

Thesis Title

Yield and Yield Quality Variation of
Vegetable Soybean Genotype under Different
Planting Time and Nitrogen Fertilizer

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Abstract

A study on response of yield and quality of 18 vegetable soybean genotypes under 3 nitrogen fertilizer treatments (6, 12 and 24 kg.N/rai) was conducted in 4 planting dates (25 November, 23 September, 23 December 1991 and 21 January 1992) at the Multiple Cropping Center Field Station, Chiang Mai University. In each planting date, a split-plot design was used with fertilizer as main plot and variety as subplot. The experiment was arranged in a randomized complete block with 2 replications.

The combined analysis of variance revealed that effect of planting dates contributed largest variations in grade pod yield,

seed yield and other characters than effects of varietal differences and fertilizer treatments. The September planting provided highest average grade pod yield (2074 kg./rai) and seed yield (620 kg./rai). The December and January plantings, due to low temperature at sowing time, had delayed germination and provided grade pod yield of 619 and 576 kg./rai and seed yield of 285 and 319 kg./rai, respectively. The November planting was least suitable for vegetable soybean production because of severe soybean rust incidence and insect infestation. Average grade pod yield of 289 kg./rai and seed yield of 196 kg./rai were obtained.

The genotype with general adaptability and high grade pod yield was CFC3 provided grade pod yield of 1081 kg./rai. The genotypes with sepecific adaptability such as CFC1, CFC2 and CFC7 had provided highest grade pod yield in the September planting (1081 kg./rai). Other promising genotypes such as TVB3, CFC9 and TVB1, were found to be specifically adapted to November, December, and January plantings, respectively. The commercial vegetable soybean varieties such as TVB4, TVB6 and TVB7 showed the lowest average grade pod yield, ranging 678 - 721 kg./rai. There were few varieties which provided stably high seed yields over all four planting dates.

The nitrogen fertilizer treatment did not provide significant effect on grade pod yield, but it did significantly affect seed yield. At the rate of 24 kg.N/rai, average seed yield was 10 and 6 percent higher than the treatments with 12 and 6 kg.N/rai, respectively.