

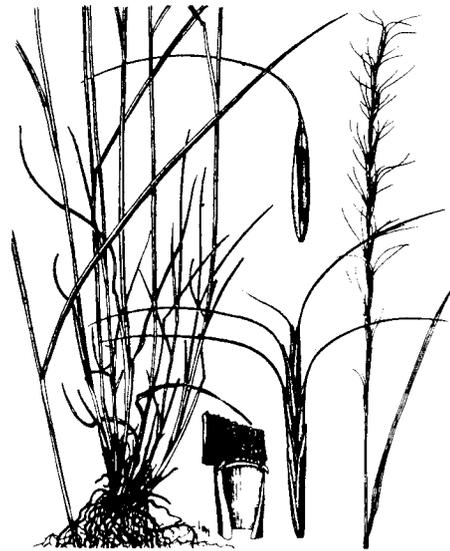
Culture

and

uses

of

BEARDLESS WHEATGRASS BLUEBUNCH WHEATGRASS



In the State of Washington

Bluebunch wheatgrass, Agropyron spicatum (Pursh.) Scribn. and Smith, and beardless wheatgrass, A. inerme (Scribn. and Smith) Rydb., are the most abundant native long-lived perennial grasses in Washington. Bluebunch wheatgrass is more abundant than beardless. Both occur in Eastern Washington from mountainous foothills in association with Ponderosa pine and Douglas-fir thru open grassland prairies in association with Idaho fescue and Sandberg bluegrass to the driest area in the state with needlegrasses, sagebrushes, and rabbitbrushes. Both grasses are commonly called bluebunch wheatgrass in range and woodland grazing guides.

The wheatgrass leaves are flat or inrolled, pointed, narrow, about 1/8-inch wide, and up to 8 inches long in the 7- to 15-inch precipitation zone, and longer in higher precipitation areas. The stalks (culms) are erect, slender, sometimes wiry and bluish in color. The flowering heads (spikes) are slender, erect, and up to 8 inches long with divergent awns on bluebunch wheatgrass varying to awn-tipped or awnless on beardless wheatgrass types. The plants are bunchgrasses in low rainfall areas grading to plants with short rhizomes in higher rainfall areas.

Varieties. 'Whitmar' beardless is a named, registered variety that was domesticated from the native vegetation. It is awnless to awn-tipped, with leaf blades narrow and sometimes rolled. It is a better seed and forage producer than native bluebunch wheatgrass. Otherwise it is similar in growth, season of use, and adaptation.

Adaptation

Climate. 6- to 35-inch precipitation zone; 300 to 5,000 feet elevation; 116°F to -40°F; Major Land Resource Areas 6, 7, 8, 9, 43, and 44.

Range Sites. Bluebunch wheatgrass is a decreaser plant on all range sites when grazed by cattle or horses, but it is an aggressive increaser on range grazed by sheep. It is most common on the loamy, shallow, and sandy loam range sites in MLRA's 6,7,8, and 9. It also is an important species on the north exposure range site in MLRA 8 and open south slopes and drouthy timber sites in MLRA's 43 and 44.

Soils. Bluebunch wheatgrass usually occurs on medium textured loamy soils over 10 inches deep and may also be present on moderately coarse textured sandy loam soils with native needlegrasses. Some of the major soil series are: Prosser, Ephrata, Benge, Anders, Roloff, Stratford, Gwin, Goldendale, Waha, Molson, and Cheney. Shano, Ritzville, Renslow, Walla Walla, and Athena series were major producers of bluebunch wheatgrass prior to being cropped.

Moisture. Bluebunch wheatgrass is drought resistant and does not tolerate excessive amounts of moisture or salts.

Uses

Livestock. Bluebunch wheatgrass is a very important native range grass in the Northwest. It provides forage in the summer, fall, and winter for cattle, sheep, and horses. Any spring use should be very light. Palatability is rated from good to excellent. Where not grazed for a period of years, an excessive accumulation of old growth within the bunches becomes unpalatable, rank, and tough. Under these conditions, livestock leave old plants for more tender forage. After maturity and curing, these wheatgrasses are still palatable. They are good for standing winter feed.

Wildlife. Elk, white-tailed deer, and mule deer graze wheatgrasses extensively during the winter and spring; antelope use them moderately in spring.

Erosion Control. To be effective for erosion control, bluebunch wheatgrass needs the space between plants filled in with Sandberg bluegrass and other native forbs and grasses in low rainfall areas. Proper management provides residue for erosion control.

Establishment

General. The native wheatgrasses establish themselves primarily from shattered seed, so it is essential to periodically let the plants mature seed. Be sure the grazing system provides ample plant residue and litter to make a natural seedbed.

Deferred grazing works well to obtain mature seed, and the trampling by grazing animals, after seed has fallen, assists in planting the seed. Rotation-deferred grazing gives all the pastures equal opportunities to recover.

Seeding. 'Whitmar' beardless wheatgrass is used when reseeding rangelands and marginal croplands being converted to rangeland. Good stands are obtained from early spring seedings on summer fallow. Fall seedings with a deep furrow press drill have also been successful on fallow or clean stubble on light textured soils in the 6- to 12-inch rainfall zone. A firm, weed-free seedbed is essential for successful establishment.

Plant 5 pounds of seed per acre in a firm, moist, weed-free seedbed, using band depth-regulators if necessary to avoid covering seeds more than 3/4 inches deep. Drill-rows should be 12 or more inches apart. Use a deep furrow or rangeland drill in 6- to 12-inch rainfall areas.

The seed should be treated with the proper fungicide and/or insecticide shortly before planting to prevent seedling diseases and provide wire-worm control.

If sites to be seeded are of low fertility, nitrogen applied at 20 pounds per acre will aid in seeding establishment, providing the seedbed is free of weeds.

'Whitmar' beardless wheatgrass may be seeded in alternate rows with alfalfa for hay production. It is, however, usually sown as a single species or with an understory grass such as Canby or bulbous bluegrass.

Management

These wheatgrasses, like all other cool season bunchgrasses, will soon die out if closely grazed in early spring and continuously during the growing season. Such grazing prevents adequate leaf growth which is needed to replenish food reserves in the root system for survival and vigorous new growth the following spring.

These wheatgrasses may be safely grazed to 40 percent during the rapid spring growing season and no more than 60 percent after seed maturity. Grazing should not begin until plants are at least 4 inches tall in lower rainfall areas and 7 inches tall where rainfall is more plentiful. These plants perform well under a rotation-deferred grazing system where no grazing unit is grazed during the complete growing season and each unit is deferred from grazing periodically.

References

- Dayton, W. A. 1947. Range Plant Handbook. Forest Service, U.S. Dept. Agr.
- Hafenrichter, A. L. et al. 1968. Grasses and Legumes for Soil and Water Conservation in the Pacific Northwest and Great Basin States. Agr. HB 339. Soil Conservation Service, U.S. Dept. Agr.