

Porntip Mangkornkaew 2012: Path Analysis of Yield, Yield Components and Some Agronomic Characters in Soybean. Master of Science (Agronomy), Major Field: Agronomy, Department of Agronomy. Thesis Advisor: Associate Professor Rungsarid Kaveeta, Ph.D. 92 pages.

Path analysis of yield, yield components and some agronomic characters of seven soybean breeding lines obtained from the Kasetsart University Soybean Breeding Program and 3 recommended varieties were conducted in the RCB with 3 replications in 2 planting seasons at the Field Experiment, Kasetsart University at Khumpaengsaen campus. Total relationships of numerous characteristics revealed that days to harvesting and number of seeds per plant had significant total effect on yield. However, 100 seeds weight, plant height at harvesting and numbers of nodes per plant at harvesting had significant total effect on yield only in dry season. Path analysis to separate the direct and indirect effect showed that days to 50% flowering, plant height at harvesting, numbers of nodes at harvesting, days to harvesting, number of pods per plant, number of seeds per plant, seed weight per plant and 100 seed weight had direct effect on yield and medium-high  $h_B^2$  only in rainy season. These characters could be used as the main selection criteria. Whilst, number of seeds per pod and number of branches per plant at harvesting had low direct effect on yield was observed and indirect effect through other characters *i.e.*, days to 50% flowering, days to harvesting, number of pods per plant and/or number of seeds per plant. Thus, the use of number of seeds per pod and number of branches per plant at harvesting as selection criterion should also consider these indirect effect characters.

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Thesis Advisor's signature