



HYCREST CRESTED
WHEATGRASS



A droughty range site near Bonneville Salt Flats shown the year after seeding. Note how cheatgrass was eliminated from the Hycrest seeding (center).

Hycrest is an improved cultivar of crested wheatgrass that was developed from a hybrid between an induced tetraploid form of Fairway (*Agropyron cristatum*) and natural tetraploid Standard (*A. desertorum*). The cultivar, which is the first interspecific hybrid of crested wheatgrass to be released, is larger and more robust than the parental species. In evaluation trials, it has been consistently more productive than the cultivars Fairway and Nordan, particularly during and immediately after stand establishment on harsh range sites. The cultivar produces about 20% more seed per unit area. Research to date indicates that it has heavier seed than commercial seedlots of Fairway and Nordan.

Hycrest was released in 1984 by the USDA-Agricultural Research Service in cooperation with the Utah Agricultural Experiment Station and the USDA-Soil Conservation Service;

Adaptability

Hycrest is a winter hardy, drought-

resistant bunchgrass. Although the new cultivar is well adapted to the sagebrush and juniper vegetation sites (12 inches of annual precipitation), good to excellent stands have been established on shadscale, greasewood, and Indian ricegrass sites where annual precipitation is less than 8 inches. In southern areas, it is best adapted to elevations of 5,000 feet or more. The upper elevation limits are from 8,500 to 9,000 feet.

It performs well on a wide variety of soil types: however, it is particularly well adapted to sandy or sandy loam soils. In general, crested wheatgrass will not tolerate prolonged flooding and is only moderately tolerant of saline soils when compared to tall wheatgrass, quackgrass, or western wheatgrass.

Uses

Hycrest is recommended primarily for pasture during the early spring and summer. As with other crested wheatgrasses, forage quality tends to decline rapidly later in the summer. It should be used in rotation with other later maturing grasses on higher altitude mountain range to fully exploit its excellent productivity during the early part of the growing season.

Stand Establishment

Hycrest has excellent seed characteristics, although extra care may be needed during threshing and cleaning to separate seeds in clusters. The seed flows through drills easily and has excellent seedling vigor.

Seeds should be drilled in rows about 10 to 12 inches apart under more opti-

mum range conditions and up to 20 inches apart on more droughty sites. It is important to obtain a firm seedbed. If possible, follow the furrow opener with a cover wheel to provide better contact between the seed, soil, and water. Place seed deep enough to ensure that adequate moisture is imbibed, but depth of seeding should never exceed 1 inch. Planting seeds too deep is a major cause of stand failures. Recommended seeding rates are from 7 to 10 lbs. of pure live seed per acre. Higher rates should be used under more optimum soil and moisture conditions.

Best stands are obtained when seed is planted in early spring (before mid April), fall (Sept. 1 to Oct. 1), or late fall (after Nov. 1). Spring and fall seedings require adequate soil moisture. Late fall seedings should be planted late enough so germination and seedling emergence are delayed until more optimum temperature and moisture conditions occur the following spring. In evaluation trials, Hycrest has been a stronger competitor with annual weeds such as cheatgrass

One month after seeding on range site in Idaho: Hycrest (left) and Nordan (right).



and halogeton than other crested wheat-grass cultivars. Delay grazing for at least one year after seedling emergence to permit seedlings to fully develop.

Seed Production

Seed should be drilled in rows from 3 to 3½ feet wide for optimum seed production. From 40 to 60 lbs. per acre of available nitrogen is recommended during the fall or early spring. Follow instructions on label when using herbicides. For example, 2,4-D and Dicamba should not be applied after the grass begins to joint. When seeded in the fall or late fall, it is possible to harvest a moderate seed crop during the year of establishment. Seed should be harvested when shattering begins at the top of the spike. When combined, set the platform high enough to cut the seed and as little green growth as possible. Windrowing is a good alternative to combining since it allows seed and stems to mature more evenly. The grass should be windrowed about a week before seed maturity. Seed should be dried immediately after combining.

Seed Availability

Breeder seed is maintained by the USDA-ARS at Logan, Utah. Foundation seed is produced by USDA-SCS Plant Material Centers at Meeker, Colorado and Aberdeen, Idaho. Registered and certified seed classes produced by commercial growers will be available in 1986.

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