

Growth analysis of corn in Hualien area¹

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summary

In order to determine the growth potential and yield characteristics of feed corns, growth analysis was performed during spring and fall crops at experimental farm of Hualien District Agricultural Improvement Station in 1982. The results showed that the capacity of dry matter accumulation per plant in fall crop was higher than that in spring crop, and that of TN-yu No.6 was higher than those of the other two cultivars in both crops. Corn varieties grown in fall crop maintained longer period and greater value of LAI during the kernel effective filling stage which appeared beneficial to the yield increase. Correlations between leaf area index and crop growth rate at various growth stages were positive and highly significant in both crops, indicating that the amount of leaf area may regulate the dry matter production of corn. Correlations between LAI and NAR at various growth stages were negative and highly significant, suggesting that the longer the value of LAI, the shorter the photosynthetic rate. The NAR in fall crop was lower than that of spring crop. The RGR of leaf and grain was lower in fall crop, showing that leaf photosynthetic production which translocated into the kernel might be not sufficient. Based on the results obtained, it appears probable that the yield potential of corn could be raised by means of increasing LAI, CGR in spring crop and CGR, NAR in fall crop, and broadening the stalk diameter in both crops.

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