

Manika Noi-iam 2009: Mungbean Line Selection Using Augmented Design and Their Preliminary Evaluation. Master of Science (Agriculture), Major Field: Agronomy, Department of Agronomy. Thesis Advisor: Associate Professor Rungsarid Kaveeta, Ph.D. 90 pages.

A preliminary yield trial of 36 F_6 -derived lines of the two mungbean crosses Kamphaengsaen 1 x M5-16 and UThong 1 x M5-29, that having some good agronomic characters was conducted in an Augmented Design with 3 replications along with 5 recommended varieties (KPS 1, KPS 2, UT 1, CN 36 and CN 72) and 2 parental mutant lines (M5-16 and M5-29). The results revealed that all 10 lines *i.e.*, 2-4-2, 2-4-9, 2-8-5, 4-5-4, 4-5-8 and 4-5-9 from the cross Kamphaengsaen 1 x M5-16 and 6-4-3, 6-4-5, 7-9-4 and 8-4-4 from the cross UThong 1 x M5-29 performed significantly higher yield than the checks. These lines were also performed significant higher yield to slightly shorter, more pod and seed set and better seed size than the check varieties. Two lines, 4-5-9 and 2-4-2 were in particularly having significantly higher seed weight.

A replicated yield trail of 10 lines selected F_7 derived lines was further conducted in a randomized complete block design (RCBD) with 3 replications at the High Protein Crop field plot, Kasetsart university, Kamphaengsaen campus Nakhon Pathom province in the dry season (Jan.-Apr. 2007) and it was repeated in rainy season (Jul.-Oct. 2007). Two check varieties KPS 1 and CN 36, were included in the trial. The results showed that all 10 lines performed relatively similar to higher than the 2 checks in seed yield, pod and seed set. But some lines were early to flower and shorter plants. The line 2-4-2 in particularly had significantly greater seed size.

Student's signature

Thesis Advisor's signature

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