REGISTRATION OF STEPHENS WHEAT
(Reg. No. 614)
W. E. Kronstad, C. R. Rohde, M. F. Kolding, and R. J. Metzger

'Stephens' (Triticum aestivum L., Em. Thell.) CI 17596 is a soft white winter wheat developed by the Oregon Agric. Exp. Stn. in cooperation with SEA, USDA, from a cross between 'Nord Desprez' and Pullman Selection 101 (CI 13438) made in 1965. The moderate level of tolerance to eyespot caused by Ceratosporella herpotrichoides Fron. and the relatively early maturity of Stephens, tested as OR 65-116-70-MBW-2, are advantages in the 300 mm or less rainfall areas where early fall seeding and drought avoidance are desired. Conversely, Stephens has superior yield potential under high rainfall or irrigated conditions, as evidenced by its overall high and stable average yield performance in the Western Regional Soft White Winter Wheat Nursery. Stephens has mature plant resistance to prevalent races of stripe rust (Puccinia striiformis West) and is resistant to prevalent races of leaf rust (Puccinia rubigo-aens (De) Wint. F. sp. tritici (Eriks). Carl.). It is moderately resistant to powdery mildew (Erysiphe graminis De. F. sp. tritici Em. Marchal) and carries the B1d or B16 gene for resistance to common bunt (Tilletia foetida (Wals.) Liro or T. caries (De.) Tul.).

The Western Wheat Quality Laboratory SEA-FR has identified Stephens as having promising overall quality characteristics equal or superior to most of the commonly grown soft white winter wheat cultivars. Stephens is medium in height with a strong, white stem. The spike is awned, fusiform, middle, and inclined with glabrous, white, midlong glumes. The shoulders are narrow, oblique, with beaks narrow, acuminate, and 2 to 3 mm long. The awns are flared, white, and 2 to 7 cm long. Kernels are relatively large, white, soft, and ovate with small to midsize germ and midwide crease, which is middeep.

Stephens was named after the late Dave Stephens who, as superintendent of the Sherman Branch Experiment Station, released many of the earlier cultivars grown in the Pacific Northwest.

Foundation seed was made available in 1977. Breeder seed is being maintained by the Crop Science Dep., Oregon State Univ., Corvallis, OR 97331.

REGISTRATION OF FORTUNE TALL FESCUE
GERmplasm
(Reg. No. GP 10)
R. V. Frakes

'Fortune' tall fescue (Festuca arundinacea, Schreb.) was released as a cultivar by the Oregon Agric. Exp. Stn. in 1968. Six genotypes from PI 251563 and one genotype from PI 231564 were multiply pollinated in polycross fashion to form the source of this material. It was tested as Oregon-B tall fescue. Since seed is not available in commercial quantities, it will be registered and distributed as a source of germplasm.

Fortune represents a turf-type tall fescue, dark green in color, fine leaves, and a short growing habit. It responds to high fertility and to frequent clipping heights of less than 5 cm.

Fortune has the normal chromosome complement of 2n=42. At maturity, it is shorter in height than other tall fescue varieties such as 'Fawn', 'Alta', 'Goar', and 'Kentucky 31'. A large proportion of Fortune genotypes has the spreading habit of growth. Fortune is slow in emergence, and does not maintain active growth during hot weather. It did not exhibit the desirable persistence characteristics needed in a turf-type tall fescue in the Midwest and mid-Atlantic regions. In the mild climate area of the Pacific Northwest, it performed well in turf tests, and showed promise for roadside conservation and beautification.

Fortune germplasm is currently being examined in a number of grass breeding programs for genotypes that possess the spreading habit of growth, dark green color, and short height at maturity.

The Oregon Agric. Exp. Stn. maintains Fortune germplasm in a block of 1,016 plants established from seed. Seed of this germplasm line has been designated WH 2040 and is recommended for use in breeding programs.

WH 2040 is a selection from Plant Introduction 297756 from Greece, grown for the first time in 1965 at Pullman, Wash. Pure-line selections, made during 1973 to 1977, showed excellent winterhardiness. One line, WH 2040, which also showed good seed and plant characteristics was increased in 1976. It is the first winterhardy lentil in the United States of commercial quality.

WH 2040 is characterized by a semi-upright habit with vines about 32 to 40 cm long, large leaves, stems, and root system. Flowers are white with blue to pale-purple veins in the standard petal. Seeds average 5.5 to 6.5 cm in diameter and 2.0 to 2.5 mm in thickness. Seed coats vary from green to tan, and the cotyledons are yellow. Weight per hundred seed averages about 6 g.

WH 2040 has been planted in eastern Washington in October and November, and seedlings have been exposed to wind and temperatures of −23 C without protection of snow cover. Although seedling plants were frozen, vital plant tissue showed no appreciable damage, and subsequently good stands were obtained. WH 2040 showed a high level of resistance to soilborne...