KAOLIANG is one of the most important food crops in North China. Farmers of that region have a practice of removing all the leaves except the top few at the time when the kernels are about in the dough stage. On account of lack of fuel and the deficiency of forage, the leaves thus obtained are used to advantage. Besides, the farmers claim that by means of defoliation maturity can be hastened to some extent. It is obvious that the leaves are vital for the plant to manufacture its food. When the plant is made destitute of its food factories, its yield of grain, which is the ultimate aim for growing the crop, naturally must be affected. The present experiments were planned to determine the amount of reduction in yield due to defoliation, and the time at which defoliation can be done with the least effect on the yield of the plant.

MATERIAL AND METHODS

The land on which this experiment was carried out was very level and was sandy loam in composition for the top 3 feet. This field had been sown to uniform crops for several previous cropping seasons. The rows were 45 feet long and 2 feet apart. An inbred stock of seed was used to insure uniformity. Hill planting was resorted to, with eight seeds planted in each hill. The distance between the hills was 1 1/4 feet.

Planting was done on April 14. When the seedlings were about 3 inches high, each hill was thinned to one plant. Any missing hills were promptly taken care of by transplanting. Thus, an almost perfect stand was obtained. There were altogether 270 rows in the experiment and these were divided into nine different treatments with 10 replications for each. (Each treatment had three rows to form one plat.) The plats were laid out in a systematic manner. For every other two treatment plats there was an untreated check plat. Thus, in the whole experiment, there were six different treatment plats and three check plats. Defoliation was done by holding the leaf blade and pulling it off with a snap, leaving only the part that consists of the leaf sheath on the stalk. The plats of this experiment were harvested on August 11. Apparently there was no clear difference in the degree of maturity.

ANALYSIS OF EXPERIMENTAL DATA

Table 1 gives the yield of the individual plats (average of three rows) in the 10 replications for the different kinds of treatments.

From Table 1 it will be seen that the yields of the check plats are very uniform. In order to show the significance of the results obtained (Table 2), Fisher's method for the analysis of variance is used (1).