

Influence of planting dates and densities on soybean production in Hualien area¹

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summary

In order to find out the optimum planting date and density for soybean in Hualien area, two new breeding lines HL70-40, HL69-7 and one cultivar Hualien No.1 were planted with row spacings 75.65 and 55 cm respectively between Feb. 1 to March 15 in spring and July 1 to Aug. 15 in summer crop seasons of 1985 and 1986.

Two years results indicated that in spring crop season, the optimum planting date was middle Feb. to early March. Soybean variety which was less sensitive to temperature such as Hualien No.1 and HL70-40, may be planted earlier (early-Feb.) under high population density (row spacing; 55cm), but if they were planted later, row spacing should be enlarged to 65cm. Line HL69-7 was sensitive to low temperature, so that it planted later would be better (after mid-Feb). When planted in early spring, days to flowering and harvest were delayed due to low temperature, plant height was short with less node numbers and pods, but seed size was increased because longer seed filling stage. Late planting (after early-March) caused elongated internode. Branches and pod numbers were increased under low population density.

In summer crop season, late planting gave earlier flowering and maturity due to shorter day length. Early planting increased plant height, node numbers and seed weight. Higher seed yield was obtained from earlier planting in summer crop season under 55 cm row spacing. Seed yield of soybean was influenced not only by varieties also by planting dates and densities. In the main soybean growing season (summer), earlier planting produced higher yield and late planting (after mid-Aug.) lowered seed yield significantly. The optimum row spacing was 55 cm in both growing seasons for the determinate soybean variety, which is early maturity with shorter plant height. Semi-indeterminate variety which generally shows higher plant height or large leaflet such as Hualien No.1, enlarging the rowspacing to 65cm was necessary when it was planted lately. (after mid-Feb.) in spring crop season.

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