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Evaluation Yield of Chickpea and its Stability in Dormant Seeding

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Abstract

Sowing outside of normal temperature range is called dormant seeding. In dormant seeding of cool season crops, soil temperature in planting time should be lower than base temperature of crop germination till seed can't germinate. Chickpea is one of the most rainfed products in Maragheh region in eastern Azerbaijan province (Iran). In this study growth and yield characteristics of dormant, early spring and common seeding were investigated by use of 20-year simulation (1975 – 1995). In this simulation the yield of seed in common seeding was lower than dormant seeding owing to the low vegetative dry weight in the beginning flowering and low seed filling rate. There wasn't any significant difference between early spring seeding and the other seeding dates. Also, there was significant difference between transpiration efficiency in seeding dates. Low transpiration efficiency in common seeding was related to low rainfall rate and high air vapour pressure deficiency in growth season. Water use efficiency in dormant seeding exhibited a significant difference to the two other seedings. Low water use efficiency in common seeding wasn't due to the increase in yield but it was related to sever decrease in evatranspiration in growth season. The comparison of water use efficiency in dormant and early spring seeding showed that low water use efficiency in dormant seeding was due to the high evaporation to transpiration ratio. Consequently, by use of simulation it is suggested that the farmers do their seeding in dormant form because stability and yield rate in this seeding are higher than two other seedings.

Keywords: Chickpea, dormant seeding, simulation