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 midsized. Glumes are midlong and midwide with narrow to midwide, 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 caries (D.C.) Tul. and T. foetida (Wall.) Liro] to which it was tested. It has been resistant to dwarf bunt (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 Teton 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 at the University of Idaho Teton Research and Extension Center, P.O. Box 743, Rexburg, ID 83440.

REGISTRATION OF DIRKWIN WHEAT
(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'/ 'Triple 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.

Dirkwin is a semidwarf, medium-maturing wheat with straw strength and height similar to that of Twin. Spikes of Dirkwin are awnless, fusiform to oblong, midlong, 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.

Dirkwin, 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 that is 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 Tetonia Research and Extension Center, P.O. Box 83440.

REGISTRATION OF CALVIN DURUM WHEAT
(Reg. No. 636)

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

'CALVIN' (Triticum turgidum L. var. durum), Siemens 83440, is a durum wheat developed by the Agric. Exp. Stn., North Dakota State Univ., Fargo, in cooperation with the AR-SEA-USDA. Calvin was selected from the cross 'Leeds'/D65152 made in 1966. D65152 is a semidwarf durum with low disease susceptibility, and unstable grain yield. D61130 is 'Lakota'/5/'Willet' sib/'Norin 10'/Brevor/Langdon. Willet sib/Norin 10/Brevor is a semidwarf durum wheat (Triticum aestivum L.) line obtained from the Foundation-Mexican Ministry of Agric. wheat breeding program in 1956. Langdon, Lakota, and Leeds are North Dakota USDA varieties released in 1955, 1960, and 1966, respectively. Calvin was developed as a source of a new generation of durum wheat cultivars.

Calvin was named and released by the North Dakota Agric. Exp. Stn. on 26 Jan. 1978. Breeder seed will be maintained by the North Dakota Agric. Exp. Stn. at the Regional Winter Wheat Nursery (URDN) since 1973. It also was evaluated in the worldwide disease evaluation tests.

Calvin has averaged 66 cm in plant height, shorter than 'Cando' and 30 cm shorter than 'Ward.' It has resisted lodging under high moisture and high fertility conditions during 7 years of testing. The plants are of spring hard, white, and peduncles are straight. The spike (mostly nondeciduous), oblong, dense, and erect. The glumes are tan, midlong to long, and midwide; shoulders are acute, beaks wide, acuminate, and 3 to 4 mm long. The kernels are hard, midlong, and elliptical; germ mid sized; mid deep crease, shallow; cheeks angular to rounded, and the brush (potentially none).

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

Milling and spaghetti processing characteristics were satisfactory in 17 tests during 1975 through 1977. The test weights were similar to those for Cando in most traits. The test weight was higher than Cando. Wheat protein of Calvin was 7.5% higher than that of Cando, but lower than that of Ward and Brevor. The test weight and cooked firmness of Calvin were similar to those of Ward.

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