



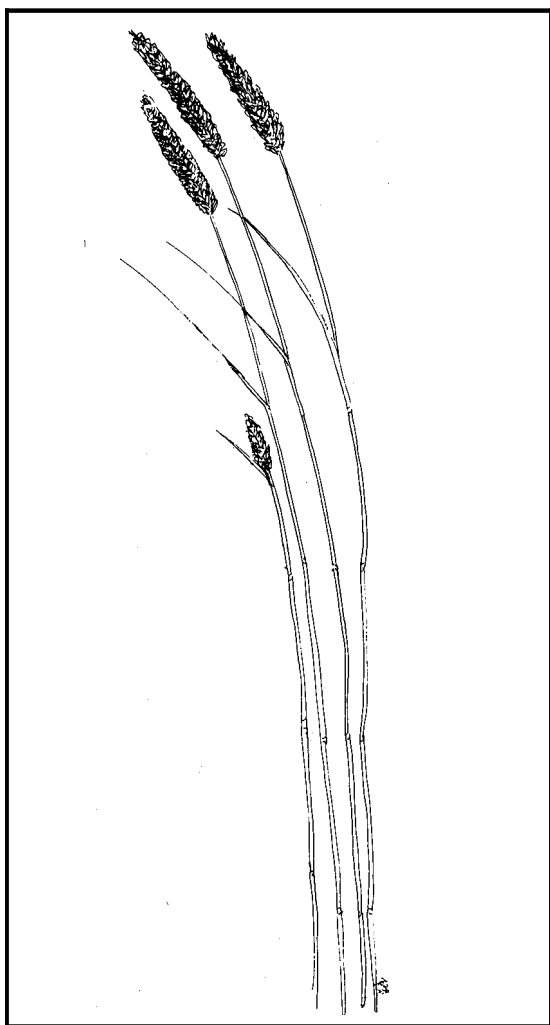
United States Department of Agriculture

Soil Conservation Service

Davis, California



'Perla' **Koleagrass**



'Perla' Koleagrass (*Phalaris tuberosa* var. *hirtiglumis*)

'Perla' koleagrass is a perennial indigenous to Morocco, which was introduced to and developed by the USDA Soil Conservation Service at Pleasanton, California as a range improvement plant for annual grasslands of the Mediterranean-like climatic zone of California.

Based on cooperative effort by the SCS and the California Agriculture Experiment Station, Perla was accepted for certification in 1970 by the California Crop Improvement Association.

Description

'Perla' is a tall, robust, rapid-developing bunchgrass with short rhizomes. In general appearance it resembles Hardingrass, however, 'Perla' has bigger seeds, more vigorous seedlings, yellow-green leaves, and the taxonomic difference of having hairy glumes.

It establishes itself early, grows well during cold winter months, and reseeds readily.

Adaptation

'Perla' is adapted below 2,000 feet to the Mediterranean-like climatic zone or where frost heaving is not a problem. It will grow where there is 16 inches of annual rainfall and there is soil profile development (clay layer). Moisture holding capacity of the soil becomes less critical as rainfall increases.

Uses

'Perla' was developed for improvement of annual grass range. Its production is typically no greater than can be expected from native range. However, this perennial produces forage earlier in the season and stays green longer. Fertilized Perla can add two months or more to the green feed period in winter than unfertilized native grasses, and can add about one month to the green feed period in spring when moisture is not limiting.

'Perla' koleagrass is now considered the standard perennial grass for improvement of annual grass range.

Establishment

For range improvement, seed is drilled at 5 pounds per acre between October 15 and December 15.

Seedbed preparation — Good stands require a spring-summer fallow to reduce competition from annuals in fall. Fall seeding is done on a firm, weed-free seedbed prepared after the first effective rains (1.5 to 2.0 inches). This insures adequate moisture to support seedling growth and destroys the first crop of volunteer annuals. If fallow is prepared before weed species make seed it reduces competition in fall.

Fall seeding can follow a summer clean-up crop of sudangrass. Planting is accomplished directly in the stubble.

Method of Seeding — Best results are obtained by drilling the seed. Use of a common grain drill is possible if the seed is first mixed with rice hulls as a diluent and the drill is properly calibrated. If seed is broadcast and covered by harrowing or dragging, the seeding rate is increased 1.5 times. Seeding depth should be 1/4 to 1/2 inch in all cases.

Weed Control — During the establishment season, mowing may be necessary to reduce competition from annuals. When this is done, set the mower at a height compatible with growth of the perennial. Remove as little leaf area of the perennial as possible so the development will not be retarded.

Fertilizer — Do not apply fertilizer in the establishment year. In the second and subsequent year 200 pounds per acre 16-20-0 (ammonium-phosphate-sulfate) applied in fall is recommended.

Management

New Stands — ‘Perla’ koeagrass should not be grazed until completion of growth the first season. At the end of the green feed period, dry forage can be grazed if the plants are large enough to resist pulling by livestock. An average stubble height of 3 to 4 inches should be maintained.

Established Stands — ‘Perla’ starts growth in fall coincident with the first rains. Mature stands should be ready for grazing early January. Cold tolerance is improved by the inclusion of phosphorus with nitrogen during fall fertilization. Grazing can continue (as long as the ground is firm and not so wet that trampling damage occurs), until fertilized annual range is ready, or when there is a three inch stubble height, normally until late February.

Following winter grazing, the perennials must be rested to allow recovery and regrowth. This deferment period should continue until the annual range begins to dry and lose its high feed value. By that time, ‘Perla’ will have made seed and stored food reserves in its roots. Graze again until the average stubble height is three inches.

Seed Production

‘Perla’ can be grown as an annual for purposes of seed production. Rows spaced 30 inches apart yield **400** to 600 pounds per acre of seed when harvested with a binder in late spring following fall seeding. ‘Perla’ produces 267,000 seeds per pound.

Seed Availability

Breeder and foundation seed are maintained by the Lockeford Plant Materials Center. Foundation seed can be obtained through the California Crop Improvement Association and local Resource Conservation Districts. Seed of ‘Perla’ is commercially available.

SCS assistance is available without regard to race, creed, color, sex or national origin.