

ORCHARDGRASS

Dactylis glomerata L.

Plant Symbol = DAGL

Contributed by: USDA NRCS Pullman Plant Materials Center, Rose Lake Plant Materials Center, Appalachian Plant Materials Center, Idaho State Office & Aberdeen Plant Materials Center; USDA ARS Forage & Range Laboratory



Robert Mohlenbrock
USDA NRCS Wetland Science Institute
@ PLANTS

Alternate Names

Cocksfoot

Uses

Grazing/Hayland: The primary use of orchardgrass is for forage production. It is used for pasture, hay and silage. It is highly palatable to all classes of livestock. Orchardgrass is one of the best forage grasses for use in the Northern states under intensive rotational grazing systems.

Erosion control: Because of its dense network of non-rhizomatous roots, orchardgrass provides good erosion control on those soils to which it is adapted.

Wildlife: Deer find orchardgrass highly palatable and will utilize it most of the year. Orchardgrass is sometimes used in grass-legume mixes for nesting, brood rearing, escape, and winter cover in upland wildlife and conservation plantings. However, upland birds and waterfowl prefer taller grasses that develop sparser stands such as basin wildrye and tall wheatgrass.

Status

Consult the PLANTS Web site and your State Department of Natural Resources for status (e.g. threatened or endangered species, state noxious status, and wetland indicator values).

Description

Dactylis glomerata, orchardgrass, is a long-lived, introduced, cool season bunchgrass. Under dryland conditions, it usually develops distinct clumps and flower culms 15 to 18 inches tall. Leaves usually stand less than 12 inches in height. When grown under irrigation or in moist-fertile situations, it attains a much larger stature and grows in a more closed stand. Orchardgrass is one of the earliest species to initiate growth in the spring and makes tremendous growth during cool conditions. Due to deep roots (most within 2 feet of the surface) it is also capable of strong summer growth when conditions are favorable (i.e. somewhat cool). Under extremely hot conditions, orchardgrass will have a bigger production slump than meadow brome. Orchardgrass has 540,000 seeds per pound.

Adaptation

Orchardgrass is found from Maine to the Gulf Coast states and from the Atlantic Coast to the Pacific Coast. It is common throughout the Appalachian Mountains and is especially well adapted to Maryland, Pennsylvania, West Virginia, Virginia, Kentucky, and Tennessee. It is also found in the high-rainfall regions of the western mountains and in irrigated areas throughout the West.

Orchardgrass is winter hardy and is adapted to moderate to well-drained basic to acidic soils. It will not tolerate soils that are saturated for extended periods of time.

Orchardgrass performs best in a pH range of 5.8 – 7.5, but will tolerate pH as high as 8.5. It is adapted to shady areas or areas with reduced light.

Establishment

A clean, firm, weed-free seedbed is recommended. Forage and erosion control seedings should be made in the late fall or very early spring. Irrigated seedings should be made in early to mid springseed should not be sown after the spring moisture period is well advanced or a failure may occur because of dry seedbed conditions and hot summer temperatures before the grass is well established. A deep furrow or double disc drill with press wheels may be used; however, orchardgrass is easily established with common agricultural drills. The recommended seeding rate for orchardgrass is 8 to 12 pounds of seed per acre. If broadcast seeded or planted for critical area treatment, double the seeding rate. Adjustments in seeding rate should be made when seeding in mixtures. Seeding depth should be 1/4 to 1/2 inch.

Management

New plantings should not be grazed until the second growing season. The plants may be severely damaged by overgrazing especially in the seedling year. Under irrigated conditions the new planting should not be grazed until late summer or fall of the first growing season. The plants may be severely damaged by grazing too soon.

Orchardgrass should be grazed the first time in the spring at or before the plants reach the boot stage of reproduction and may be grazed every 4 to 6 week after the first grazing. Hay harvest will have the best combination of yield and quality when harvested at the boot stage. Close grazing in the fall is consistently associated with winterkill. This plant responds well to rotation-deferred grazing systems. Periodically the grass should be allowed to mature and produce seed for continuation of the stand.

Orchardgrass responds very well to good fertility management. It is one of the most responsive pasture grasses to nitrogen applications. One strategy to even out the forage production is to fertilize the stand after the first and second cutting or grazing period to boost late spring and summer production. Apply fertilizer based on soil tests.

Seed Production

When planting for seed increase, recommended row spacing is 28 to 40 inches. Seeding rate is 1.5 to 2 pounds PLS per acre to seed 25 to 30 PLS per linear foot of row. Irrigated seed yields are commonly 250 to 300 pounds per acre. Seed matures evenly and is ready for harvest in mid-July. Windrowing followed by combining is the preferred method of harvest.

When direct combining the seed should be dried to 12 percent moisture in bins and 15 percent moisture in sacks before storing.

Pests and Potential Problems

Brown stripe, scald, rust and leaf spot are the most prevalent and destructive disease in orchardgrass. Resistance to these varies among cultivars. Japanese and green June beetle larvae feed on orchardgrass roots; sawflies feed on their tops. Little is known, however, about the economic loss caused by these insects.

Orchardgrass does not spread vegetatively and is much less invasive than many other grasses. Consult the PLANTS Plant Profile for references pertaining to invasive qualities. Seeds can collect on animal coats and be transported long distances. Watering and bedding areas are typical sites where orchardgrass may colonize.

Orchardgrass seed is a common contaminant of turfgrass seed. While mowing prevents further spread, individual orchardgrass plants persist and lower the aesthetic value of the turf.

Cultivars, Improved, and Selected Materials (and area of origin)

There are many orchardgrass releases available. Consult local experts to select the best release for your area. Orchardgrass cultivars are best described by their maturity: early maturing and late maturing. The late maturing cultivars are more widely used for hay production because their maturity is closer to the maturity of the clovers and alfalfa with which they are planted.

Augusta is a new early-maturing orchardgrass cultivar collected in Augusta County, Virginia; tested on droughty sites in West Virginia and Kentucky, and selected based on its forage production, disease resistance, forage production, drought tolerance, seed production, and stand persistence. Augusta is recommended for planting only in those areas where it was evaluated; e.g. Major Land Resource Areas 120, 121, 125, 126, 133A, 134, 135, 140, and 147.

Other cultivars commonly used in the Appalachian Region are: Able, Ambassador, Benchmark, Boone, Crown, Dart, Dawn, Elsie, Hallmark, Hawk, Haymate, Justus, Pennlate, Pizza, Potomac, Rancho, Rough Rider, Shawnee, Shiloh, Takena, and Warrior.

Weed Control

Contact your local agricultural extension specialist or county weed specialist to learn what works best in

your area and how to use it safely. Always read and follow label and safety instructions for each control method. Trade names and control measures appear in this document only to provide specific information. USDA NRCS does not guarantee or warranty the products and control methods named and other products may be equally effective.

Prepared By:

John Vandevender
USDA-NRCS
Appalachian PMC
Alderson, West Virginia

Bob Glennon
USDA, NRCS National Headquarters
Washington, DC

For more information about this and other plants, please contact your local NRCS field office or Conservation District, and visit the PLANTS Web site <<http://plants.usda.gov>> or the Plant Materials Program Web site <<http://Plant-Materials.nrcs.usda.gov>>

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

Read about [Civil Rights at the Natural Resources Conservation Service](#).