Intercropping of cucumber and tomato

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In order to study the effects of intercropping on cucumber and tomato and determine the best plant density for these crops an experiment was carried out for one year (1996) at Behbahan Agriculture Reasearch Station. A randomized complete block design with fifteen treatments and four replications were used. In this experiment cucumber and tomato were grown as pure stands and intercrops in three plant densities: high, medium and low (4.2, 2.8 and 2.1 plants/m2).

Cucumber were grown in combination with 75%, 50% and 25% of tomato. The replacement series technique was used to form the intercrops.

The results showed that there is a kind of compatability between cucumber and tomato. For this reason the total yield of intercrops in all planting densities of $C_{50}T_{50}$(50% cucumber + 50% tomato) combinations and two planting densities (high and medium) of $C_{25}T_{75}$ (25% cucumber + 75% tomato) combinations as compare with maximum yield of full productive crop (cucumber) increased significantly.

In $C_{75}T_{25}$ (75% cucumber + 50% tomato) combinations of intercropping, high growth of cucumber plants caused the remaining space for tomato plants to be very limited and almost all tomato plants died during the primary stage of their growth. So, the yield of intercrops in this combination as compared with other combinations decreased significantly.

Computation of LER (Land Equivalent Ratio) showed that $C_{50}T_{50}$ and