

MEADOW BROME

[*Bromus riparius* Rehm; introduced]

Kevin Jensen, USDA/ARS, Utah State University

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Meadow brome is a long-lived perennial that offers promise for non-irrigated or irrigated pasture. Meadow brome can extend the grazing season as well as increase total forage production. Forage yields in meadow brome are higher than smooth brome, it recovers from grazing much more rapidly, and its fall regrowth is better. Meadow brome can be distinguished from smooth brome by the presence of awns, hairy leaves and stems, and the lack of aggressive rhizomes.

Meadow brome has a tendency for limited vegetative spread under dryland conditions and moderate rhizome development under irrigation. Stands of meadow brome do not decline in productivity as rapidly as does the sod forming smooth brome. Leaves are pubescent and light green in color. Reproductive culms are 60-120 cm tall. Meadow brome heads about 1 to 2 weeks early than smooth brome. Seed morphology is very similar, with the exception that meadow brome seed is much larger and has a much longer awn (this may present a problem with typical seeding equipment). Meadow brome can grow under the same conditions as smooth brome. It is adapted to slightly acid to mildly alkaline soils, and may be produced on dryland pasture where annual precipitation exceeds 15 inches. It is moderately shade tolerant, winter hardy, recovers quickly after grazing, and is well adapted to the mountain brush, aspen, conifer forest and subalpine. It is less dormant under high summer temperatures than is smooth brome. Seedlings are vigorous and stands are easy to establish on well-prepared seedbeds.

As a hay species, meadow brome is less aggressive than smooth brome and retains a better balance in hay fields planted with legumes. Meadow brome is palatable and is a source of early spring forage since it begins spring growth earlier than most grasses. One major advantage over smooth brome is its quick regrowth after cutting, though animals should not be allowed to graze meadow brome until the forage is 8-12 inches high; the animals should be removed when the forage is grazed to a stubble height of 3-4 inches. A typical rest period of three to four weeks is required for maximum forage and the health of the stand. In the fall the stand should not be grazed to less than approximately 6 inches before going into the winter.

For a little over 20 years, Regar was the only available meadow brome cultivar in North America. Commercially available cultivars now include Fleet, Paddock, and Montana meadow brome. The USDA-ARS at Logan, UT is developing an improved meadow brome (UT-MB – experimental designation) that was selected for increased seedling vigor, yield and regrowth under water limiting conditions with repeated defoliation (six harvests). UT-MB has demonstrated between 13 and 25% increase in seedling emergence rate over Fleet and Regar, respectively. Under limited levels of irrigation, UT-MB out yielded Fleet and Regar, particularly under the drier water levels, by 20 to 24%.

When water was less limiting, the forage yield differences were not as great, ranging from 7 to 14% greater for UT-MB. Under dryland conditions at Northern Utah, Miles City, Montana, and Mandan, North Dakota, UT-MB out yielded Fleet and Regar by 19 and 30% respectively. A formal release of this material is expected within the next year.