REGISTRATION OF CROP CULTIVARS

1978 for possible release in 1979. Hodgson '78 is a Protected Variety, Certificate 780005, and may be sold only as a class of certified seed. The Minnesota Agricultural Experiment Station will be responsible for maintenance of breeder seed. Other information on Hodgson 78 is published in *Varietal Trials of Farm Crops* (Miscellaneous Report 24, Agricultural Experiment Station, St. Paul, MN 55108).

REGISTRATION OF MCCAUL SOYBEAN

(Reg. No. 124)

J. W. Lambert and B. S. Kennedy

'McCall' soybeans [*Glycine max* (L.) Merr.], developed by the Minnesota Agricultural Experiment Station originated as an F₁ plant selection from the cross M433 × 'Hark'. M433 was derived from 'Acme' × 'Chippewa'. Before its release McCall was identified by the experimental designation M65-217. It is of Group 00 maturity, maturing about 4 days later than 'Portage' and 1 day earlier than 'Altona'. It will be most useful in northern Minnesota (47° to 49° N Lat) and in areas of comparable climate in other states and in Canada.

Distinguishing characteristics of McCall are purple flowers, gray pubescent, yellow cotyledons, dull yellow seed coats, and yellow hila. The canopy is medium in width and the leaves are medium green. Stems and pods are brown at maturity. McCall has medium plant height and good resistance to lodging. In comparison with Altona, it has smaller seeds that are higher in percentage of oil and lower in percentage of protein. In regional testing McCall has outyielded Altona by about 10%. McCall shows low to moderate amounts of chlorosis on high-lime soils, but it is susceptible to phytophthora rot caused by *Phytophthora megasperma* var. *sojae*.

Seed of McCall was released to certified growers in Minnesota and North Dakota in 1978. The Minnesota Agricultural Experiment Station will be responsible for maintenance of breeder seed. Other information on McCall is published in *Varietal Trials of Farm Crops* (Miscellaneous Report 24, Agricultural Experiment Station, St. Paul, MN 55108).

REGISTRATION OF SULLIVAN WHEAT

(Reg. No. 615)


'Sullivan' soft red winter wheat (CI 17,684), developed at the Purdue University Agricultural Experiment Station in cooperation with AR, SEA, USDA, was released in 1977. It was tested in Indiana and regionally as Purdue 68283A1-11 before it was named.

'Sullivan' possesses a single-geen dominant trait for yellow hila. The leaf rust disease from Transfer (Lrg) and other resistances were used as parents. Sullivan has been resistant to races 15B, 29, 38, and 56 of *P. graminis* f. sp. *tritici* during its selection, leaf rust disease derived from Bulgaria 88. Sullivan was selected for tolerance to the leaf blotch disease derived from Bulgaria 88. Sullivan is the progeny of one F₁ plant following the backcross. Yield potential, straw strength, plant height, and winterhardiness were evaluated in replicated trials without further selection in the F₂ to F₄ generations, 1972-1976. Sullivan was selected for tolerance to the take-all disease (incited by *Gaumannomyces graminis* (Sacc.) Arx 8: Oliver) and naturally infested field soils at two locations in Indiana in 1975 and 1976. Breeder seed was in the selection of selfing after the final backcross.

Sullivan possesses a valuable moderate resistance to the take-all root rot disease. Sullivan averages true seed about 2 cm shorter than Oasis.

The light purple color of the coleoptiles of Sullivan is linear and oblong in shape. Spikelets are 7 cm in length and 11 mm in width. The glumes are midround, midwidth, and glabrous. Spikelets are yellow and generally nodding at maturity. Kernels are red, ovate, and 11 mm in length and 3 mm in width. Kernel weight is 3.5 g/1,000 and the phenol reaction is brown.

Sullivan has been resistant to races 15B, 29, 38, and 56 of *P. graminis* f. sp. *tritici* in field nursery tests and has derived the leaf rust disease from Transfer (Lrg) and other resistances from Arthur, Arthur 71, and Abe sib parents. Sullivan has been resistant to races 5, 15, 29, 35, 76, 104, and UN9 of *P. recondita* in field nurseries. The rust fungus *Ustilago tritici* arose naturally in 1976 which caused Sullivan to be selected for new naturally occurring races in 1976 and therefore recommended.

Sullivan possesses the single-geen dominant trait for yellow hila. The leaf rust disease from Bulgaria 88, resistant to the powdery mildew disease during its selection, and the leaf rust disease as were the parent cultivars Arthur, Arthur 71, and Abe sib parents. Sullivan has been resistant to races 5, 15, 29, 35, 76, 104, and *Ustilago tritici* in field nurseries. The rust fungus *Ustilago tritici* has been naturally occurring races in 1976 and therefore recommended.

Selection among lines in F₂ was based on single-geen resistance to leaf rust, powdery mildew (incited by *Erysiphe graminis* (Pers.) Rostr.) and Hessian fly (*Mayetiola destructor* Say). Sullivan is the progeny of one F₂ plant following the backcross. Yield potential, straw strength, plant height, and winterhardiness were evaluated in replicated trials without further selection in the F₂ to F₄ generations, 1972-1976. Sullivan was selected for tolerance to the leaf rust disease (incited by *Gaumannomyces graminis* (Sacc.) Arx 8: Oliver) and naturally infested field soils at two locations in Indiana in 1975 and 1976. Breeder seed was in the selection of selfing after the final backcross.

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