

Cool-Season Perennial Grass Options for the Western Corn Belt

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BACKGROUND

- Smooth brome grass (*Bromus inermis* Leys.) is widely adapted in Midwest USA
- Meadow brome grass (*Bromus riparius* Rehm.)
 - Less productive, but better regrowth
 - Slightly earlier maturity
- Limited information comparing meadow brome grass to smooth brome grass



Figure 1. 'Newell' smooth brome grass and NEBR1 meadow brome grass.

OBJECTIVE

Compare yearling cattle performance and body weight gain between a newly released smooth brome grass cultivar and an experimental strain of meadow brome grass developed for use in the western Corn Belt.

METHODS

- Pastures established in 2009.
- Three brome grass strains seeded as monocultures.
- Three, 0.4 ha pastures arranged in a CRD.
- ADG and BW gain ha⁻¹ measured from spring grazing of initial growth.
- Forage samples collected weekly from three, 30 cm x 182 cm quadrats to determine available forage.



Figure 2. NE BR1 meadow brome grass pasture following 3-yr of grazing.

RESULTS

- Grazing days were 31 d (2011), 37 d (2012), and 43 d (2013).
- Mean ADG (Table 1) was similar for Lincoln (1.31 kg hd⁻¹ d⁻¹) and NEBR1 (1.37 kg hd⁻¹ d⁻¹).
- Newell had greater and more consistent ADG (1.43 kg hd⁻¹ d⁻¹).
- Mean BWG (Table 1) was greater for Newell (158 kg ha⁻¹) than NEBR1 (147 kg ha⁻¹) or Lincoln (141 kg ha⁻¹).
- NEBR1 was less productive during drought.

CONCLUSIONS

- Another option as a component of complementary forage systems.
- NEBR1 similar agronomic, animal performance; excellent recovery.
- NEBR1 adapted to same regions as 'Fleet', 'Paddock', and 'Regar'.
- NEBR1 meadow brome grass is less aggressive and invasive than smooth brome grass.



Table 1. Mean beef average daily gain (ADG) and body weight gain (BWG) per hectare for 2 smooth brome grass and 1 meadow brome grass strains. Stocking rate was 3 steers per 0.4 ha per year.

ADG	2011	2012	2013
	----- kg animal ⁻¹ d ⁻¹ -----		
'Lincoln'	1.30a	1.20b	1.42a
NE BR1	1.53b	1.17b	1.42a
'Newell'	1.43a	1.43a	1.42a
BWG	2011	2012	2013
	----- kg ha ⁻¹ yr ⁻¹ -----		
'Lincoln'	121b	133b	183a
NE BR1	142a	130b	183a
'Newell'	133ab	159a	183a

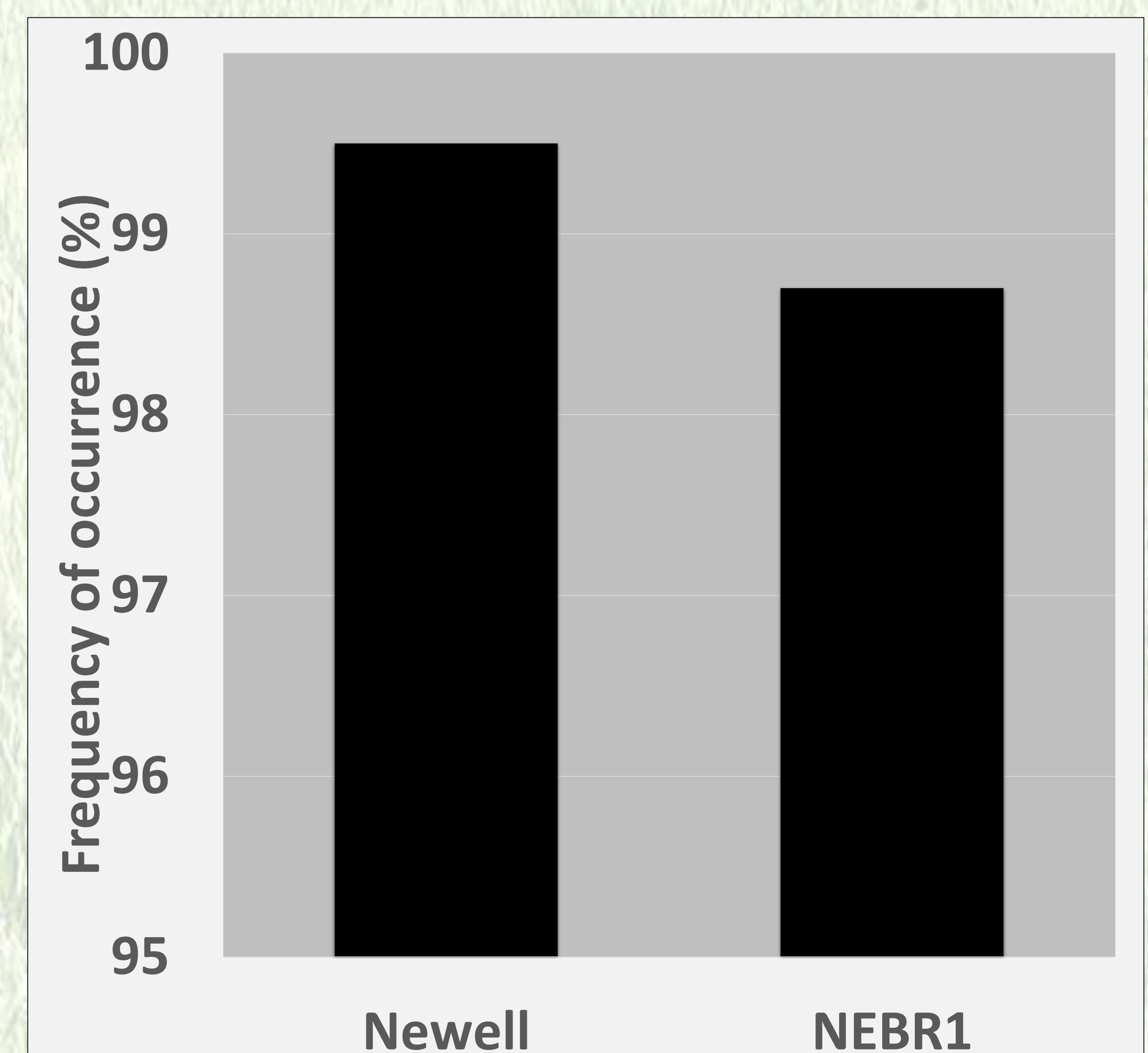


Figure 3. Frequency of occurrence (post-grazing stand counts) taken in 2013 for 'Newell' smooth brome grass and NE BR1 meadow brome grass.