Registration of Varieties

REGISTRATION OF BIG CLUB 43 AND BIG CLUB 60 WHEATS2 (Reg. Nos. 418 and 419)

C. A. Suneson2

Big Club 43, CI 12244, a soft, white spring wheat, is a product of the cooperative wheat breeding investigations of the California Agricultural Experiment Station and the Agricultural Research Service of the U.S. Department of Agriculture. It was the first wheat in America with a multiple recombination of known genes for rust, stem rust, and hessian fly resistance. These were put in an old variety by backcross breeding. Big Club 43 was developed from a multiple crossing of (Hope × Baart) × Big Club (Martin × Big Club) with (Dawson × Big Club) × (Martin × Big Club). The F₂ was subjected to independent severe rust, stem rust, and hessian fly attack from which 144 lines with triple resistance were recovered. These were composited as Breeder’s seed. This was first distributed in 1944.

Big Club 43 now has more classic than economic interest. Acceptance of the Improved Big Club 43 has been good. The Big Club type, because of late maturity, is recommended in California on heavy and wet soils where wind shattering is also serious. It is interesting, however, that its triple resistance has remained protective through 16 years of use. This is best documented as regards hessian fly in the Rio Vista area with a prior 70-year history on this insect pest. The persistence of enduring hessian fly resistance has been attributed to the presence of 3 genotypes (H₀H₀H₀H₀, H₀H₀h₀h₀, or h₀h₀H₀H₀) among the 144 component lines in Big Club 43.

Big Club 60, CI 13663, is a soft, white spring wheat produced by the cooperative wheat breeding investigations of the California Agricultural Experiment Station and the Agricultural Research Service of the U.S. Department of Agriculture. The best rust-resistant lines of Big Club 43 and a previously disbursed purple-straw line of Big Club 43 which gives added protection from yellow dwarf virus tolerance in California but is otherwise similar to Big Club 43 and is expected to replace that variety. It can only be distinguished from Big Club 43 by its purple-tinged straw. The variety was released in 1960 and foundation seed is maintained by the California Experiment Station.

1 Registered under a memorandum of understanding between the Crops Research Division, ARS, USDA, and the American Society of Agronomy. Received May 10, 1963.
2 Research Agronomist, Crops Research Division, USDA, and Associate Agronomist, California Agricultural Experiment Station, Davis, Calif.
3 Suneson, C., Schaller, Charles W., and Davis, Loren L. California’s wheat—most of state’s wheat of strains developed by multiple sib crossings and appropriate selection from 1954 to 1960, 103 lines were bulked to constitute the variety. Big Club 60 has additional rust resistance and yellow dwarf virus tolerance in California but is otherwise similar to Big Club 43 and is expected to replace that variety. It can only be distinguished from Big Club 43 by its purple-tinged straw. The variety was released in 1960 and foundation seed is maintained by the California Experiment Station.

REGISTRATION OF LAKE WHEAT3 (Reg. No. 421)

A. G. Kusch3

LAKE WHEAT, C.A.N. 3729, CI 13413, was developed from the cross Regent × Canus, made at the Canada Agricultural Experimental Farm, Scott, Saskatchewan, Canada, in 1942. Regent, from the cross H-44 × Reward, is a hard red spring wheat of good milling and baking quality. Canus originated from the cross Marquis × Kanede, a winter wheat. Lake resulted from a bulk F₂ line grown in 1947. It was licensed in 1954 and distributed the same year by the Experimental Farm, Scott, Saskatchewan. It possesses good drought resistance, has good milling qualities and is suitable for growing in the drier areas of the Canadian Plains region where it yields well under dry growing conditions.

Lake is a medium late-maturing variety with strong, medium long straw. The spike is fusiform, mid-long with long apical awns. The chaff is white and pubescent; beaks are short, mid-wide and acute; shoulders mid-wide, square to sloping. Kernels are ovoid, of medium size and red in color; the crease is shallow and wide and the cheeks angular.

Lake is resistant to prevalent races of common bunt but moderately susceptible to loose smut. It is resistant to most races of stem rust but susceptible to 15B races and to leaf rust. It possesses good resistance to shattering, lodging, and sprouting.

Seed is maintained by the Canada Agricultural Experimental Farm, Scott, Saskatchewan, Canada.

REGISTRATION OF PEMBINA AND CANTHATCH WHEATS4 (Reg. Nos. 422 and 423)

A. B. Campbell4

PEMBINA, R.L. 2814, CI 13332, was developed by the Rust Area Project Group, centered at the Canada Department of Agriculture Research Station, Winnipeg, from the cross Thatcher × McCurley—Exchange × Redman made in 1948. It was licensed and distributed in Canada in 1959. The outstanding feature of this variety combines the stem rust resistance of White Federation 38 (from Hope) with a Kenya type rust resistance (from Eureka), resisting the smut resistance and agronomic characteristics of White Federation 38.

White Federation 43 (Eureka × White Federation 38) was obtained from Mr. Pugsley, formerly of the Waite Agricultural Research Institute, Adelaide, South Australia, in 1946. It was crossed with White Federation 38 in 1949 and backcrossed to White Federation 38 in 1950. Selection for rust resistant types was continued each generation until the summer of 1955 when 232 F₂ lines were composited to form White Federation 54. White Federation 54 had given ample rust protection from its release until the season of 1952, when race 11 became established. Severe damage occurred on White Federation 38 and Ramona 50, which heretofore were resistant. White Federation 54 is resistant to race 11.

Agronomically and morphologically it is identical to White Federation 38. The breeding procedure was designed to maintain the desirable agronomic characteristics which made White Federation an important and widely adopted variety in California.

1 Registered under a memorandum of understanding between the Crops Research Division, ARS, USDA, and the American Society of Agronomy. Received May 10, 1963.
2 Superintendent, Experimental Farm, Fort Vermillion, Alberta, Research Branch, Canada Department of Agriculture.
3 Registered under a memorandum of understanding between the Crops Research Division, ARS, USDA, and the American Society of Agronomy. Received May 10, 1963.
4 Senior Cerealist, Cereal Breeding Laboratory, Canada Department of Agriculture Research Station, Winnipeg, Manitoba.
5 Handbook of Canadian Varieties, Searle Grain Co. Ltd., Winnipeg, Manitoba.