Registration of Crop Cultivars

REGISTRATION OF SUSSEX BARLEY

'SUSSEX', PI 471914, barley (Hordeum vulgare L.) (Reg. no. 189) was developed by the Virginia Agricultural Experiment Station and released in 1982. It was selected from a group of crosses made for the purpose of incorporating resistance to barley yellow dwarf virus (BYDV) into types adapted to Virginia conditions. The crosses were as follows: C. I. 9623/’Rapidan’, C. I. 9658/’Hanover’, BYDV resistant 'Atlas'/Rapidan, and C. I. 9708/Rapidan. Seed from these crosses was composited in the F2 generation and grown as a population from which selection for resistance to BYDV was the main objective. The selection which became Sussex was made in the F2 generation and was evaluated under the experimental designation Va. 75-42-55.

During the period of 1979 through 1982, Sussex was evaluated in 53 trials of the Uniform Semiharody Barley Nursery grown in the Southeast. In these trials, it yielded 11% more than ‘Barsoy’ and 1% less than ‘Boone’. In 23 trials conducted during the past 5 years in the region of Virginia where Sussex is recommended, it yielded 10 and 8% more than Barsoy and Surry, respectively, and 1% less than Boone. Test weight is moderately low, being similar to Surry and approximately 9% less than Barsoy. Sussex is an early maturing cultivar suitable for use in double cropping practices. In Virginia, it heads about 3 days later than Barsoy and 3 days earlier than Boone. Being awnleted, it generally can be harvested as early as Barsoy and 1 week or more earlier than Boone.

Sussex is moderately resistant to BYDV and is resistant to races of the casual organisms of scald [Rhynchosporium secalis (Oud.)] J.J. Davis] and powdery mildew (Erysiphe graminis DC. f. sp. hordei) presently found in Virginia. It is susceptible to leaf rust (caused by Puccinia hordei Otth). Sussex is not winter hardy, being similar to Boone in this respect, and is not recommended for the northern and western regions of Virginia.

Sussex is a winter type feed barley which is six-rowed and awnleted with awnless, with short, rough awns occasionally occurring on the central spikelets. Early growth is semi-prostrate to erect and the midtall plants mature early. The green basal leaf sheaths are glabrous; upper leaf sheaths are waxy and yellow at maturity. Auricles are white; leaves are 16 to 24 cm long, 11 to 17 mm wide, and drooping; flag leaves are 9 to 14 cm long and 9 to 13 mm wide. Stems are straight necked and yellow at maturity; exposed nodes are green. Distance from the flag leaf to spike ranges from 16 to 24 cm; the collar is closed and the basal internode is straight and 1 to 2 mm long. The rachis is tough with hairy edges. The dense spike is short to midlong, parallel, waxy, mostly erect, and the lateral kernels do not overlap. Glume awns are equal to or 1.5 times the glume length, rough, and green or sometimes purple at the tip. Glumes are one-third to one-half the lemma length, covered with hairs or with hairs in wide bands. The yellow lemmas have few to several teeth on lateral and marginal nerves, with a depression at the base. The stigma is hairy. The white kernels have long-haired rachillas and are slightly to semiwrinkled.

Breeder seed will be maintained by the Agronomy Dep., Virginia Polytechnic Inst. and State Univ., Blacksburg, VA 24061.

T.M. Starling, C.W. Roane, and H.M. Camper, JR. (1)

References and Notes

1. Professor of agronomy, professor of plant pathology, and assistant professor of agronomy, respectively, Virginia Polytechnic Inst. and State Univ., Blacksburg, VA 24061. Registration by Crop Sci. Soc. of Am. Accepted 8 Dec. 1983.

REGISTRATION OF JOSEPH AND NEZPURS I D AHO FESCUE

'Joseph' and 'Nezpurs' Idaho fescue (Festuca idahomensis Elmer.) (Reg. nos. 26 & 27, respectively) were developed by the University of Idaho Agricultural Experiment Station. They were tested experimentally as Synthetic 'A' and Synthetic 'C', respectively. (1) The cultivars were officially released and were selected on the basis of improved floret fertility (seed set), large seed size, superior germination and plant type (1, 4). Joseph is a 15-clone synthetic cultivar. It has shown 18% better seed set, 37% larger seeds, 14% better germination, compared to the original native collection. It has uniform, robust plants ranging from 72 to 80 cm in height. Joseph is 12 to 18 cm taller than 'Covar' sheep fescue (Festuca ovina L.) and approximately equal in height to 'Durar' hard fescue (Festuca ovina var. duriuscula). The culms are erect with basal growth and 46% more forage production than Covar or Durar. Seed production of Joseph is 30% more than Covar but 40% less than Durar.

Nezpurs is a 90-clone synthetic selected from 200 super-clones using the same breeding procedure as with Joseph. Nezpurs has produced 30% more seed set, 29% larger seed size, and 11% better germination than the original collections. More plant variability exists in Nezpurs than with Joseph. Mature plants normally range between 55 to 70 cm in height. Culms are erect with slightly less basal growth than Joseph. Forage production of Nezpurs was 35% more than Covar sheep fescue but equal that of Durar. Seed production of Nezpurs was 54% more than Covar but 27% less than Durar.

The area of adaptation of both cultivars will be in the rangelands of Idaho, Washington, Oregon, and Montana, at 500 to 2700 m elevations with 50 to 75 cm of annual precipitation.

Breeder's seed, as produced by the Idaho Agricultural Experiment Station, will be the bulked seed of the clones within each synthetic. Seed classes will be limited to breeders, foundation, and certified. Plant variety protection applications 8400002 and 8400003 are being processed that will require Joseph and Nezpurs to be produced and sold as a class of certified seed.