Effect of Different Planting Patterns on LER, Yield and Yield Components of Peanut and Two Corn Hybrids in Intercropping System

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Abstract

Mixed cropping is one of the most important principles of sustainable and organic agriculture. Intercropping of peanut (*Arachis hypogaea* L.) and corn *(Zea mays* L.) is the most successful mixed cropping in north areas of Iran. Nevertheless, in this region, there has hardly been any research to determine the best sowing pattern and varieties of corn that could be cultivated with peanut. Thus, an experiment was conducted to evaluate three planting patterns and two varieties of corn and their interaction effects on LER, yield and yield components of peanut and corn varieties. A complete randomized design (CRD) was conducted in three replications, factorially in a rain fed farm of Lahijan in summer of 2005. The varieties consisted of two levels of early and late mature hybrids of corn (KSC301 and KSC 704). The planting pattern consisted of tree levels including one row of corn and tree rows of peanut, one row of corn and five rows of peanut and two rows of corn and five rows of peanut. Agronomic practices were done based on peanut requirements, because peanut is cash crop and more important than corn for farmers in this region. Results of this experiment showed that hybrids and planting pattern have significant effects on LER and the yield of peanut. In sum, one row of late mature corn (KSC704) and five rows of peanut were best in LER (1.15). KSC 704 variety resulted in higher yield of peanut than early matured corn (KSC301), because this cultivar had different canopy with peanut and interfere into the growth of peanut less than the other.

Keywords: Peanut, Corn, Intercropping, Planting pattern, LER