Registration of Crop Varieties

REGISTRATION OF PENNQUAD BUCKWHEAT
(Reg. No. 1)

H. G. Marshall

‘PENNQUAD’ buckwheat (*Fagopyrum sagittatum* Gilib.), C.I. 16, Pa. 84, is an autotetraploid (2n = 32) variety which originated from a few seeds obtained during 1959 from McGill University, Montreal, Canada; and these were part of an original introduction from USSR. The initial average maturity was late, and selection pressure against this characteristic was applied through early harvest of small isolated observation and seed increase plots from 1960 through 1962.

Pennquad is a naturally cross-pollinated variety. Distinguishing morphological characteristics are as follows: Plants are tall but similar in height to that of available diploid buckwheats; thick, dark green leaves compared to available diploids; stems are thick and red in color, but characteristically turn dark brown with ripening; flowers are large, white and dimorphic; seeds are uniformly large and angular and approach the Japanese type in these characteristics; predominant seed color is gray with black motting but occasional seeds are almost completely black.

Pennquad is the first tetraploid variety released for production in the United States, and is adapted to Pennsylvania and areas with similar climatic conditions. In Pennsylvania tests conducted during 1963 through 1966, it was superior to the check variety 'Tokyo' for yield and lodging resistance. Since Tokyo (a diploid) is the only other buckwheat variety of which foundation seed is maintained, Pennquad provides the producer with a choice of varieties for his conditions.

Pennquad was released in 1966 under cooperative agreement by the Pennsylvania Agricultural Experiment Station and the Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. The Pennsylvania Agricultural Experiment Station will maintain breeder seed.

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REGISTRATION OF AUBURN M COTTON
(Reg. No. 52)

W. P. Sappenfield

‘AUBURN M’ (*Gossypium hirsutum* L.) (1) is an extra-early variety, resistant to the fusarium wilt-root knot nematode disease complex, caused by *Fusarium oxysporium* f. *vasinfectum* (Atk.) Synder and Hansen, and *Meloidogyne incognita* var. *acrita* Chitwood, 1949.

Early-maturing plants, selected from the ‘Auburn 56’ variety (2) were obtained in 1957 from the U. S. Department of Agriculture and the Agricultural Experiment Station, Auburn University. Subsequent selections made at the Missouri Agricultural Experiment Station, Delta Center, from the progeny of a single plant, designated ‘Auburn 56-888,’ later gave rise to the Missouri sister strains, Mo. 58-432 and Mo. 58-449. Breeder seed of each was produced in 1960. Their similar and supplementary traits permitted blending the seed of each equally for use in production of foundation seed of Mo. 58-3249 in 1961. Mo. 58-3249 was named Auburn M at the Fifth Annual Crops Conference, Department of Field Crops, University of Missouri, December 1-2, 1961. Foundation seed was released to Missouri registered growers for planting in 1962. Breeder seed will be maintained by the Missouri Agricultural Experiment Station.

Auburn M is an early-maturing, short-growing, determinate, quick-fruiting variety having short internodes and nearly semi-smooth leaves. It is very resistant to the fusarium wilt-root knot nematode disease complex. It is only mildly tolerant to *Verticillium albo-atrum* Reinke and Berth and is susceptible to bacterial blight caused by *Xanthomonas malvacearum* (E. F. Sml.) Dows.

Comparative yields, boll, seed, and fiber properties for Auburn M and other commercial varieties grown in Southeast Missouri trials are given in Table 1.

In Southeast Missouri Auburn M has produced good yields on sand, sandy loam, loam, and clay soils. On heavy clay soils its growth often has been extremely determinate and fiber quality inconsistent, except in plantings made after May 15. Since the variety is extra-early it has performed especially well on all soil types in later-than-normal plantings or when replantings were necessary. When planted after May 10 in southeast Missouri its growth habit usually has been more indeterminate. When the variety was planted too early and when subsequent fruiting was too rapid plants often became over-fruited and showed weak-stalked tendencies and premature cut-out, espe-

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