



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

'Appar' Blue Flax

Linum perenne L.

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



'Appar' blue flax.

'Appar' blue flax is an introduced cultivar released in 1980 by the NRCS, Forest Service and the Idaho Agricultural Experiment Station.

Description

Appar blue flax is a taprooted, medium-lived perennial forb arising from a woody caudex or root crown. Numerous stems bear small, alternate, linear leaves which range from 1/8 to 1 inch long. Plant height varies from 12 inches in arid sites to 36 inches when irrigated. Flowers are 1 to 1.5 inches across and have five deep blue petals with a yellow hint at the throat. Flowers are produced from mid-May to late June. Individual flowers bloom from morning to mid-day after which petals are shed.

Source

Appar is a selection from a nonnative plant collection made in the badlands of the Black Hills region of South Dakota in 1955. It was collected by A. Perry Plummer, at that time a Range Scientist with the USDA Forest Service Intermountain Forest and Range Experiment Station in Ephraim, Utah.

Appar was selected after several years of testing at the Utah Division of Wildlife Resources Research Nursery at Ephraim, Utah and at the NRCS Plant Materials Center in Aberdeen, Idaho. Appar was chosen based on superior beauty, vigor, seed production and competitiveness with understory grasses at the original collection site.

Conservation Uses

Appar is consumed readily by big game animals and livestock, especially in the spring when they are changing diets from shrubs to forbs and grasses. Because of its beautiful deep blue color as compared to the paler native flax plants, Appar is often used in horticultural settings such as road-side improvement applications and as an ornamental in home gardens.

No detrimental disease symptoms or insect problems have been observed in plantings of Appar.

Area of Adaptation and Use

Appar is adapted to many areas of the Intermountain West on sites receiving 10 to 23 inches mean annual precipitation. It is well suited to live in a variety of plant communities from big sagebrush to mountain brush sites. It prefers full sun and does not perform well as an understory species.

Appar is best suited to sites with well-drained to moderately well drained soils that are moderately basic to weakly acidic. It is also well adapted for use in mixtures for seeding mine spoils and highway rights-of-way.

Establishment and Management for Conservation Plantings

Appar should be seeded with a drill at a depth of 1/4 to 1/2 inch in a firm, weed-free seedbed. The full seeding rate is 4 pounds Pure Live Seed (PLS) per acre. Adjust for desired percentage when used as a component of a seed mix.

The best seeding results are obtained from seeding in late fall to very early spring (due to the grass component of mixes) 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. Dormant fall seedings (preferred seeding period for flax) will pre-chill seed and reduce seed dormancy which may be present. Mulching, irrigation, and weed control all benefit stand establishment. Seedling vigor is good, but not as good as most grasses. Germination normally occurs the first growing season, but may not occur until

the second growing season. Full flowering should not be expected until at least the second growing season.

Stands may require weed control measures during establishment. Because flax is a broadleaf plant, 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.

Growth of flax begins in early spring and flowers appear in mid May through early July depending on species. Weed control and removal of very competitive species may improve chance of establishment. Damage from wildlife and rodents may occur and they may need to be controlled. Disease problems are minimal with flax; however fungus problems have been noted for some native species.

Ecological Considerations

Because Appar is an introduced plant from Europe, it is not an appropriate component in native plant community restoration. It has no known negative impacts on wild or domestic animals and does not cross with native flax species. It is not considered a weedy or invasive species but can spread to adjoining vegetative communities under ideal conditions. Appar seed normally germinates the first growing season following planting under favorable temperatures if moisture is available and it generally does not maintain a viable seed-bank. It coexists with other plant species and adds biodiversity to those plant communities.

Seed and Plant Production

For seed production, plant in 36 inch rows at a rate of 1.6 pounds PLS per acre to allow mechanical weed control and to maintain rows. Appar must be swathed before harvest. Seed is typically harvested in early-August. Seed yields range from 300 pounds per acre (dryland) to 700 pounds per acre (irrigated).

Flax should be seeded in 24 inch rows at the rate of 2.5 pounds PLS per acre or 36 inch rows at the rate of 1.5 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 rouging within row and cultivation between rows will be required. Split applications of nitrogen in spring and fall and application of phosphorus in fall will enhance seed production. For optimum production, prevent moisture stress on plants during late-bud stage, pollination and re-growth.

Seed is generally harvested in late July to mid-August by windrowing before seed shatter and combining with pickup attachment once green stems have dried. Seed is mature when capsules are dry and seed is hard and dark in color. Flowering is indeterminate with mature capsules and the possibility of some flowers present at harvest period. Some seed will shatter once capsules open. Seed should be allowed to dry to 12% moisture or less before placing in bins or to 15% moisture or less before placing in sacks, and then stored in a cool dry area. Seed retains viability for several years under these conditions.

Seed yields of 600 to 700 pounds per acre of blue flax can be expected under irrigated conditions and 200 to 300 pounds per acre under dryland conditions.

Availability

For conservation use: Seed is widely 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 not more than two generations from Foundation seed (Registered and Certified).

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

Citation

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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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