



United States Department of Agriculture
Natural Resources Conservation Service
Plant Materials Program

'Delar' Small Burnet

Sanguisorba minor Scop.

A Conservation Plant Release by USDA NRCS Aberdeen Plant Materials Center, Aberdeen, Idaho



'Delar' small burnet.

'Delar' small burnet is a cultivar released in 1981 by the USDA Natural Resources Conservation Service Aberdeen Plant Materials Center (PMC) and the University of Idaho Agricultural Experiment Station.

Description

Small burnet is an introduced, hardy, herbaceous, relatively long-lived, evergreen, non-leguminous, perennial forb. It typically grows from a branched caudex (thick base of stems) with a prominent taproot and is sometimes-weakly rhizomatous.

Small burnet plants have alternate pinnately compound leaves with mostly 9 to 17 coarsely serrate leaflets. Leaves are oval to oblong, reaching 4 inches long. Total height varies from 6 inches on droughty sites to approximately 25 inches on irrigated sites. The flowers are sessile and closely packed in head-like spikes, which are 3 to 8 inches long. The flowers are mostly imperfect, the lower ones staminate and the upper ones pistillate with no petals.

Source

The origin of Delar is unknown. Apparently the parent material was traced back to a seed purchase from a private seed company in Paducah, Kentucky.

Delar was first selected as having potential for use in the Intermountain Region by the USDA, Aberdeen Plant Materials Center. It was compared to four other outstanding accessions of small burnet in trials near Parma, Aberdeen and Tetonia Idaho, under dryland and irrigated conditions. Delar had the highest forage and seed production at all of the test locations and was the most attractive and cold tolerant of the accessions evaluated.

Conservation Uses

Small burnet is noted for having good to excellent forage value for livestock and wildlife during all seasons. It stays green throughout the growing season and into winter until heavy snow cover occurs, providing forage and seed to livestock and wildlife. It provides excellent diversity to the seeded plant community. It is used in seed mixes for erosion control and beautification. The leaves can be added to salads, ice drinks, vinegar, butter, and cream cheese to add a fresh, cucumber-like flavor

Area of Adaptation and Use

Delar will establish in areas with 12 inches or more annual precipitation, but generally does not persist in areas with less than 14 inches annual precipitation. It has excellent cold and drought tolerance. It is considered fire resistant due to leaves and stems staying green with relatively high moisture content during the fire season.

Delar tolerates weakly saline to weakly acidic sites. Small burnet is not tolerant of poor drainage, flooding or high water tables. It is usually used in open areas, but will tolerate semi-shaded conditions.

Establishment and Management for Conservation Plantings

Small burnet should be seeded with a drill at a depth of 1/4 to 3/4 inch into a firm seedbed or broadcast using seed dribblers or aerial applications. Small burnet is not recommended for single species seedings. The full seeding rate (not recommended) for this forb is 20 pounds Pure Live Seed (PLS) per acre or 20 PLS per square foot. When used as a component of a mix, adjust to percent of mix desired. In most cases a rate of 2 to 5 pounds per acre would be adequate in mixtures with other species. For mined lands and other harsh critical areas, double the seeding rate component of Delar.

The best seeding results are obtained from seeding in late fall to very early spring (because of grass component of mix) on heavy to medium textured soils and in late fall on medium to light textured soils. Late summer (August - mid September) seeding is not recommended unless site is irrigated. Mulching, irrigation and weed control all benefit stand establishment. Seedling vigor is excellent, but the plant establishes slowly. Germination normally occurs the first growing season if adequate moisture is available. Full flowering should not be expected until at least the second growing season.

Growth of small burnet begins in early spring and flowers appear in late May through June. The plant establishes

slowly and should not be grazed until at least the second growing season. Small burnet plants have been known to persist for more than 20 years on western rangelands. As with other species, the life of the plant can be prolonged if it is permitted to set seed on a rotational basis.

Weed control and removal of very competitive species may improve establishment. Damage from wildlife and rodents may occur and they may need to be controlled. Disease problems are minimal with small burnet.

Stands may require weed control measures during establishment. Because small burnet is a broadleaf, use of 2,4-D is not recommended. Mow weeds at or prior to their bloom stage. Grasshoppers and other insects may also damage new stands and pesticides may be needed.

Ecological Considerations

Since Delar is an introduced plant from Europe, it is not an appropriate component in native plant restoration. Small burnet establishes and can spread relatively quickly via seed distribution. Generally, it is not considered "weedy" or an invasive species, but can spread into adjoining vegetative communities under ideal climatic and environmental conditions. There has been a site specific report of it having invasive weedy characteristics in Wyoming..

Seed and Plant Production

Delar should be seeded in 30 inch rows at the rate of 12 pounds PLS per acre to 42 inch rows at the rate of 10 pounds PLS per acre (25 to 30 seeds per linear foot of row) to allow mechanical weed control. It should be seeded in early spring (April - May).

Hand rousing within row and cultivation between rows may be required after plants have reached 2 to 3 inches in height. Split applications of nitrogen in spring and fall and application of phosphorus in fall will enhance production following the establishment year. For optimum production, do not stress plants for moisture during late bud stage, pollination and re-growth.

Bees are very active in seed fields when plants are in full bloom and therefore it is considered a good nectar producer.

Seed is generally harvested in mid to late August by direct combining with platform set high enough to get most of the seed while leaving as much green material as possible.

Seed development occurs progressively from the bottom of plant to the top and is mature when dry and seed is hard and dark in color. Harvest when approximately 80 percent of seed clusters are ripe. Seed shatter is not a serious problem with this species. Seed should be allowed to dry to 12 to 15 percent moisture and then stored in a cool dry area. Seed retains viability for several years under these conditions.

Seed yields of 700 to 1000 pounds per acre can be expected under irrigated conditions and 250 to 350 pounds per acre under dryland conditions. Seed production under dryland conditions is not recommended below 14 inches of average annual rainfall.

Availability

For conservation use: Certified seed is available from commercial seed vendors.

For seed or plant increase: Breeder and Foundation seed is maintained by the Aberdeen PMC. Foundation seed is available through the University of Idaho Foundation Seed Program and Utah Crop Improvement Association Certification of seed shall be limited to Registered and Certified seed.

For more information, contact:
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<http://plant-materials.nrcs.usda.gov/idpmc/>

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

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