



'Polar' Smooth Brome

Bromus inermis x pumpelliianus

Uses: Forage and Soil Conservation Throughout Alaska

Background Information

Polar brome grass originated partly from hybrids between smooth brome grass (*B. inermis*) and arctic brome grass (*B. pumpellianus*). These hybrids were interpollinated in 1949.

The seeds from the interpollination were planted with other northern brome grass. 216 clones were chosen and transplanted into a replicated polycross nursery. Over the next four years the amount of clones were whittled down to 16 lines that excelled in forage yield and winter hardiness.

The 16 chosen lines were combined into a synthetic variety known as Polar Brome grass (Wilton, 1966).

Growth

Superior winter hardiness and yield compared with other northern brome types.

It is lodging resistant but has a less aggressive spreading habit of growth than most smooth brome.

Early maturity.

Long lived, sod forming, rhizomatous grass.



'Polar' Brome is recognized in breeder, foundation, registered, and certified seed classes.

Breeder and foundation seed is maintained by the Alaska Plant Materials Center.

Registered and certified seed is available through the Alaska Seed Growers, Inc.

Cultivar 'Polar'

Plant Introduction Number: 9097754

'Polar' brome is a cultivar developed cooperatively by the Alaska Agricultural Research Station and Plant Science Research Division, Agricultural Research Service, US Department of Agriculture.

The prime reason for developing this cultivar was to produce a forage crop that could withstand Alaska's winters.

'Polar' is adapted for winter hardiness, it is lodging resistant, and produces a good yield.

Before being registered 'Polar' brome grass was evaluated from 1960 to 1965. The winter of 1961-62 was one of the most severe in Alaska.



Alaska Plant Materials Center

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'Polar' Brome for Alaska Soil Conservation Purposes

'Polar' has considerable phenotypic variability due to the wide genotypic base of the parents. 5% of 'Polar' has very hairy nodes (stem joints), 60% has slightly hairy nodes. 75% of the lemmas (seed hulls) are hairy.

It is a cool-season grass that is more resistant to being flattened and has a sod forming rhizomatous growth, although slower than most cultivars of *Bromus inermis* (Hodgson, 1971).

'Polar' has greatest usage in areas where winter hardiness is an advantage. It does not survive well in highly acidic soils unless lime is added.



'Polar' Brome seed.
~ 8,930 seeds per pound,
1 mm long

To Produce 'Polar'

Plant seed in the spring. Seedlings should be drilled at a depth of 1/2 to 3/4 inch. Fertilize with nitrogen, keeping it at a pH range of 6.0 to 7.5

Best seed yield: year after planting.

Forage yields: two cuttings per year. Yields are greater on the second cutting.

Does not need a companion crop.

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Cover Value

Spring: Good
Summer: Good
Fall: Fair
Winter: Poor

Forage Value

Spring: Excellent
Summer: Fair
Fall: Good
Winter: Fair
Regrowth: Good



Polar Brome in production at the Alaska Plant Materials Center, Palmer.

Interesting Note:

'Polar' was the only cultivar to survive the severe winter of 1961-62 in the Matanuska Valley without apparent damage. Most of the other bromegrasses planted were not even harvestable that year.

References

- Hodgson, H. J., A. C. Wilton, R. L. Taylor, and L. J. Klebesadel. 1971. *Registration of Polar Bromegrass*, Crop Science Vol. 11, Nov.-Dec. 1971.
- Wilton, A. C., H. J. Hodgson, L. J. Kelbesadel and R. L. Taylor. 1966. Polar Bromegrass, New Winter-hardy Forage for Alaska. Circular 26. University of Alaska.
- Nolen, A. 2008. *Personal discussion*. Alaska Department of Natural Resources, Division of Agriculture, Plant Materials Center, Palmer, Alaska.

