



Smooth Bromegrass

Smooth bromegrass (*Bromus inermis* L.) was introduced to North America in the 1880s from central Europe and Russia. It is a sod-forming perennial grass best suited for hay or silage, although it can be used for very early spring pasture. It is popular in the Midwest USA and in Canada partly due to its ability to survive both drought and temperature extremes. Disease problems increase the further south it is grown.

Description

Smooth bromegrass is a sod-forming perennial that spreads by underground rhizomes, with deep roots. It is leafy and tall-growing, with a panicle-type inflorescence and a large round stem. It has long, narrow, fluffy seeds, with only about 140,000 seeds per pound. Smooth bromegrass is easy to identify in the vegetative state by a conspicuous "W" (or "M") leaf constriction on the upper surface about 1/3 of the way down from the leaf tip.

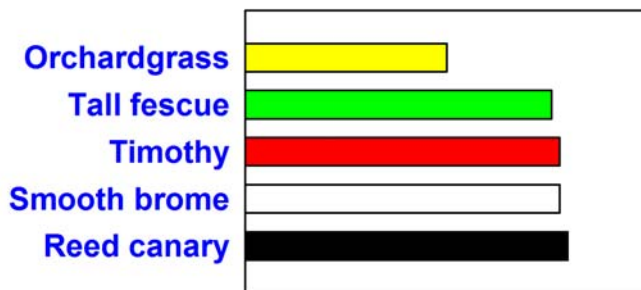


Increasing adaptation to droughty soils →

Figure 1. Species ranking for tolerance to droughty soils.

Adaptation

Smooth bromegrass will grow on a range of soil types, with some tolerance of wet or low pH soils, but prefers well-drained loam soils. It has vigorous seedlings and is very tolerant of droughty soils. Smooth bromegrass is well adapted to northern climates due to superior cold tolerance and a high degree of winter hardiness. It heads out in the same time frame as tall fescue or reed canarygrass. Smooth bromegrass is susceptible to a variety of foliar diseases that reduce forage quality.



Increasing ability to survive overwinter →

Figure 2. Species ranking for persistence over winter.

Establishment

Smooth bromegrass may be sown in the spring or late summer. The long, narrow seeds make smooth bromegrass difficult to plant, seed tends to bridge in seed drills. There are several alternatives help solve the seeding problem. A

fertilizer spreader can be calibrated to broadcast seed brome grass, as long as the seed is covered afterwards with a light tillage implement. Seed can be mixed with a small amount of small grain seed and sown through a small grain attachment on the grain drill. Seed could also be mixed with a small amount of P fertilizer and sown through a grain drill fertilizer attachment. Fertility requirements at seeding should be evaluated with a soil test.

Seeding rates for pure smooth brome grass are 12-16 lbs PLS/acre. If seeded with alfalfa, the grass seeding rate is 6-8 lbs PLS/acre, but seeding with alfalfa is not recommended. After the stem has started elongation, removal of the growing point can severely damage the plant. Stem base carbohydrate reserves are at their lowest then. New buds for tillering tend not to form until near flowering. Harvest of alfalfa-grass needs to occur before grass flowering.

Smooth brome grass responds well to N fertilization and rates up to 225 lbs N/acre may be applied, with no more than 100 lbs applied at any given time. Both P and K should be applied based on removal rates, to maintain soil reserves.

Harvest Management

As mentioned earlier, growth stage at harvest is critical for persistence of smooth brome grass. If the growing point is removed prior to formation of basal buds for new tillers, yield and persistence will suffer. This same problem occurs for regrowth, as the regrowth also has elongating growing points and will produce heads.

If it could be harvested just prior to heading, smooth brome grass would have forage quality equal to reed canarygrass at the same maturity stage. Harvesting beyond early bloom will result in high yields, but with large reductions in CP and fiber digestibility.

Early Spring Grazing

Smooth brome grass produces a leafy growth acceptable for grazing in early spring, as long as the plant is still in the tiller stage of growth. Grazing must be stopped before stem elongation begins, or the stand will be severely damaged by grazing. Stocking rates should be high enough to minimize the formation of

flowering heads in smooth brome grass.



Summary

Smooth brome grass is winterhardy and has similar forage quality to other cool-season grasses. Because it is intolerant to harvest from initial stem elongation through flowering, it is not very compatible with alfalfa. This also makes it difficult to harvest at a timely maturity stage for acceptable lactating dairy forage. Smooth brome grass is desirable horse hay in some regions of NY, and will be very productive and persistent under a lax hay management schedule.


Additional Resources

- 2011 Cornell Guide for Integrated Field Crops Management. Electronically accessible at: <http://ipmguidelines.org/Fieldcrops/>.
- Species selection NY: <http://forages.org>

Disclaimer

This information sheet reflects the current (and past) authors' best effort to interpret a complex body of scientific research, and to translate this into practical management options. Following the guidance provided in this information sheet does not assure compliance with any applicable law, rule, regulation or standard, or the achievement of particular discharge levels from agricultural land.

For more information



Cornell University
Cooperative Extension

Grass Management Manual
<http://forages.org>

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