REGISTRATION OF EDMORE DURUM WHEAT
(Reg. No. 637)

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

'Edmore' (Triticum turgidum L. var durum), CI 17748, is a spring durum wheat developed by the Agric. Exp. Stn., North Dakota State Univ. (NDSU), Fargo, in cooperation with AR-SEA-USDA. Edmore was selected from the cross D6530/D65114 made in 1968. D6530 is a strong gluten North Dakota selection derived from a cross between 'Cappelli' (an Italian durum wheat cultivar with strong gluten) and North Dakota selection D561. D561 is a tall, stem rust (caused by Puccinia graminis f. sp. tritici Erikss. and Henne.) resistant selection with good physical quality, high yield, and lodging susceptibility. D65114 is a tall, high yielding, North Dakota selection from a cross between 'Leeds' and North Dakota midheight derivatives involved in the parentage of 'Cando' and 'Calvin.' Calvin, Cando, and Leeds are North Dakota-USAID cultivars released in 1978, 1975, and 1966, respectively. The cross to produce Edmore was made to combine strong gluten with an adapted plant type having high grain yield, good physical quality, and disease resistance. Early selection through the F2 generation was done by the pedigree method in 4 years by utilizing North Dakota and Mexico winter breeding nurseries. Edmore was bulked in the F3 generation as an F3-derived line in 1971 and first entered in preliminary yield trials in North Dakota in 1972 as selection D7175. Edmore was tested in the Uniform Regional Durum Nursery since 1974. It also was evaluated in national and worldwide disease evaluation tests. Edmore is the first strong gluten durum released by the Agric. Exp. Stn., NDSU.

Edmore is daylength sensitive and has mid-tall, strong, white culms that may show purplish coloration under some conditions. The spike is awned (deciduous), oblong, dense, and erect. The glumes are glabrous, white, midlong to long, and midwide; the glume shoulders are narrow and elevated; and the beard is white, 0 to 4 mm long. The awns are white and 8 to 18 cm long. The kernels are amber, hard, midlong, and elliptical; the germ midsize; the crease midwide and shallow; the cheeks angular to rounded; and the brush very short (essentially none).

The grain yield of Edmore was about equal to that of 'Ward' when averaged over sites in North Dakota, western Minnesota, northern South Dakota, eastern Montana, and southern Manitoba and Saskatchewan during 1974 through 1977. Over North Dakota stations, yields of Edmore and Ward have been essentially equal and below that of Cando. Grain yields of Edmore have been below those of Ward and 'Rugby' during 1978 to 1979, the 2 years following release. Edmore has been about equal to Ward in test weight and has been superior to Ward, Rugby, Cando, and Calvin in kernel weight. Edmore has been about 1 day earlier in heading and is slightly taller than Ward. Under severe lodging conditions, Edmore has been weaker than Ward and Rugby and about equal to 'Crosby' and Leeds. Edmore has been about equal to Ward in disease resistance; however it has root rot (primarily caused by Helminthosporium sativum) resistance superior to all other durum cultivars.

The milling and spaghetti processing characteristics of Edmore were excellent in tests during 1975 to 1979. The cultivar had good test weight, high vitreous kernel content; improved kernel size and weight, high protein content and improved spaghetti color when compared to previously released cultivars. The inclusion of strong gluten as an additional quality factor provides a cultivar with improved processing and cooking characteristics.

REGISTRATION OF VIC DURUM WHEAT
(Reg. No. 638)

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

'Vic' (Triticum turgidum L. var durum), CI 17774, is a hard red spring wheat developed by the Agric. Exp. Stn., North Dakota State Univ. (NDSU), Fargo, in cooperation with AR-SEA-USDA. Vic was selected from the cross 'Edmore'/Ward made in 1973. Vic and Ward are North Dakota cultivars released in 1978 and 1973, respectively. Edmore has strong gluten, large kernels, and root rot (primarily caused by Helminthosporium sativum) resistant selection. Vic has high yield, wide adaptation, and strong straw. Vic was made to combine these characteristics utilizing a modified pedigree method (F2 yield test line selected in 1974 at Langdon, ND. Vic has been released using three Mexican winter nurseries and house and field crops in North Dakota. Vic has been tested in the Uniform Regional Durum Nursery (URDN) and in North Dakota drill strips since 1974. Vic has been evaluated in national and worldwide disease evaluation tests. Vic is the first strong gluten durum released by the Agric. Exp. Stn., NDSU.

Vic has been about equal to Ward in maturity, height, and lodging. Vic is daylength sensitive and has mid-tall, strong, white culms that may show purplish coloration under some conditions. The spike is awned (deciduous), oblong, dense, and erect. The glumes are glabrous, white, midlong to long, and midwide; the glume shoulders are narrow and elevated; and the beaks wide, 3 to 4 mm long. The awns are white and 8 to 18 cm long. The kernels are amber, hard, midlong, and elliptical; the germ midsize; the crease midwide and shallow; the cheeks angular to rounded; and the brush very short (essentially none).

The grain yield of Vic was superior to Edmore and 'Rugby,' and better than that of 'Cando' when averaged over sites in 1976 through 1978. Vic was superior to other normal height cultivars when tested in North Dakota. Vic demonstrated a superior combination of high test weight and kernel weight over all other cultivars. Vic has been about equal to Edmore in maturity, height, and lodging. Vic is daylength sensitive or superior to that of all other cultivars, and root rot has been superior to all cultivars except for 'Cando.' The characteristics of Vic have been very similar to all other high quality cultivar Edmore with the exception of superior in test weight. Vic and Edmore were equal in cultivars in kernel weight, kernel size, spaghetti firmness during tests in 1976 through 1979. Vic was named and released by the N.D. Agric. Exp. Stn., Fargo, ND in Feb. 1979. Breeder seed will be maintained in the Seed Stocks Project, N.D. Agric. Exp. Stn., Fargo, ND 58105. Certification was provided to the National Small Grain Varieties Review Board for approval.

Vic is described further in N.D. Farm Res. 37(2) :7-11, 1979.