REGISTRATION OF BIG CLUB 43 AND BIG CLUB 60 WHEATS
(Reg. Nos. 418 and 419)
C. A. Suneson

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 hessian fly resistance. These were put into an old variety by backcross breeding. Big Club 43 was developed from multiple crossing of (Hope \( \times \) Baart*) \( \times \) Big Club* \( \times \) (Martin \( \times \) Big Club*) with (Dawson \( \times \) Big Club*) \( \times \) (Martin \( \times \) Big Club*). The \( F_2 \) was subjected to independent severe bunt, stem rust, and hessian fly attack from which 144 lines with triple resistance were recovered. These were composed as Breeder's seed. This variety was first distributed in 1944.

Big Club 43 now has more classical 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 only 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 (\( H^2H^2h^2h^2 \), \( H^2h^2H^2h^2 \), or \( h^2h^2H^2H^2 \)) among the 144 component lines in Big Club 43.

Big Club 60, CI 13643, 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 discarded purple-straw line of Big Club 43 which gives added protection from yellow dwarf virus were crossed. After multiple sib crossings and appropriate selection from 1954 to 1960, 105 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-tinted straw. The variety was released in 1960 and foundation seed is maintained by the California Experiment Station.

REGISTRATION OF WHITE FEDERATION 54 WHEAT
(Reg. No. 420)
A. G. Kusch

Lake Wheat, C.A.N. 3729, CI 13413, was developed by crossing Regent \( \times \) Canus, made at the Canada Agricultural Experiment Station, Scott, Saskatchewan, Canada, in 1944. The cross H-44 \( \times \) Reward, is a hard red spring wheat of good milling and baking quality. Canus originated from the cross Wtqis \( \times \) Kanred, a winter wheat. Lake resulted from a line grown in 1947. It was licensed in 1954 and the same year by the Experimental Farm, Scott, Saskatchewan. It possesses good drought resistance, has good milling quality, and is suitable for growing in the drier areas of the Canadian plaines region where it yields well under dry growing conditions.

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

Lake is resistant to prevalent races of common bunt, loose smut, and yellow dwarf virus. It is resistant to stem rust but susceptible to 15B races and to leaf rust; it has good resistance to shattering, lodging, and sprouting.

Breeder's seed is maintained by the Canada Agricultural Experiment Station, Scott, Saskatchewan, Canada.

REGISTRATION OF PEMBINA AND CANTHATCH WHEATS
(Reg. Nos. 422 and 423)
A. B. Campbell

Pembina, R.L. 2814, CI 13332, was developed by the cooperative wheat breeding investigations of the Alberta Wheat Project Group, centered at the Canada Department of Agriculture, Research Institute, Penhold, Alberta, Canada. It was the first important and widely adopted variety in Canada.

Pembina is a medium late-maturing variety with long straw. The spike is medium-long with loose spikelets. The chaff is white and pubescent; beaks are short, acute; shoulders mid-wide, square to sloping. Kernels are medium size and red in color; the crease is short and the cheeks angular.

Pembina is resistant to prevalent races of common bunt, loose smut, and yellow dwarf virus. It is resistant to stem rust but susceptible to 15B races and to leaf rust; it has good resistance to shattering, lodging, and sprouting.

Breeder's seed is maintained by the Canada Agricultural Experiment Station, Scott, Saskatchewan, Canada.