

cal groundnut cultivars had up to 10% of the leaf area damaged. The disease was not found in the groundnut-growing areas of Sunsari, Parsa, and Bara districts. Currently the disease is of only minor importance in Nepal, but its presence will have to be taken into consideration when introducing new cultivars.

References

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Opportunities for Increasing Groundnut Production in Pakistan

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In Pakistan Groundnut is grown over 80000 ha with approximately 84% of the crop area falling in the Punjab province, 11% in the Northwest Frontier Province, and 5% in the Sindh province. The average pod yield is 1.1 t ha⁻¹ but yields in the 'barani' (rainfed) areas, where the soils are sandy, are lower. Groundnut is grown mainly for direct consumption and confectionery use. There is potential for edible groundnut oil production in Pakistan given favorable market conditions.

Till recently, only two groundnut cultivars were available to farmers in Pakistan for rainy-season sowing. The spreading variety no. 334 is the oldest and most commonly grown cultivar in Pakistan. It matures in 180–200 days, has a relatively stable but low level of productivity, and does not respond to improved management practices. In 1973, a virginia bunch cultivar, Banki, was introduced in the country. It matures in 160–180 days. Though somewhat more responsive to improved management prac-

tices, it was not adopted by the farmers for large-scale cultivation.

Since 1984, Pakistan's Barani Agricultural Research and Development Project (BARD) has been evaluating introduced germplasm and breeding material, obtained mainly from ICRISAT, to identify the variety most suitable for cultivation in the country. In this effort, BARD has been assisted by the International Development Research Centre. These efforts have led to the identification and release of the following groundnut cultivars in Pakistan.

BARD 699

BARD 699, released in 1991, is a composite of ICGS 37 and ICGS 44 bulked in equal proportion. Both ICGS 37 and ICGS 44 originate from a natural hybrid population of Kadiri 3 and were developed at ICRISAT Center, India. They belong to the spanish group and have a semi-bunch growth habit. Both have two-seeded, medium-sized, smooth pods which are slightly beaked and constricted. Their tan-colored seeds have 52% oil and 27% protein, and weigh 41 g (100-seeds)⁻¹.

As both ICGS 37 and ICGS 44 performed better than Banki and no. 334 in replicated yield trials during 1987–1989 and looked phenotypically alike, they were bulked to form BARD 699 to achieve stability in production.

BARD 699 performs well in the medium-to-high rainfall zones of 'barani' areas and in the irrigated production system. It has consistently produced a 7 to 90% higher pod yield than Banki or no. 334. In on-farm trials, BARD 699 produced an average pod yield of 1.7 t ha⁻¹ compared to 1.3 t ha⁻¹ of no. 334. Its shelling percentage (70) is greater than that of the local cultivars. Its seeds can be used for both oil extraction and confectionery purposes. It matures in 150–160 days, which is about 3 to 4 weeks earlier than Banki.

BARD 479

BARD 479 was selected from a germplasm line, ICG 4989 (PI 270259, Natal Red), obtained from ICRISAT Center, India, in 1984. It is a semispreading groundnut variety maturing in 170–180 days under 'barani' conditions. Its mainly two-seeded rough pods have a moderate beak and moderate to deep constriction. Seeds of BARD 479 are large [60.5 g (100-seeds)⁻¹] and are reddish brown. They contain 51% oil.

BARD 479 performs well under a wide range of 'barani' conditions. Increases in pod yield in BARD 479 have

ranged from 31 to 71% over no. 334 and 20 to 42% over Banki in large-scale trials. In these trials BARD 479 produced an average yield of 2.1 t ha⁻¹ compared to 1.5 t ha⁻¹ of Banki and 1.2 t ha⁻¹ of no. 334. Its shelling percentage is 62, which is typical of large-seeded virginia types. Although released in 1993 mainly for confectionery use, it can also be grown for its oil.

BARD 92

ICGS(E) 56, an early-maturing variety, included in the International Groundnut Early-maturing Cultivar Trial and received from ICRISAT Center, India, in 1985, has been redesignated as BARD 92. It was approved by the Varietal Evaluation Committee, Pakistan Agricultural Research Council (PARC), in 1993 and is awaiting final release by the National Seed Council, Ministry of Food, Agriculture, and Cooperatives, Government of Pakistan.

BARD 92 is a spanish variety with bunch growth habit. Its pods are mainly two-seeded, medium in size with slight reticulation and slight constriction. Its tan-colored seeds contain 48% oil and weigh 37.5 g (100-seeds)⁻¹. The shelling percentage of BARD 92 is 68.5.

BARD 92 has produced an average of 17% higher pod yield than Banki in replicated yield trials conducted during 1985–1990. The average pod yield of BARD 92 in these trials was 1.6 t ha⁻¹ compared to 1.3 t ha⁻¹ of Banki.

As BARD 92 matures in 120–130 days, it can be sown at the onset of the monsoon and harvested with crops down during May–June, thus avoiding the risk of drought during that period. It fits well in the existing cropping patterns and is suitable for double-cropping with wheat or other postrainy season crops. It is particularly adapted to the 'barani' conditions of the Pothwar area in the country.

With a modest start in 1949 in the Rawalpindi division, the groundnut crop in Pakistan now occupies the second largest area among the oilseed crops in the country. Currently, Pakistan is facing a severe deficit in edible oil. In 1989/90, the estimated deficit in edible oil was 931 000 t. Since then, it has increased further and is likely to grow more in the future. Groundnut offers a good opportunity to reduce this deficit. The area under groundnut in Pakistan increased progressively during the 1980s and has almost doubled since 1980/81. Production has also shown a corresponding increase but productivity has remained stagnant.

Groundnut is sown generally in mid April in fallow lands in 'barani' areas and in mid March in irrigated areas. After the harvest of wheat, poor establishment of the groundnut crop under residual/declining moisture conditions is a major problem. With the availability of short-duration varieties, the groundnut crop can be sown at the onset of the monsoon without affecting the sowing of the second crop in the postrainy season. Earlier, long-duration varieties had to be sown in March/April to allow the growing of the wheat crop.