlenetwork.com/cattle-news/Forage-Focus-Cereal-rye---A-cover-crop-with-feed-value--226155861.html.

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

4. Match the cereal rye analysis to the animal's nutrient requirements

Nutritional requirements of stocker cattle (Table 2) depend on the animal's frame, weight, and desired gain. While crude protein requirements are easily met with vegetative cereal rye, the protein is highly soluble. To meet the requirements for un-degraded intake protein, it may be necessary to supplement with a bypass protein, such as distillers grains. Total digestible nutrients(TDN) requirements can be met for gains of 1-2 pounds, providing the animal consumes sufficient dry matter.

Table 2. Diet nutrient density for growing steer and heifer calves[1]

		1200 lbs at finishing			1400 lbs at finishing		
Body Weight (lbs)	ADG (lbs)	DM Intake (lbs/day)	TDN (% DM)	CP (% DM)	DM Intake (lbs/day)	TDN (% DM)	CP (% DM)
300	1.0	8.4	59	11.4	8.3	58	11.5
	1.5	8.6	64	13.6	8.6	63	13.7
	2.0	8.6	69	16.2	8.6	68	16.2
	2.5	8.5	75	18.9	8.6	73	18.7
400	1.0	10.4	59	10.4	10.3	58	10.4
	1.5	10.7	64	12.1	10.6	63	12.2
	2.0	10.7	69	14.1	10.7	68	14.1
	2.5	10.6	75	16.3	10.7	73	16.1
500	1.0	12.2	59	9.8	12.2	58	9.8
	1.5	12.6	64	11.2	12.6	63	11.2
	2.0	12.7	69	12.8	12.6	68	12.9
	2.5	12.5	75	14.7	12.6	73	14.6
600	1.0	14.0	59	9.4	14.0	58	9.3
	1.5	14.4	64	10.6	14.4	63	10.6
	2.0	14.6	69	11.9	14.4	68	12.1
	2.5	14.4	75	13.6	14.4	73	13.5

[1] Lalman, D. and Richards, C. Revised May 2017. Nutrient Requirements of Beef Cattle. E-974. Oklahoma Cooperative Extension Service. Oklahoma State University.

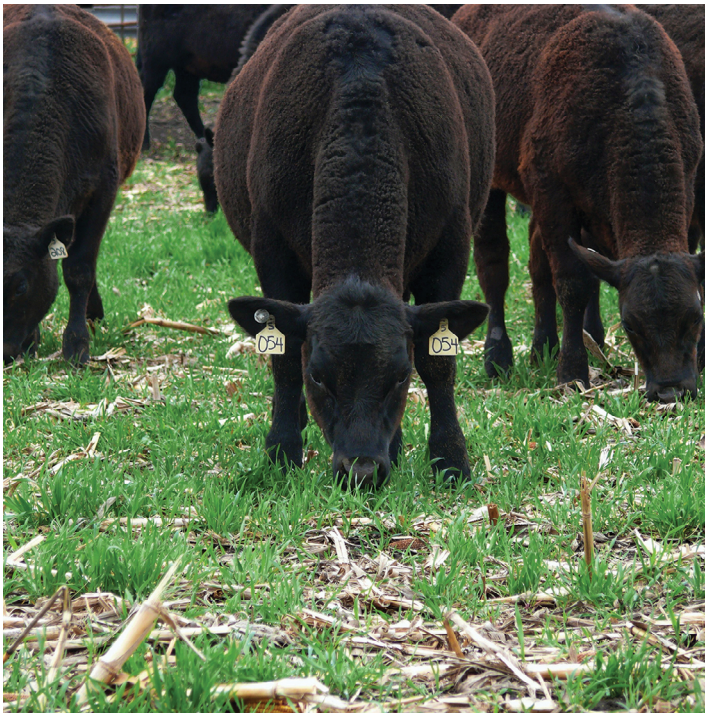
5. **Supplemental dry matter may be needed**
   The high moisture content of cereal rye makes it difficult to meet the dry matter requirements of grazing cattle. It may be necessary to offer dry, high quality forage or grain in addition to cereal rye.

6. **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.

7. **Begin grazing when the plants are ready**
   Grazing should start when the plants have adequate root development and are a minimum of six inches 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.

8. **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 weight, and weather. Removal of the animals from the field during extremely wet weather may be necessary to prevent pugging of the soil.

9. **Be realistic about expected performance**
   Gains of stocker cattle grazing cereal rye typically range from 1-2 pounds per day and depend primarily on dry matter intake. Early in the grazing season, the dry matter content of cereal rye at turnout may be as low as 15 percent, but will increase with plant maturity. Until this occurs, it may be necessary to provide additional dry matter through supplementation.



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Photos by Beth Doran and Erika Lundy.

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