

former, it grows from 2 to 5.5 feet tall. Leaves are 4 to 20 inches long. Can take two to three years to become established.

**Use for Hay:** Hay quality is good. Cut at the heading stage.

**Use for Pasture:** Provides good grazing but is susceptible to trampling, despite its rhizomatous nature. Manage for a stubble height of 6 to 8".

**Planting Rate:** 3-4 pounds pure live seed per acre

**Variety:** 'Goshen'

**SWITCHGRASS:** A moderate sod-forming, native grass. It is a warm-season grass which is adapted to a wide range of soil types. Performs best on sites receiving 16 inches or more of annual precipitation, or more than 14 inches on sandy soils. Seed stalks grow 2 to 5 feet tall; leaves one to two feet long. Plant cures to a colorful reddish-brown by winter.

**Use for Hay:** Switchgrass makes good hay on sites with adequate moisture.

**Use for Pasture:** Palatable to all livestock but as stems mature in late summer, nutrient content and palatability decline rapidly. Graze to a stubble height of six inches; twelve to fourteen inches if continuously grazed.

**Planting Rate:** 5-8 pounds pure live seed per acre

**Varieties:** 'Blackwell': oldest variety, good seedling vigor, leafy, good producer. Originated in Oklahoma, 'Grenville': leafy, fine-stemmed, medium maturity, 'Nebraska 28': finer stemmed, matures earlier, adapted to diverse soils.

**WHEATGRASS, CRESTED:** Cool-season grass which originated in Russia. All but one variety are bunchgrasses. All are drought tolerant. Plants are 8 to 30 inches tall; leaves are 2 to 8 inches long.

These grasses provide forage two to three weeks earlier than most other grasses, but become dormant with hot temperatures in early June.

**Use for Hay:** Can provide good quality hay if cut soon after heading. Rarely harvested for hay, however. Fine stems cure quickly and well.

**Use for Pasture:** Very tolerant of grazing. Poor forage in June through August, unless good moisture is received. Stocking rate can be 1 ac/AUM in the spring, depending on stand productivity and management. Plants will be grazed out if grazed heavily through spring on an annual basis. Can graze 70% of growth if good soil moisture exists to provide for regrowth. Leave two-inch stubble. Graze during the establishment year after frost to remove growth that inhibits spring grazing.

**Planting Rate:** 10-20 lbs. pure live seed per acre

**Varieties:** 'Ephraim': released in 1992; short-

rhizomatous but poorly productive. It is a good, mid-height, low maintenance ground cover. Stabilizes disturbed areas, 'Hycrest': released in 1984; a cross between 'Nordan' and 'Fairway'. Yields 15 to 20 percent more forage than its parents. It has more and finer leaves, and is quicker establishing than 'Nordan'. More stemmy than other crested wheatgrasses. Emerges from deeper planting depth better than 'Nordan' Twelve-inch rows have held out cheatgrass. Adapted to 8 inches or more of annual moisture, 'Nordan' (or standard): more productive and remains greener under drought than 'Fairway'. Tends to have more open stands. Withstands close grazing and trampling. Needs 10 inches or more of annual precipitation. May need nitrogen fertilization to revitalize stands. Good on clay, 'Fairway': thickens in stands better than 'Nordan'; leafier and finer-stemmed. Establishes slower and grows shorter. Flowering heads taper towards tip. Cures earlier than 'Nordan'. Needs 10 inches, or more of annual moisture, 'Siberian': awnless (beardless) and finer stemmed than 'Nordan'; Retains greenness and palatability later into the summer than other crested wheatgrasses. However, it yields less and has poorer seedling vigor. Needs 13 inches of precipitation or more.

**WHEATGRASS, INTERMEDIATE:** A cool-season grass which originated in Eurasia. It is a bunchgrass that can be a week sod-former. It will grow 2.5 to 3.5 feet high; leaves are 4 to 16 inches long. Stands can decline after six years. Greater drought resistance and regrowth than smooth brome. Needs 15 or more inches of annual moisture to outperform pubescent wheatgrass. Good as a salt tolerant grass.

**Use for Hay:** Produces fair to good yields of hay. Quality is good if cut before flowering. Good grass for acreages short of irrigation water. Mixes well with alfalfa.

**Use for Pasture:** Provides good mid-spring to late summer forage. Leave three- to four-inch stubble; six to eight inches if continuously grazed. Does not freeze back as easily as smooth brome in the fall and some regrowth can be grazed at this time.

**Planting Rate:** 8 pounds pure live seed per acre

**Varieties:** 'Amur': selected for seedling vigor and for resistance to drought. Does not have the productive capacity of 'Oahe'. New Mexico release, 'Manska': 15% more digestible than Oahe; similar or better drought resistance, 'Oahe': vigorous and leafy; very good yield capability, 'Greenar': released from Washington. Selected for forage production and compatibility with alfalfa.