REGISTRATION OF BURLEY 64 TOBACCO
(Reg. No. 60)

C. L. Gupton and M. O. Neas

‘Burley 64’ is a multiple-disease resistant burley tobacco (Nicotiana tabacum L.). The new cultivar was developed jointly by the Agricultural Research Service, U.S. Department of Agriculture, and the Tennessee Agricultural Experiment Station. It was tested as Greeneville 64A and released in 1973.

Burley 64 originated from the cross 62-231-25H × 62-486-25H and was in the F₃ generation when released. The 62-486-25H parent contributed resistance to black root rot, tobacco mosaic, and wildfire, which originated from N. debneyi, N. glutinosa, and N. longiflora, respectively. This parent also contained resistance to Fusarium wilt and black shank. A high leaf number and resistance to all of the diseases listed above, except black root rot, were contributed by 62-231-25H. Survival of Burley 64 was about 93% in nurseries infested with either race 0 or race 1 of Phytophthora parasitica Dast. var. Nicotianae (Breda de Haan) Tucker. About 83% of Burley 64 plants remained symptomless when inoculated with Fusarium oxysporum Schlecht. f. Nicotianae (J. Johnson) Syd. & Hans.

Burley 64 flowers 7 to 9 days later than ‘Burley 49’ and produces more leaves than any present commercial cultivar. However, if it is topped to 22 or 23 leaves about August 1, the upper leaves will be sufficiently expanded and mature at harvest. Similar to Burley 49, an average plant height of only 120 cm and the upright leaves of this cultivar contribute to the ease of lifting and a minimum of leaf breakage during harvest, and facilitate air flow during curing. Leaves of the new cultivar are of about the same width as but average about 2.5 cm longer than those of Burley 49.

Burley 64 has met acceptable standards for physical and chemical characteristics of cured leaf and smoke flavor in evaluations made by the laboratories of leading cigarette manufacturers. The cultivar was evaluated in the Tennessee yield and quality trials from 1968 through 1972 and in the 1972 Tennessee-Kentucky-Virginia North Carolina Regional Burley Variety Test. The average yield of Burley 64 in these tests was about 5,015 kg/ha, which was 294 kg/ha more than that of the check, Burley 49. The average value was $5,015/ha for the new cultivar, compared with $4,617/ha for Burley 49. Grade index, an estimate of quality based on U.S. Government grades, averaged 0.866 for Burley 64 and 0.552 for Burley 49 for 30 tests in Tennessee.

Breeder seed will be maintained and distributed by the University of Tennessee Tobacco Experiment Station, Route 5, Greenville, TN 37743.

REGISTRATION OF BRONZE WHEAT
(Reg. No. 537)

Darrell G. Wells, J. J. Bonnemann, Wayne S. Gardner, and George Buchenau

‘Bronze,’ CI 14015, is a hard red winter wheat (Triticum aestivum L. em Thell) developed by the South Dakota Agricultural Experiment Station from the second cycle of a program of recurrent selection for winterhardness and earliness.

Interpollinations were made between two or three of the hardiest F₂ lines selected from two crosses, C622, ‘Hume’/3/(NE61943)/Mida/Ky 117A/2*Hope’/2’T, and C6231, ‘Hume’/Gage’. Lines from the same cross were not interpollinated.

Bronze is 1 day earlier in heading than Hume and 5 days earlier than ‘Winoka.’ Bronze is of medium height with good straw strength. It is moderately resistant to leaf rust but will show substantial leaf rust development late in the season. Bronze has been free from stem rust in the field and is known to resist races 32 and 151. The leaf necrosis associated with the Hope reaction to rust is minor on Bronze.

Bronze may be as susceptible to wheat streak mosaic as Hume in a single field test. It is moderately resistant to yellow leaf spot (Pyrenophora trichothecae) as were ‘Hume’ and ‘Lancer,’ but ‘Centur’ was susceptible.

Bronze is a result of an effort to combine earliness, hardiness, and other desirable qualities in a winter wheat for use where winter hardness is often a problem. Bronze is a little less hardy than Hume and Winoka but consistently harder than ‘Scout 66,’ Lancer, ‘Scoutland,’ and ‘Centur.

Bronze averaged 7% more grain yield than Hume over 17 tests during 1970-1972, 2636 kg/ha (39.2 bu/ac) compared with 2462 kg/ha (36.6 bu/ac). Bronze averaged 6% less grain per acre than less hardy Lancer, which yielded 2865 kg/ha (41.7 bu/ac). Bronze test weight was slightly less than that of Hume, 77.2 kg/hl (60.3 lbs/bu) as compared with 77.7 kg/hl (60.7 lbs/bu). Lancer’s test weight was 78.6 kg/hl (61.4 lbs/bu).

Bronze is resistant to shattering, having shown only a trace in our tests.

Bronze has a milling value between ‘Omaha’ and Lancer and is superior to Lancer and Scout 66 in baking characteristics.

Spikes of Bronze are inclined to nodding, middense, awned, and fusiform. Glumes are glabrous, brown, midlong, narrow to midwide, with narrow to midwide oblique shoulders. There is a very small proportion of white chalked rakes in Bronze. Beaks are acuminate and moderately long. Kernels are red, hard, oval, midlong; crest, midwide and middeep; cheeks rounded to angular; brush midsized, midlong.

Breeder seed will be maintained by the South Dakota Agricultural Experiment Station.

REGISTRATION OF WARD DURUM WHEAT
(Reg. No. 538)

J. S. Quick, D. E. Walsh, K. L. Lebsock, and J. D. Miller

‘Waro’ (Triticum durum Desf.), CI 15892, is a spring durum wheat developed cooperatively by the North Dakota Agricultural Experiment Station and the Agricultural Research Service, U.S. Department of Agriculture. It was selected from the cross ‘Langdon’/3/L3577/CIG780/L4362/4/Bri80/‘Wells.’ LD 357 and LD 382 have the varieties ‘Heni,’ ‘Stewart,’ ‘Carleton,’ ‘Mindum,’ and ‘Nugget’ in their pedigrees. CI 7780 is a rust-resistant selection from Abyasnia and Bri80/Wells is a selection derived from the same F₂ plant as ‘Leeds.’ The final cross was made in 1963 to combine stiff straw with high yield, large kernels, and high test weight, and to combine stem rust resistance from several sources. Ward was bulked in the F₃ generation as a single F₂ derived line and first entered in preliminary yield trials in 1967 as selection D6674.

Ward has short, strong, white culms that may show purplish coloration under some conditions. The spike is awned (dehisces.