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REGISTRATION OF 11 GERMPLASM LINES OF CENTANA HARD RED SPRING WHEAT[1]

(Reg. No. GP 58 to GP 68)

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'CENTANA' wheat (*Triticum aestivum* L. em. Thell., CI 12974) is a standard-height, hard red spring cultivar developed cooperatively by the Montana Agric. Exp. Stn. and ARS-USDA for production in the plains area of central Montana (2). In 1955, Centana was crossed to 'Norin 10'/'Brevor', Sel. 14, CI 13253, and five backcrosses were subsequently made using Centana as the recurrent parent in crosses to the shortest segregates. Following Chowdhry and Allan's proposal (1) for height genes in CI 13253, we assumed that the height of the shortest lines was controlled by two dwarfing genes and that medium-height lines resulted when only one of the dwarfing genes was present.

Lines from the final cross, CI 13253/6*Centana, were grown in a single-row yield nursery in 1966, and the best performers were assigned Montana numbers early in 1967. Height levels in these lines were classified as short (two dwarfing genes), semidwarf (one dwarfing gene), and standard-height (no dwarfing genes). We selected four lines of equal height to represent each height class. Comparative studies have been made with composites of the four lines (4). Also, one of the semidwarf lines, MT 6723, was named 'Shortana' (CI 15233) and released to Montana producers in the spring of 1971 (3).

Short lines are designated as MT 6725, MT 6726, MT 6727, and MT 6728; semidwarf lines are designated as MT 676, MT 677, MT 6722, and MT 6723 (Shortana); and standard-height lines are designated as MT 671, MT 6711, MT 6717, and MT 6721. All lines are bearded and resemble Centana, except for height differences.

Table I. Agronomic data from Bozeman, Montana, on spring wheat near-isolines that differ in plant height, 1974.

Reg. no.	CI no.	Selection no.	Phenotype*	Days from Jan. 1 to heading	Plant height	Test weight	Grain yield
					cm	kg/hl	kg/ha
GP 58	17399	MT 6725	Short	190	58	77.2	4,715
GP 59	17400	MT 6726	Short	190	57	77.5	4,816
GP 60	17401	MT 6727	Short	190	61	77.6	5,044
GP 61	17402	MT 6728	Short	190	59	78.1	5,038
			Average	190	59	77.6	4,903
GP 62	17393	MT 676	Semidwarf	188	75	78.9	5,018
GP 63	17394	MT 677	Semidwarf	187	82	79.3	5,616
GP 64	17398	MT 6722	Semidwarf	186	81	79.3	5,609
No. 495	15233	MT 6723	Semidwarf	187	75	79.7	5,926
			Average	187	78	79.3	5,542
GP 65	17392	MT 671	Standard	185	98	80.2	4,796
GP 66	17395	MT 6711	Standard	185	102	80.2	4,439
GP 67	17396	MT 6717	Standard	187	107	80.1	4,284
GP 68	17397	MT 6721	Standard	187	101	81.3	4,950
			Average	186	102	80.4	4,617

* Following Chowdhry and Allan's (1) proposal for height genes, genotypes of the three phenotypes probably are: Short—Sd_1 Sd_1 Sd_2 Sd_2; Semidwarf—Sd_1 Sd_1 sd_2 sd_2 or sd_1 sd_1 Sd_2 Sd_2; and Standard—sd_1 sd_1 sd_2 sd_2.

Data from a three-replicate nursery grown under irrigation in 1974 at Bozeman, Montana, suggest that the lines representing each height level have about the same performance pattern (Table 1). The short lines have usually been the least productive, but in 1974 they yielded more than the standard height lines. The semidwarf lines are usually the most productive (4).

These lines may not be completely isogenic for all Centana characteristics, but they should be useful to researchers who have need of different height-level cultivars that are genetically similar. Agronomists and other biologists may find them useful as test material for morphological, genetic, physiological, developmental, and biochemical studies.

Seed (50 g) of each line may be obtained from the Plant and Soil Science Dep., Montana State Univ., Bozeman, MT 59715.

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Letter to the Editor

Dear Editor:

Appropriate Units to be Used for Cotton Fiber Measurements

This letter is in response to a number of requests from authors and reviewers concerning the appropriate units to be used for cotton (*Gossypium* spp.) fiber properties reported in *Crop Science*. It will also indicate changes in the methods of reporting fiber length and strength.

Fiber length. All fiber length measurements should be reported in millimeters (mm) to the nearest tenth of a millimeter. Previously, fiber length was reported in inches to the nearest hundreth of an inch. The conversion formula is: inches $\times$ 25.4 $=$ mm.

Fiber strength and tenacity. Fiber tenacity as measured by the Stelometer has been reported as grams-force per tex (gf/tex). However, the Newton is the unit of force and fiber tenacity should be reported in millinewtons per tex (mN/tex $=$ gf/tex $\times$ 9.81). Fiber strength measured with the Pressely instrument is usually expressed in pounds per square inch (psi). It should be converted to megapascals (MPa). The conversion is (1000 psi) $\times$ 6.89 $=$ MPa.

Fiber fineness. The usual measurement of fiber fineness is by use of the Micronaire instrument and its appropriate reporting unit is the micronaire reading.

Other cotton fiber measurements which are infrequently used in *Crop Science* such as Arealometer, Colorimeter, and yarn strength are measured in and should be reported in standard metric units.

William R. Meredith, Jr.
Associate Editor
Crop Science