was limited, but adequate supply in subsequent years made possible extensive use of this variety. Approximately 20% of the U. S. flue-cured acreage was planted to McNair 30 in 1966. The first cross in the development of McNair 30 was made in 1954 and was ‘White Gold’ × ‘224G’ (The Kentucky Agricultural Experiment Station furnished pollen of this N. Longiflora × burley derivative to the McNair Seed Company). Four subsequent crosses were made with ‘Hicks.’ The initial release of McNair 30 seed was the increase from an S₄ plant from the BC₄ generation. Since Hicks and White Gold are very similar, McNair 30 can be described as a backcross Hicks type with black Shank resistance transferred from N. Longiflora. McNair 30 is also resistant to Fusarium wilt. Although McNair 30 and Hicks are not phenotypically distinguishable, repeated testing has shown McNair 30 to be higher yielding and to have slightly wider leaves.

‘McNair 20’ (Nicotiana tabacum) (Reg. No. 32) is a sister line of McNair 30. The pedigree and development of the two varieties were described in the registration of McNair 30 (Reg. No. 31). McNair 20 differs from McNair 30 in having slightly narrower leaves and slightly lower yield. The initial releases differed in level of resistance to black Shank and Fusarium wilt, but these differences were less distinct in later releases from selected foundation lines. McNair 20 is more like Hicks than is McNair 30, showing the same tendency to flower prematurely under adverse conditions. McNair 20 is estimated to be planted on approximately 4 to 5% of the 1966 U. S. flue-cured acreage. Relative performance of McNair 20 and Hicks as well as other flue-cured varieties have been published by N. C. State University.

REGISTRATION OF BLUEBOY WHEAT

(Charles F. Murphy)

‘Blueboy,’ (Triticum aestivum L. em. Thell.) C. I. 14081 is a semidwarf soft red winter wheat developed at North Carolina State University. It is a pure line selection from the cross ‘Vogel’ 5’ (Korin 10’ × ‘Brenon’) × ‘Anderson’ × ‘Coker 55-70). The original cross was made by W. P. Byrd at Clemson, South Carolina, in 1957. Ten F₁ seeds were sent to North Carolina in October 1957. Selections were made by G. K. Middleton and T. T. Hembert through the F₂ generations. Final selection in the F₃ generation was made by C. F. Murphy.

The name Blueboy refers to the characteristic bluish appearance of the variety after flag leaf development. This is due to the presence of bloom on the flag leaf and stem. Blueboy is an awnletted variety with large, oblong, mid-dense, nodding spikes. The glumes are white, midlong and midwide, with square shoulders and beaks measuring about 0.1 cm. The kernel is red, midlong and ovate, with soft texture, and the germ is mid-sized, with a midwide, deep crease and rounded cheek. The brush is large and midlong.

Blueboy has shown exceptional yield potential. The 1961-65 average yields from the Coastal Plains show Blueboy to have averaged 55.8 bushels per acre, as compared with 45.5 for ‘Wake-land’ and 46.9 for ‘Hadden.’ In the Piedmont it has averaged 54.9 bushels per acre, as compared to 48.2 for ‘Ga. 1129’ and 46.9 for ‘Knox 62.’ In all tests in which both varieties have been grown, Blueboy has yielded more than 35% higher than the popular Wakeland. It also produced the highest yield of the entries in the Uniform Nurseries at the Southern locations in 1965. Blueboy is characterized by excellent straw strength, responsiveness to nitrogen and good soft wheat milling and baking characteristics. Test weights on Blueboy have been 2 to 3 pounds lower than other varieties but this is considered to be more than offset by its increased yields. Blueboy is somewhat more variable in appearance than some varieties and it has a variable reaction to some races of leaf rust and mildew. It is resistant to soil-borne mosaic virus.

Seed stocks are being increased from 17 pounds planted in the fall of 1964. to approximately 100,000 bushels expected to be available to farmers for planting in the fall of 1967. Breeder seed will be maintained by the North Carolina Agricultural Experiment Station.

REGISTRATION OF LEMHI 66 WHEAT

(Reg. No. 457)

D. W. Sunderman and Martin Wise

‘Lehmi 66’ (Triticum aestivum L. em. Thell.), soft white spring wheat, C.I. 13669, was developed cooperatively by the Idaho Agricultural Experiment Station and the Agricultural Research Service, U. S. Department of Agriculture. The initial cross, Lemhi 53’ × (‘Lee’ × ‘Chinese Spring’ — Aegilops umbellulata), was made at the Aberdeen, Idaho, Branch Experiment Station in 1961. Three backcrosses to Lemhi 53 were made during 1961 and 1962. Stripe rust resistant F₁ lines, selected in the field in 1963, were tested for quality, and 400 F₂ plants of the best F₁ line were grown in the 1963-64 greenhouse.

Part of the seed from each of 300 of these plants was used to make a composite for use in planting 1964 yield trials. Remnant seed was used to sow plant rows in the field. Part of the seed from the most desirable 105 rows made up a composite from which a California winter increase; and 1965 yield trials were grown. Additional tests of the 105 lines were made in the field and quality laboratory in 1965 and 65 of the superior lines will be composited to furnish breeder seed. Each of the 65 lines will be increased individually and a composite made when additional breeder seed is needed.

Lemhi 66 is a medium-tall, awnless, white-chaffed variety which closely resembles its increased yields, is moderately resistant to lodging, but has slightly weaker stalk than Lemhi 53. Lemhi 66 has the Lee gene for stripe rust resistance and the Sr6 gene for stem rust resistance.

The outstanding attributes of Lemhi 66 are its resistance to the prevalent races of stem and stripe rust found in southern Idaho, and its similarity to Lemhi 53 in most other agronomic and quality characteristics. In the absence of stripe rust, Lemhi 66 produces yields of grain equal to Lemhi 55, but of slightly lower test weight. Milling and baking quality are similar to Lemhi 53.

Although the usual 3-year testing period has not been completed, registered seed of Lemhi 66 has been distributed to growers to meet the need for a stripe rust resistant, soft white spring wheat to replace susceptible Lehari 53 on the irrigated lands of Idaho. The Tetonia Branch Experiment Station, University of Idaho, will maintain breeder seed.

1 Registered by the Crop Science Society of America. Received Sept. 2, 1966.
2 Assistant Professor of Crop Science, North Carolina Agricultural Experiment Station, Raleigh, N. C.