Effect of lear type and plant population on soybean performance

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This study was carried out from fall of 1983 to summer of 1984 in Kaohsiung DAIS. Three genotypes including cultivar (broad leaf), lines KS891 (broad leaf and early maturity) and GC40359-1-55 (narrow leaf) and 6 different plant populations were used to evaluate yield and other plant characteristics of soybean.

Cultivar KS8 grew well at early growth stage under cold weather condition and yielded more than other two genotypes in fall and spring crops. Line KS891 was most siutable for summer crop.

The LAI'S for the genotypes tested except line GC40359-1-55 at R_T stage in summer crop were twice as large as those in fall and spring crops. The proper plant population (plants per m^2) for KS8 in fall, spring, and summer crops was 44, 40 and 20, for KS89166.6, 60 and 40, and for GC40359-1-55 60, 60 and 40, respectively. Cultivar KS8 with a planting population of less than 20 plants per m^2 in summer crop produced a high yield.

The seed number per plant among 3 genotypes was not significantly different in three crop seasons except fall. In terms of yield components consisting of pod number per plant, seed number per pod, and weight per 1000 seeds, the seed size (weight 1000 seeds) was the most important in each crop season.

Significant differences in yield were found between leaf types, genotype with broad leaf performed better than that with narrow leaf in the spring and fall crops. The yield response of soybean to plant population varied between leaf types and among crop seasons. For the broad leaf type ,lower plant population responded with a better yield in the spring and summer crops and the higher in the fall crops for the narrow leaf type, higher plant population responded better in all the crop seasons.