300 different intercrosses were made annually between selected male-fertile and male-sterile plants within each population. The origin or background of the four additional populations is as follows: (i) A population similar to the 1964 population was established in 1965. This population was planted in February each year for 11 cycles of selection so that aphid infestations would coincide with the seedling stage to obtain a uniform and severe infection of BYDV. (ii) In 1969 a population was developed by crossing 100 pollen sources onto 200 selected male-sterile plants from the sixth male-sterile-facilitated recurrent cycles of the 1964 population. One-half of the pollen sources were from the USDA world barley collection grown at Mesa and one-half were from coast-type cultivars and advanced selections originating from the original 1962-63 breeding program. (iii) In 1970 a population was established using pollen from 73 'Manchuria' - 'Jotun' selections obtained from the University of Wisconsin. Crosses were made onto 146 male-sterile plants selected from the seventh recurrent selection cycle of the 1964 population. (iv) A population was constituted in 1973 utilizing 50 F2 short-straw plants and 25 short-straw selections of the original population constituting CCXXXII. These were crossed onto 150 male-sterile plants randomly selected in the four previously established composites. There was some unidentified segregation for msg2 from the 1973 population because CCXXXII contains both of the male-sterile alleles, msg1 and msg2.

In the spring of 1975, 250 intercrosses between male-sterile and male-fertile plants were made at Mesa in each of the five populations. The F1 generations were increased at Bozeman, Mont. The F2 generations were grown at Mesa in 1976 from both December and February plantings and subjected to BYDV infection. A uniform expression of BYDV symptoms was obtained. Male-fertile (Ms/Ms and Ms/ms) plants were randomly selected and threshed in bulk to form Composite Cross Populations XXXIII-A and XXXIII-B.

Composite Cross XXXIII-A (1976) consists of plants selected for BYDV resistance from early December plantings. The composite includes plants with the desirable characteristics of short, stiff straw and rapid early growth habit.

Composite Cross XXXIII-B (1976) consists entirely of plants selected from February plantings. A high percentage of the plants have good BYDV resistance and rapid, early growth habit. Short plants are infrequent. These plants tend to lodge when planted early under irrigation and optimum growing conditions. Composite Crosses XXXIII-A and -B (1977) are bulk increases of Composite Cross XXXII-A and -B (1976) which were subjected to BYDV, with susceptible types being rogued from the populations. They include seeds from both male-fertile and male-sterile plants. Male-sterile-facilitated recurrent selection for BYDV is to be continued and future seed sources will include bulked seed of resistant plants from advanced generations of CCXXXII-A and -B.

Seed will be maintained by the Arizona Agricultural Experiment Station and USDA, and can be obtained in limited quantities from Plant Genetics and Germplasm Institute, Grain Collection Building 046, Beltsville, Agricultural Research Center-West, Beltsville, MD 20705.

**REGISTRATION OF JPM-781-78-3 COTTON GERMPLASM**

(Reg. No. GP 53 to GP 63)

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1 Registered by the Crop Sci. Soc. Am. Collections of AR, SEA, USDA; Mississippi Agric. Exp. Stns., Mississippi State, MS 39762; and AR, SEA, USDA Agric. Exp. Stn., Auburn, AL 36830. Accepting distribute to cotton breeders and other research workers as long as present seed is available. Requests should be addressed to: Johnie N. Jenkins, Department of Agronomy, Crop Science Collections Building 046, Beltsville, Agricultural Research Center-West, Beltsville, MD 20705.

2 Research geneticist, research entomologist, Crop Sci. and Eng. Res. Lab., Mississippi State, MS 39762; research plant pathologist, research entomologist, AR, SEA, USDA, Auburn, AL 36830; and AR, SEA, USDA, Auburn, AL 36830, respectively.

3 Explanation of Code ex. JPM-781-78-3: 78 = year of germplasm release; 1 through 8 = germplasm accession; 1 = latifolium, 2 = punctatum, 3 = marie-galante, 4 = palmeri, 5 = richmondii, 6 = morrilli, 7 = yucatanica (classified); 78 = accession number in ARS, October 1974 the regional collection of Gossypium, accession number.