FIVE GUAR GERMPLASM LINES

FIVE breeding lines of guar [Cyamopsis tetragonoloba (L.) Taub] (Reg. No. GP1 to GP5) were officially released to scientists by USDA-ARS and the Texas and Arizona Agricultural Experiment Stations in 1982. These lines possess resistance to the major guar disease, bacterial blight, caused by Xanthomonas cyamopsidis Patel, Dhande and Kulkarni. Lines have high yield potential and possess other characteristics that make them valuable as parents. Racemes of all five lines are medium-size; pods are medium-length and generally contain from five to nine seeds per pod. Seeds are of an acceptable size ranging from 2.9 to 3.3 g/100 seeds, vs. 3.0 g for 'Brooks' and 'Esser'. Plants are relatively tall and medium-stemmed.

TX 77-3347 (Reg. No. GP1) is a branching, indeterminate, F₆ selection from a controlled natural cross, T64001-7-10-1-1-B-3-1 × PI 338780-B, made at Chillicothe, Tex. in 1971. The glabrous female parent is a bacterial blight resistant, branching, medium-maturing, tall (86 cm), high yielding selection from the cross, Brooks × ‘Mills’, made at College Station, Tex. in 1964. The male pubescent parent is a nonbranching, late-maturing, tall (122 cm), bacterial blight resistant plant introduction from India. TX 77-3347 has a branching growth habit, similar to Brooks and Esser, and possesses excellent field resistance to bacterial blight. Leaves and stems are pubescent. Mature plants average 80 cm in height at Chillicothe, similar to Esser. Seeds are dull-white and average 3.0 g/100 seeds. In regional yield trials (1978-1981), TX 77-3347 has yielded slightly higher than ‘Kinman’ and Esser, the leading guar cultivars.

TX 78-3695 (Reg. No. GP2) is a sparse-branching, indeterminate F₆ selection from a controlled natural cross, T64001-16-5-1-1-2-1 × PI 338780-B, made at Chillicothe in 1971. The glabrous female parent is a bacterial blight resistant, branching, late-maturing, tall (109 cm), high yielding selection from the cross, Brooks × Mills, made at College Station in 1964. The male pubescent parent is described above. TX 78-3695 is a full season, glabrous selection that has excellent field resistance to bacterial blight. Mature plants average 85 cm in height at Chillicothe and are only slightly shorter than ‘Hall’. Seeds are dull-white to light gray and average 3.0 g/100 seeds, similar to Brooks and Esser. TX 78-3695 is better adapted to southern Arizona than Texas or Oklahoma. The unique features of TX 78-3695 are its full-season growth potential and good resistance to bacterial blight.

TX 78-3337 (Reg. No. GP3) is an indeterminate, medium-maturing, F₆ selection from a controlled natural cross, T64002-6-1-2-3-2-2 × T65001-B-4-2-1-2-B, made at Chillicothe in 1971. The glabrous female parent is a bacterial blight resistant, branching, medium-maturing, tall (86 cm), high yielding selection from the cross, Hall × PI 263875-2, made at College Station in 1964. The male pubescent parent is a bacterial blight resistant, branching, medium-maturing, tall (91 cm), high yielding selection from the controlled backcross, Brooks² × Mills, made at College Station in 1965. TX 78-3337 has a branching habit similar to Kinman but has a shorter, later to mature habit, and possesses bacterial blight resistance. Seeds are slightly larger than those of TX 78-3726, averaging 3.2 g/100 seeds. Plants are relatively tall and medium-stemmed. The unique features of TX 78-3337 are its full-season growth habit and short internodes with racemes initiated at each node.

TX 79-2741 (Reg. No. GP5) is a basal-branching, medium-maturing, F₈ selection from the same cross, T64001-7-10-1-1-B-3-1 × PI 338780-B, made at Chillicothe, Tex. in 1971. The glabrous female parent is a bacterial blight resistant, branching, medium-maturing, F₅ selection from a controlled natural cross, T64001-7-10-1-1-B-3-1 X PI 338780-B, made at Chillicothe, Tex. in 1971. The pubescent male parent is a nonbranching, late-maturing, tall (122 cm), bacterial blight resistant plant introduction from India. TX 79-2741 is a basal-branching growth habit, similar to Esser and Brooks, averaging 2.9 g/100 seeds. In regional yield trials (1980-1981), TX 79-2741 was more than Kinman and Esser. The unique features of TX 79-2741 are its basal-branching growth habit, later initiation at each node.

Limited amounts of seed of each of the five lines have been provided to guar breeders upon written request to make appropriate recognition of its source as a matter of open record when this germplasm contributes to new varieties. Requests for seed should be sent to Foundation Seed Service, Texas Agric. Exp. Stn., Texas A&M Univ., College Station, TX 77843 or to Foundation Seed Service, Exp. Stn., Univ. of Arizona, Tucson, AZ 85721.


References and Notes

1. Research geneticist, USDA-ARS, Texas A&M Univ. Vernon, TX 76384; geneticist, Dep. of Plant Sciences, Colorado State Univ., CO 80523; agronomist, Dept. of Agronomy, Colorado State Univ., CO 80523; and research associate, Mesa Branch Exp. Stn., Univ. of Arizona, Tucson, AZ 85721.

2. Limited amounts of seed of each of the five germplasms will be provided to guar breeders upon written request to make appropriate recognition of its source as a matter of open record when this germplasm contributes to new varieties. Requests for seed should be sent to Foundation Seed Service, Arizona Agric. Exp. Stn., Exp. Stn., Univ. of Arizona, Tucson, AZ 85721.


BSAA(SRCB)C4 AND BSBB(SRCB)C4 AND BBBS(SRCB)C4 GERMPLASM

MAIZE synthetics BSAA(SRCB)C4 (Reg. No. GP11), BSBB(SRCB)C4 (Reg. No. GP12), and BBBS(SRCB)C4 (Reg. No. GP13) (Zea mays L.) are a research program conducted cooperatively by the Iowa Agriculture and Home Economics Experiment Stations and the Committee for Agricultural Development, Department of Economics Experiment Station, and the distribution of seed is by USDA-ARS and the Texas and Arizona Agric. Exp. Stns., respectively. Registration by Crop Sci. Soc. of Am. Conf. 1982.

BSAA(SRCB)C4 GERMPLASM

MAIZE synthetics BSAA(SRCB)C4 (Reg. No. GP11), BSBB(SRCB)C4 (Reg. No. GP12), and BBBS(SRCB)C4 (Reg. No. GP13) (Zea mays L.) are a research program conducted cooperatively by the Iowa Agriculture and Home Economics Experiment Stations and the Committee for Agricultural Development, Department of Economics Experiment Station, and the distribution of seed is by USDA-ARS and the Texas and Arizona Agric. Exp. Stns., respectively. Registration by Crop Sci. Soc. of Am. Conf. 1982.

References and Notes

1. Research geneticist, USDA-ARS, Texas A&M Univ. Vernon, TX 76384; geneticist, Dep. of Plant Sciences, Colorado State Univ., CO 80523; agronomist, Dept. of Agronomy, Colorado State Univ., CO 80523; and research associate, Mesa Branch Exp. Stn., Univ. of Arizona, Tucson, AZ 85721.

2. Limited amounts of seed of each of the five germplasms will be provided to guar breeders upon written request to make appropriate recognition of its source as a matter of open record when this germplasm contributes to new varieties. Requests for seed should be sent to Foundation Seed Service, Texas Agric. Exp. Stn., Texas A&M Univ., College Station, TX 77843 or to Foundation Seed Service, Exp. Stn., Univ. of Arizona, Tucson, AZ 85721.


References and Notes

1. Research geneticist, USDA-ARS, Texas A&M Univ. Vernon, TX 76384; geneticist, Dep. of Plant Sciences, Colorado State Univ., CO 80523; agronomist, Dept. of Agronomy, Colorado State Univ., CO 80523; and research associate, Mesa Branch Exp. Stn., Univ. of Arizona, Tucson, AZ 85721.

2. Limited amounts of seed of each of the five germplasms will be provided to guar breeders upon written request to make appropriate recognition of its source as a matter of open record when this germplasm contributes to new varieties. Requests for seed should be sent to Foundation Seed Service, Texas Agric. Exp. Stn., Texas A&M Univ., College Station, TX 77843 or to Foundation Seed Service, Exp. Stn., Univ. of Arizona, Tucson, AZ 85721.