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Indigenous land races of mung bean and urd bean as potential donors for pulse improvement for tropical Bay island conditions

Awnindra Kumar Singh, R. K. Gautam, P. K. Singh, Naresh Kumar, Krishna Kumar and S. Dam Roy
Central Agricultural Research Institute, India

The cultivated mung bean and urd bean landraces belonging to *Vigna species* collected from different parts of the Andaman Islands of India were evaluated to (i) identify the diverse source(s) of variation for improved characters like pods per plant, length of pods, test weight and seed yield per plant, (ii) study the response of landraces for adaptation to islands conditions and (iii) understand the genetic diversity of the landraces for their further utilization in genetic improvement of mung bean and urd bean. Landraces were evaluated for various morphological characters like pods per plant, length of pods, seeds per pod, 100-seed weight, seed yield per plant along with other economically important agronomic traits and biotic resistance across different years. The locally collected landraces were found to be very diverse based upon wider genetic variability for pods per plant, length of pods, seed yield per plant as well as resistance to the biotic stresses like, charcoal rot, cercospora leaf spot, YMV and powdery mildew diseases prevailing in the Islands. Some genotypes in both crops also showed resistance to aphids under natural field conditions. The landraces ANM-11-12, ANM-11-05, ANM-11-08, ANM-11-15, ANM-11-19, ANM-11-46, ANM-11-07-2, ANM-12-01 and ANM-12-02 in mung bean whereas, ANU-11-19, ANU-11-10, ANU-11-29, ANU-11-34, ANU-11-11, ANU-11-08, ANU-11-09 and ANU-11-22-1 in urd bean exhibited superiority to standard national checks for seed yield and other secondary traits. Thus these landrace can serve as donors to improve cultivated varieties by transferring in them the economically valuable traits like pods per plant, length of pods, number of seed per pod, 100-seed weight thereby enhancing understanding of sink potential and ultimately grain yield in a sustainable way.

Biography

Awnindra Kumar Singh has completed his Ph.D. in Genetics and Plant Breeding from Banaras Hindu University, Varanasi and got Senior Research Fellowship of ICAR, NATP at the BHU, Varanasi. He is now Senior Scientist Plant Breeding at Central Agricultural Research Institute, Port Blair, a premier agricultural research institute of ICAR known for Islands Agricultural Research in India. He has published more than 20 research papers in reputed journals and he is also serving as an editorial board member of journals of national and international repute. He is General Secretary of the Andaman Science Association, Port Blair.

awnindrakumar@gmail.com