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Study of corn and common lambsquarters (*Chenopodium album*) radiation use efficiency under competition condition

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ABSTRACT

Increasing the resource use efficiency in crop will be decreased weed competition. In this study the effects of corn plant density and planting pattern on radiation use efficiency of corn and common lambsquarters studied in a randomized complete block design with three replications and factorial treatment arrangement at Aborayhan Pardis in 2003. Plant density treatment was at two levels: recommended (70,000 plant ha^{-1}) and 1.5 times recommended plant density (105,000 plant ha^{-1}). Planting pattern treatment was at two levels: one and two rows planting (planting on both of ridge sides) and four common lambesquarters density levels: 0, 5, 10 and 15 plant m^{-1}. The results showed that corn radiation use efficiency decreased in presence of common lambesquarters in different corn plant densities and planting patterns. Higher corn density increased corn and common lambesquarters radiation use efficiencies compared to less corn density. Corn two rows planting pattern compared to one row planting pattern, increased corn radiation use efficiency and decreased common lambesquarters radiation use efficiency.

Key words: Planting pattern, Density, Competition, Radiation use efficiency and dry matter

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