Evaluation of Mung Bean Genotypes Against Mung Bean Yellow Mosaic Virus (MYMV) in Pre and Post *kharif* Seasons Under Terai Agro-ecological Zone of West Bengal

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SUMMARY

Twenty four genotypes of mung bean [*Vigna radiata* (L.) Wilczek] were screened for yellow vein mosaic virus (YVMV) disease in pre and post *kharif* seasons under field condition. During pre-*kharif* season, 3 namely Jyoti (154.98), Pusa 95-31(183.63) and PDM 84-139 (200.51) were found to show resistance against MYMV. However, not a single genotype was found to be highly resistant. Hum-12 (782.01) was found to be highly susceptible and 3 genotypes, namely OUM11-5 (581.79), Pusa Vishal (628.89) and Hum-1(733.28) were found to be susceptible. Rests of the genotypes were having intermediary reactions against MYMV. During post *kharif* season among 24 genotypes evaluated only one, Jyoti (132.89) was found to show resistance against MYMV. Seven genotypes, namely RM 3-11(508.95), HUM-1(653.38), BPMR -145(670.98), HUM -12(695.71), PDM84-143(515.34), TARM-1 (587.10) and Pusa Vishal (708.35), were found to be susceptible. Rests of the genotypes were having intermediary reaction against MYMV. The genotype A-86 and Sujata gave highest yield during pre and post-*kharif* seasons, respectively. However, both showed a moderately resistant reaction.

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Some of the lands in North Bengal condition remain fallow during the pre-*kharif* season due to irregular rainfall and unavailability of any alternate crop during the season. Crops like short duration pulses with high value as green gram/ black gram/ cowpea may be utilized in the crop sequence, which apart from giving high returns to the farmers also ameliorate the soil health. Various bottlenecks are observed in mungbean production in the area, one of the major being the diseases. Yellow mosaic disease of mungbean [*Vigna radiata* (L.) Wilczek] is the most serious disease and the main constraint in increasing the production of this crop. The disease was reported from India in 1955 on mungbean (Nariani, 1960). It has potential to inflict 100% damage to this crop (Nene, 1972). It is incited by mungbean yellow mosaic virus (MYMV), which is a whitefly transmitted geminivirus. Development of resistant varieties or to locate the sources of resistance is essential for long term sustainable management of diseases. Jayanna *et al.* (1991) screened 84 *Vigna radiata* genotypes for resistance to MYMV in Karnataka, India. Only Barabanki local was free from yellow mosaic and genotypes ML 537, PDM 84-155 and ML 326 consistently recorded <35% disease incidence. Of the remaining genotypes, 12 and 68 recorded 35-50% and 50% disease incidence, respectively.

So far, meagre information is available regarding biotic stresses of mungbean, their impact in crop loss both in respect to quality and quantity and therefore, in this study efforts have been made to evaluate 22 mung bean genotypes for resistance against the disease.

MATERIALS AND METHODS

The field experiments were conducted at Pundibari Research Farm and lab experiments were done in Research laboratory, Dept. of Plant Pathology, Uttar Banga Krishi Viswavidyalaya (UBKV), Pundibari, Cooch Behar. Mungbean seeds were sown in the field on 18th March, 2006 as pre *kharif* crop. Mungbean was being cultivated in the same field for the last five years. The seeds of different genotypes were sown in randomized block design with 3 replications. Post *kharif* mung bean was sown on 30th November, 2006. All the normal agronomic practices were followed except any pest or disease management measures during the course of investigation.

Land situation : Medium to high
Soil type : Loam
No. of genotypes : 24