were made in the greenhouse and field, respectively. An F_2 head row planted in 1973 and 1974 was bulk-desig- nated SD2273. James was evaluated in state trials from 1974 to 1979, in the Uniform Regional Spring Wheat Yield Nursery, 1976 to 1978, and the Crop Quality Council Tests in 1979.

James has spring growth habit, early maturity, and mid-tall, white, hollow stem. Heads are awned, fusiform, and inclined. Glumes are glabrous, yellow, mid-long, and narrow with a well-defined keel. The shoulder is rounded; and the beak is acuminate, narrow, and 4 mm long. Kernels are red, hard, mid-long, and ovate with angular cheeks and a mid-wide, mid-deep crease. Plant color at booting is green, and a waxy bloom is present on the stem and leaf sheath.

James is expected to be grown in areas of South Dakota where early cultivars are best adapted. In South Dakota tests from 1974 through 1979, James had yielded 107, 101, and 97% of 'World Seeds 1989,' 'Protor,' and 'Butte' which are early cultivars presently in commercial production. Test weight is similar to 'Chris' and 'Waldron.' James has good resistance to leaf rust (incited by *Puccinia recondita* Rob. ex Desm. f. sp. *tritici* Eriks.) and is resistant to prevalent races of stem rust caused by *Puccinia graminis* Eriks. *Henn. Grain protein of James varies from equal to or less than 12%.

Flour extraction percent is higher and ash content is lower than Waldron. Baking characteristics are generally similar to Waldron.

James was named and released by the South Dakota Agric. Exp. Stn. on 1 Mar. 1979. Tall and awnleted variants occurred in the original seedstock at a rate of 0.06 and 0.09%, respectively. Breeder seed will be maintained by the Foundation Seedstocks Project, South Dakota State Univ., Brookings, SD 57007. Application has been made for Plant Variety Protection with the seed certification option.

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**REGISTRATION OF MARBERG WHEAT**

(Reg. No. 631)

F. H. McNeal and D. L. Klindworth

'Marberg' wheat (*Triticum aestivum* L. em. Thell.), CI 17829, Montana selection MT 7416, is a hard red winter wheat cultivar developed cooperatively by the Montana Agric. Exp. Stn. and AR-SEA-USD*A. Marberg is an F_3-derived head selection from the cross 'Red River 38'/CI 13353/6 'Centana.' CI 13353, from O. A. Vogel's 'Norin 10'/Brevor,' was crossed with Centana at Bozeman, Montana in 1955. Backcrosses were then made with Centana as the recurrent parent. One of the selections from this series of crosses was then crossed to Red River 68 in 1968 to obtain resistance to stem rust. Semidwarf selections from this series of crosses were first tested for yield in a single row yield nursery in 1973, and Marberg was given the Montana selection number MT 7416 the following winter. MT 7416 was included in the Montana Yield Nursery at four locations in 1974, and it has been included in the Montana Advanced Yield Nursery since that time. It was also included in the Uniform Regional Hard Red Spring Wheat Nursery 1976 to 1978 inclusive.

Marberg and 'Ponadera' are similar in appearance, except that Marberg has white chaff. The straw is white and the spike is awned, fusiform, and mid-dense. Kernels are red, mid-long, hard, and ovate. Marberg is resistant to stem rust (caused by *Puccinia graminis* Pers. f. sp. *tritici* Eriks. & E. Henn.), only moderately resistant to stripe rust (caused by *Puccinia striiformis* West.), and moderately susceptible to leaf rust (caused by *Puccinia recondita* Rob. ex Desm. f. sp. *tritici*)

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**REGISTRATION OF McNAIR 1003 WHEAT**

(Reg. No. 633)

H. C. Newton, Jr., G. K. Middleton, J. M. Green, and J. L. Helm

'McNair' 1003' wheat (*Triticum aestivum* L. em. Thell.), is a soft red winter wheat selected from a cross of 'McNair 2203' with 'Blueboy,' and tested as McNair Experimental 3001 in 1976 to 1978. The cross and final selection was made at McNair Seed Company, Laurinburg, NC.

McNair 1003 has shown response to the current races of powdery mildew caused by *Erysiphe graminis* in the adapted areas. It is susceptible to both leaf rust caused by *Puccinia echinata* and stem rust caused by *Puccinia graminis*.* McNair 1003 has tolerance to the Hessian fly *Mayetiola destructor*, prevalent in the Southwestern states.

The cultivar is best adapted to the Southeast upper coastal plains, northern Kentucky and east into Arkansas.

It is medium maturity, heading approximately 2 days earlier than 'Arthur 71.' It has stiff straw and produces grain of large size and average test weight.

The morphological characteristics of McNair 1003 are winter growth habit—mid-early, mid-tall; stem—yellow; spike—apically awnleted, mid-dense fusiform; glumes—yellow, long, wide; shoulders—wide, shape round; kernels—medium, size approximately 9 mm.; kernels—red, medium, soft, and ovate.

The cultivar is maintained by growing head rows which will be grown in any of off-types then multiplied in 3-m rows. Increases from this elite seed will be made as needed and designated breeder seed. McNair 1003 is a protected cultivar, Certificate 7700084, and may be sold for seed only as a class of Certified seed. Breeder's seed is maintained by Northrup King Co., Laurinburg, NC 28353.

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**REGISTRATION OF McNAIR 1813 WHEAT**

(Reg. No. 634)

H. C. Newton, Jr., G. K. Middleton, J. M. Green, and J. L. Helm

'McNair 1813' is a soft red winter wheat (*Triticum aestivum* L. em. Thell.). It was developed by McNair Seed Company using the pedigree method. A single head selection was made in 1964 from a segregating F_3 population supplied by the Virginia Agric. Exp. Stn. The pedigree is Seneca 5/Redrobe sib/Redrobe sib/Kenya 338/3/H/Kenya 338/3/Kenya 338/3/Not 10/Brevor. The cross H involved the following cultivars

McNair 1813 is an early maturing semidwarf wheat with blue-grain foliage, brown glumes, and awnleted heads. It has excellent

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1Registered by the Crop Sci. Soc. of Am. Accepted 8 Aug. 1980.

2Small grain breeder, cereal breeder—retired, former research director, respectively, McNair Seed Co., Laurinburg, NC 28352.

3Registered by the Crop Sci. Soc. of Am. Accepted 8 Aug. 1980.

4Small grain breeder, cereal breeder—retired, former research director, respectively, McNair Seed Co., Laurinburg, NC 28352.

5Registered by the Crop Sci. Soc. of Am. Accepted 8 Aug. 1980.