

REGISTRATION OF ICGS 11 PEANUT CULTIVAR

ICGS 11, A SPANISH-TYPE PEANUT cultivar (*Arachis hypogaea* L. ssp. *fastigiata* var. *vulgaris*) (Reg. no. 38; PI 478788), was released in 1986 by the Central Sub-Committee on Crop Standards, Notification, and Release of Varieties, Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India, for the post-rainy season cultivation in central and peninsular India. It has produced an average of 29% higher pod yield than the control cultivar SB XI in on-farm trials (2). The average pod yield of ICGS 11 in these trials was 2050 kg ha⁻¹.

ICGS 11 was bred at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru, Andhra Pradesh 502 324, India. It was later designated as ICGV 87123 for release in India.

ICGS 11 originated from a single plant selection in a natural hybrid population of the Indian cultivar Robut 33-1 (also known as Kadiri 3) in 1977-1978. This plant was grown in progeny rows for two seasons by pedigree method and later advanced to uniformity by bulk pedigree method (3). Its pedigree is (Robut 33-1)-18-8-B₁-B₁-B₁-B₁-B₁. Robut 33-1 is an early-maturing Virginia-type peanut. The other parent of ICGS 11 is unknown, but might have been a Spanish-type cultivar, because the natural hybrids were identified on the basis of the presence of flowers on the main axis and because sequentially branched Spanish forms were observed in segregating generations.

ICGS 11 has Decumbent 2 growth habit (1) with dark green, medium to small, elliptic leaflets. The number of primary branches ranges between five and nine and of secondary branches, between zero and three. It matures in ~120 d and has 70% meat. It has two-seeded, medium sized, smooth pods with no beak and slight to moderate constriction. Its seed are tan in color, weigh 60 g per 100 seed, and contain 49% oil and 22% protein.

ICGS 11 has field tolerance to bud necrosis disease caused by Tomato Spotted Wilt Virus. It possesses above average tolerance to end-of-season drought and is photoperiod insensitive (2).

The ICRISAT Center, Patancheru, maintains breeder seed.

S.N. NIGAM, S.L. DWIVEDI,* Y.L.C. RAO, AND
R.W. GIBBONS (4).

References and Notes

1. IBPGR/ICRISAT Groundnut Descriptors. 1981. AGP:IBPGR/80/66:6-7.
2. Groundnut variety ICGS 11 (ICGV 87123). 1989. ICRISAT Plant Material Description no. 20:1-4.
3. Nigam, S.N., V.R. Rao, and R.W. Gibbons. 1983. Utilization of natural hybrids in the improvement of groundnut (*Arachis hypogaea*). Exp. Agric. 19:355-359.
4. S.N. Nigam, S.L. Dwivedi, and Y.L.C. Rao, Legumes Program, ICRISAT, Patancheru P.O., Andhra Pradesh 502 324, India; and ICRISAT Sahelian Center, Niamey, Niger. ICRISAT Journal Article No. 941. Registration by CSSA. Accepted 31 Dec. 1989. *Corresponding author.

Published in Crop Sci. 30:960 (1990).

REGISTRATION OF 'M-103' RICE

'M-103' RICE (*Oryza sativa* L.), (Reg. no. 79; PI 527566), was developed by the California Cooperative Rice Research Foundation, Inc., at the Rice Experiment Station, Biggs, CA, and released jointly by the California Agricultural Experiment Station and USDA-ARS. M-103 is a photoperiod-insensitive, very early-maturing, semidwarf, translucent, medium-grain cultivar. It was tested in the University of

California Cooperative Extension statewide trials from 1984 to 1988 with the experimental designation 84-Y-9. M-103 is a pure line selection from the cross R6115, made in the winter of 1979-1980. Its pedigree is 78-D-18347/'M-302'. The 78-D-18347 was a very early, semidwarf, chalky, short-grain selection from the cross SD7/'Earlirose'/'Reimei' (PI 318644). SD7 is a cold-tolerant, late-maturity, semidwarf, medium-grain selection from 'CS-M3'/'Calrose 76'. The male parent (Earlirose/Reimei) of 78-D-18347 was a selection derived from the cross R191, made in the summer of 1969. M-302, Earlirose, CS-M3, and Calrose 76 are obsolete California cultivars. M-103 is the product of pedigree breeding. Two consecutive winter nurseries in Hawaii were used to accelerate generation advance and purification.

M-103 has the same maturity as 'M-101' (1), as indicated by heading in 87 d and harvest grain moisture and heads 6 d earlier than 'M-202' (2). The average plant height of M-103 is 87 cm, which is 3 cm shorter than M-101 and M-202. M-103 lodging resistance is superior to M-101 (11 vs. 39% lodging) and similar to M-202 (15%). M-103 has glabrous leaves and hulls, except for a few hairs on the leaf margins and lemma keel. No plant parts of M-103 show anthocyanin pigmentation.

Panicles of M-103 normally are exerted completely from the leaf sheaths. The new cultivar has good seedling vigor, although it is less vigorous than M-101 and M-202, as indicated by average seedling vigor scores of 4.4, 4.6, and 4.5 on a scale of 1 to 5 (5 = most vigorous) for M-103, M-101 and M-202, respectively. M-103 is similar to current California rice cultivars in tolerance to recommended rice herbicides. Reaction of M-103 to sterility caused by cool night temperatures 10 to 14 d before heading is excellent and is better than M-101 (9 vs. 19% sterility). In five tests, M-103 was significantly less susceptible than M-101 to stem rot (caused by *Sclerotium oryzae* Catt.) with average scores of 5.3 and 6.4, respectively, on a scale of 1 to 10. M-103 and M-101 are moderately susceptible to aggregate sheath spot [caused by *Rhizoctonia oryzae-sativae* (Saw.) Mordue]. Reaction of M-103 to other diseases that are not prevalent in California is unknown.

Brown rice kernels of M-103 are slightly smaller than those of M-101, averaging 22.3 mg per kernel, 6.0 mm long, and 2.7 mm wide as compared to 23.2 mg, 6.1 mm, and 2.8 mm for M-101. Milled kernels are translucent. Hulled kernels of M-103 have light brown pericarp and white, nonwaxy, non-aromatic endosperm. Physicochemical tests conducted at the USDA Rice Quality Laboratory at Beaumont, TX, indicated that the apparent amylose makes up 188 mg g⁻¹ (18.8%) of the endosperm starch, which has a low gelatinization temperature, as evidenced by an alkali spreading score of 7.0. These values are typical of U.S. medium-grain cultivars (3). A 3-yr study of whole-grain (% head) milling yields indicated that M-103 has superior milling yields. M-103 and M-101 head-rice yields averaged 610 (61%) and 440 (44%) mg g⁻¹, respectively, for a range of harvest moistures in 1986 to 1988. Total milled rice (% total) was 690 (69%) and 670 mg g⁻¹ (67%) for M-103 and M-101, respectively. Taste panelists and various marketing agencies indicate the raw (uncooked) appearance of M-103 is equal to M-202. They rated the cooked product as acceptable for the reprocessing and traditional Calrose medium-grain package markets.

M-103 was evaluated in 18 tests conducted in cooperation with University of California Cooperative Extension from 1985 through 1988. M-103 averaged 10.048 Mg ha⁻¹ (8971 lb acre⁻¹) of paddy (rough) rice at 120 mg g⁻¹ (12%) grain moisture and M-101 averaged 9.045 Mg ha⁻¹ (8076 lb acre⁻¹) which is 1.003 Mg ha⁻¹ (895 lb acre⁻¹) or 11% greater than M-101. M-103 yielded slightly less than the widely grown early medium-grain cultivar M-202, which averaged 10.375 Mg ha⁻¹ (9263 lb acre⁻¹). The very early maturity, superior whole grain and total milled rice, and excellent resistance to cool-temperature-induced blanking of M-103 make it a good