Wheat Nursery as ID0114. It was released jointly by the Idaho Agric. Exp. Stn. and AR-SEA-USDA in 1978.

Arbon is an awned, white-glumed cultivar of medium height and maturity. It has averaged 5 cm shorter and has shown better resistance to lodging than 'Jeff.' Spikes are erect to inclined, fusiform, and middense. Glumes are midlong and midwide with narrow to mid-wide, oblique to square shoulders. Beaks are acuminate and 2 to 3 mm in length. Kernels are hard, red, midlong, and ovate with a narrow to midwide, middeep crease. Kernel cheeks are rounded and the brush is large and long.

Arbon has been resistant to all races of common smut (caused by Tilletia controversa Kuhn) under field conditions. However, in one test at Logan, Utah, where it was inoculated with a composite of dwarf bunt races, it had up to 50% infected heads. It is moderately susceptible to the races of stripe rust (caused by Puccinia striformis West.) prevalent in southern Idaho.

The average yield of Arbon in 5 years of testing at Tetonia in eastern Idaho has exceeded that of Jeff and Hansel by 11 and 14%, respectively. Jeff and Arbon have had similar yields at the two test locations in southern Idaho. Grain test weights and protein contents of Jeff and Hansel have been slightly higher than those of Arbon. Arbon has satisfactory milling and baking characteristics.

Breeder seed of Arbon will be maintained by the Univ. of Idaho Teton Research and Extension Center, P.O. Box 743, Rexburg, ID 83440.

REGISTRATION OF DIRKWIN WHEAT1
(Reg. No. 629)

D. W. Sunderman, M. M. Stearns, and Larry J. Smith

'Dirkwin' wheat (Triticum aestivum L. em. Thell.), CI 17745, is a soft white spring wheat selected as an F₃ line from the cross 'Twin'/Tripke Dirk' made in 1968 at the Univ. of Idaho Aberdeen Research and Extension Center. It was developed cooperatively by the Idaho Agric. Exp. Stn. and AR-SEA-USDA. Dirkwin was tested in the 1973 to 1977 Idaho yield trials and the 1975 to 1977 Western Regional Spring Wheat Nursery as ID0106. It was released jointly by the Idaho and Oregon Agric. Exp. Stns. and AR-SEA-USDA in 1978.

Dirkw in is a semidwarf, medium-maturing wheat with straw strength and height similar to that of Twin. Spikes of Dirkwin are awnless, fusiform to oblong, middense, and erect to inclined at maturity. Glumes are glabrous, white, long and wide with midwide oblique shoulders. Beaks are midwide and obtuse. The kernels are soft, white, short to midlong, and ovate with a narrow to midwide, shallow crease which shows occasional pitting. The kernels have rounded cheeks and a midsized, midlong brush.

Dirkw in, resistant to the prevalent races of stripe rust (caused by Puccinia striformis West.) present in the Pacific Northwest, carries the same major gene for stripe rust resistance as that carried by Twin. It is resistant to leaf rust (caused by Puccinia recondita Rob. ex. Desm. f. sp. tritici) race UN 17, susceptible to UN 6 and UN 13, and resistant to moderately resistant to powdery mildew (caused by Erysiphe graminis D.C. ex. Merat f. sp. tritici). Dirkwin, similar to Twin in most agronomic characteristics and in stripe rust resistance, was released to provide growers with a cultivar resistant to leaf rust and powdery mildew.

The average yield of Dirkwin has been about 5% higher than that of Twin. Pastry quality of Dirkwin is similar to that of Twin.

Breeder seed of Dirkwin will be maintained by the Idaho Agric. Exp. Stn. and AR-SEA-USDA, Fargo, ND. Published November, 1980.

REGISTRATION OF CALVIN DURUM2
(Reg. No. 636)

J. S. Quick, B. J. Donnelly, and J. D. Millers

'CALVIN' (Triticum turgidum L. var. durum), Durum wheat developed by the Agric. Exp. Stn., Univ., Fargo, in cooperation with the AR-SEA-USDA. Calvin was selected from the cross 'Twin'/D65152 made in 1966. D65152 is 'Lakota'/5/'Willet' sib//'Norin 10'/3/'Brevor'/5/'Langdon. Willet sib//Norin 10/Brevor is a semidurum line (Triticum aestivum L.) line obtained from the Rockefeller Foundation-Mexico Ministry of Agric. wheat breeding program in 1956. Langdon, Lakota, and Leeds are North Dakota durum wheats released in 1955, 1960, and 1966, respectively. 'CALVIN' was developed to combine short straw with high grain yield, good quality, and leaf disease resistance. Early F₃ generation was done in 4 years by utilizing North Dakota winter breeding nurseries. Calvin was selected as an F₃-derived line in Mexico in 1973. It was first entered in preliminary yield trials in North Dakota in 1973. The grain yield of Calvin has been slightly higher than Cando, and similar to Cando in most traits. The test weight of Calvin was similar to that of Cando in most traits. The average yield of Calvin has been about 5% higher than that of Cando. Pastry quality of Calvin is similar to that of Cando.

Calvin has averaged 66 cm in plant height, shorter than 'Cando' and 30 cm shorter than 'Ward.' Calvin resists lodging under high moisture and high fertility conditions for 4 years of testing. The plants are of spring hardiness, white, and peduncles are straight. The spikes are nondeciduous, oblong, dense, and erect. The awns are tan, midlong to long, and midwide; shoulders narrow and elevated; beaks wide, acuminate, and 3 to 4 mm long. The kernels are hard, midlong, and elliptical; germ midsized; and brush short; cheeks angular to rounded, and the brush (singly none).

Calvin is the second semidwarf durum cultivar released by the North Dakota Agric. Exp. Stn. The grain yield of Calvin is slightly below Cando and about equal to Ward. Calvin has been slightly earlier than Cando, and similar to Cando in most disease reactions. The test and kernel weight of Calvin are higher than that of Cando, equal to that of Ward, and lower than that of 'Rolette.'

Milling and spaghetti processing characteristics are satisfactory in 17 tests during 1975 through 1977. The milling quality of Calvin is similar to those for Cando in most traits. The spaghetti protein content was higher than Cando. Wheat protein of Calvin is similar to that of Cando, but lower than that of Ward and 'Rolette.' The milling and cooked firmness of Calvin were similar to that of Cando.

Calvin was named and released by the North Dakota Agric. Exp. Stn. on 26 Jan. 1978. Breeder seed will be maintained by the Breeder Seed Stocks Project, North Dakota Agric. Exp. Stn. Published November, 1980.