Indian J. Pl. Genet. Resources 12(3): 382-383, 1999

Short Communication

EXPLORATION OF URIDBEAN FROM DIVERSITY ZONES IN UTTAR PRADESH

ARVIND SHUKLA AND M. K. NAUTIYAL, Department of Plant Breeding, College of Agriculture, G.B. Pant University of Agriculture & Technology, Pantnagar 263 145 (Uttar Pradesh)

The variability in uridbean was collected from diversity pockets of Uttar Pradesh, India in districts Sitapur, Hardoi, Barabanki, Bareilly and Kumaon Garhwal Divisions. The presence of diverse types was found in more abundance in Kumaun Garhwal Division and Hardoi districts of Uttar Pradesh.

Key words : Exploration, landraces, uridbean

Black gram or urid bean (*Vigna mungo* (L.) Hepper is one of the Asiatic *Vigna* species, which has herbaceous annual habit and belongs to the family leguminaceae sub family Papilionaceae. The crop is grown in India, Bangladesh, Pakistan, Srilanka and Myanmar. India, being a centre of origin and diversity for urid bean, exhibits a rich variability for various agromorphological traits. The largest collections of 1414 exists in India. Betton Court *et al.* (1989) has reported collections in other countries like Pakistan (479), Bangladesh (339), USA (227), China (169), Japan (34), Senegal (10) and Togo (6) also.

In Uttar Pradesh, Hardoi, Barabanki, Bareilly, Sitapur and eight hill districts in Kumaon and Garhwal divisions have been identified to be still rich in diversity for local types in this crop (Paroda and Arora, 1991). This diversity is basically conserved by local farmers and people in the form of remainent seed. These centers of diversity are in constant process of genetic erosion as the areas are under rapid urbanization and intensive cultivation. The high yielding varieties are rapidly replacing the local landraces. Unfortunately, progress in breeding after selection and purification of genetically mixed landraces inevitably led to more uniformity and less genetic variability within the variety that was presented in the original land race. The variability in existing collections of Urid bean is limited and potential donors are yet to be identified (NBPGR, 1990). Keeping this in view, explorations were undertaken in the diversity rich districts of Uttar Pradesh in the year 1996 to 1998.

The experimental area of exploration and collection included plains and irrigated zones with characteristic sandy loam to loam soils while hill districts of Kumaon and Garhwal, the mid hill elevations areas were basically rainfed. The samples were collected from farmer's field, village and backyards in village home.

During the discussion with farmers, it was noted that diverse pattern does exists in the cultivation practices, seed characters, and consumer preferences. In the plains of Hardoi, Sitapur and Barabanki, the cultivation of Urid bean is basically is intercrop or in the marginal lands. The intensive cultivation of this crop was less. The plant type preferred were trailing types with high amount of green foliage. The seed colour preferred was

also green type due to its basic use in culinary preparations other than "dhal". The flowering period and maturity patterns were reported to be asynchronous which is an undesirable trait. There is an need to develop genotypes with green seed and erect plant habit for these areas. In Bareilly, the consumer preference is for bold, black seeded and erect types as the intensive cultivation is also practiced. The variability for local land races was found limited as compared to matrial from other hill and plain zones.

In the hill districts of U.P. the variability for plant types was considerable in the valleys. The sowing season also extends from March to June which is basically dependent on availability of water. The diversity for seed characteristics is quite high viz., seed colour (light green, green brown, chocolate, black, mottled) seed size and (bold to small grains). It was noteworthy that hill districts of Uttar Pradesh have substantial variability in Urid bean germplasm and possibility of unique types also exists. The areas require an intensive exploration not only for Urid bean but for all other type of beans also.

REFERENCES

Bettencourt, E., J. Konopka, A.B. Damania. 1989. Directory of germplasm collections. 1.1 Food Legumes. IBPGR, Rome 182 p.

NBPGR. 1990. Annual Report 1989. NBPGR, New Delhi, India.

Paroda, R.S. and R.K. Arora. 1991. Plant Genetic Resources, Conservation and Management. IBPGR, Rome, 387 p.