Registration of ‘Barimasur-3’ Lentil

‘Barimasur-3’ lentil (Lens culinaris Medikus) (Reg. no. CV-9, PI 608658) was released by the National Seed Board of Bangladesh in 1995. The cultivar was developed at the Pulses Research Centre (PRC) of the Bangladesh Agricultural Research Institute (BARI), Joydebpur, Gazipur, Bangladesh. It was released for commercial cultivation for stable and high yield, medium seed size, and combined resistance to rust [caused by Uromyces fabae (Pers.) de Bary; syn. U. viciae-fabae (Pers.) Schroet. (Pucciniales, Uredinales)] and stemphylium blight [caused by Stemblyum botryosum Wallr. (Dematiaceae, Hypiales)].

Barimasur-3 was selected from the F₂ population of the cross BLX 8405-36 × Pabna local made at the Regional Agricultural Research Station (RARS), Ishurdi, Bangladesh, during 1984–1985 (1). The female parent (BLX 79666) used in this cross was of Indian origin and the male parent (Pabna local) was an elite landrace from Bangladesh. A total of 112 F₃ families were developed from F₂ plant progenies and sown in single-row plots, 2 m long; the improved check (cv. Uthfala) was sown after every 10 families. The seed yield, maturity period, and reaction to diseases of the test families were compared with the check, and the best 23 F₃ families were selected and evaluated in the F₄ generation. From F₄ and F₅ evaluations, nine families were selected and tested in an observation trial as F₉ lines at RARS, Ishurdi, in the 1990-1991 cropping season. The cultivar was given the station identification number BLX 8405-36. Yield trials with the selected lines and the check Uthfala were conducted from 1991-1992 to 1993-1994 at Ishurdi, Rajshahi, Jessore, and Joydebpur. Averaged over three years at four locations, Barimasur-3 produced a mean seed yield of 2002 kg ha⁻¹, compared with 1720 kg ha⁻¹ for the check Uthfala. Due to its wide adaptability, the cultivar is recommended for all lentil-growing areas in Bangladesh.

Barimasur-3 is a medium-statured (42–44 cm), semierect cultivar with more basal primary branches. The leaves are dark green with broad leaflets without tendrils. Its flowers are white, and the pods and leaves turn to straw color while green at maturity. Most leaflets are retained at 100% pod maturity. Its seed coat is dark grey and the cotyledons have a 100-seed weight of 2.5 g, compared with 1.5 g or less for the local cultivars.

During field screening in F₃ to F₅, the family was tested for combined resistance to rust and stemphylium blight using a spreader-row technique (2). Lines susceptible to stemphylium blight (BLL 81124) and lentil rust (BLL 81149) with these disease spreaders. The susceptible lines were planted around the families to create artificial disease pressure. A rating of 1 to 5 (resistant to susceptible) for rust and stemphylium blight, respectively.

Seed of Barimasur-3 yielded 88% kernel dhal (actual recovery after splitting), 76% head dhal (actual recovery after splitting, drying, and dehulling), and a 52% dispersion of 52%. Dehulled seeds of Barimasur-3 contain 26.9% protein and 47% carbohydrate (3).

Breeder seed is maintained by PRC, BARI, Bangladesh. Small quantities of seed may be obtained on request.

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References and Notes

4. A. Sarker, ICARDA, P.O. Box 5466, Aleppo, Syria; M. Malik, Patancheru, A.P. 502 324, India; M.M. Rahman, A. Zaman, M.A. Afzal, and A.N.M.M. Murshed, BARI, Joydebpur, Gazipur-1701, Bangladesh. Accepted 31 Mar. 1999. *Corresponding author

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Selected Internet Resources

Updated versions of many resources are available through the Internet, among the following sites likely to be helpful to Crop Science and crop registration authors and readers:

The National Plant Germplasm System (NPGS)
http://www.ars-grin.gov/npgs/ [home page]
http://www.ars-grin.gov/npgs/searchgrin.html
[accessions; crop registrations; crop descriptors; taxonomy; PVP]

American Phytopathological Society

Soil Taxonomy
http://www.statlab.iastate.edu:80/soils/osd/ [National Official Soil Series Descriptions, with searches & accessions; crop registrations; crop descriptors; taxonomy; PVP]