Results:

- 1. Leaf surface per plant decreases significantly as the result of higher plant density.
- 2. There is a considerable difference in the leaf surface between the two investigated combinations.
- 3. When all leaves were cut below the ear, the grain yield per plant decreased less than when half of the leaves above the ear were cut.
- 4. The amount of grain produced per 100 cm² leaf surface above the ear is significantly higher than that for leaves below the ear.

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Investigation into the relationship between moisture content and severity of infection in maize —In 1973 in Szeged the changing of moisture was examined for 36 different-maturity inbred lines and 44 hybrids. The samples were taken at 10-day intervals from August 23 to October 16. On September 5 artificial inoculations were made with <u>Fusarium graminearum</u> by inserting an inoculum-laden toothpick into each ear of 15 plants. A numerical rating of 1 to 5 constituted a linear scale of percent rot in the inoculated ear. These values were a measure of the intensity of infection. The results obtained are, for the relationship between moisture content and severity of infection:

Inbred lines $r = +0.53^{***}$ n = 36Hybrids $r = +0.46^{**}$ n = 44

For the relationship between silking date and severity of infection:

Inbred lines $r = +0.53^{***}$ n = 36Hybrids $r = +0.46^{**}$ n = 44

From the data the following conclusions may be drawn:

- We obtained a significant correlation coefficient between the moisture content and the severity of infection for both inbred lines and hybrids.
- 2. The correlations between days to mid-silk and the severity of infection of the ears were also significant.

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<u>Linkage relations of the diffuse factor on chromosome 4</u> — Prior written reports have disclosed that the diffuse factor is located on chromosome 4, but its exact position, relative to other marker sites, has not been given in any written form. Linkage studies are continuing and the following statements can now be made:

a. Diffuse, which in the highly unstable state conditions a high frequency of somatic sectoring in pericarp tissue, has been located between glossy-3 and the