

Investigation on the effects of water shortage and quantity of food elements on quality and yield of tomato

Alireza sobhany, parvin sharayei, Rahimian

Khorasan Agriculture Research Center

In order to investigate the effects of quantity of water and some food elements (N, P, K) on the yeild and quality of tomato fruit, an study was done by split factoriel design in frame of complete randomized block with three replicates in Khorasan Agriculture Research Center. Main plot was irrigation including (irrigation after 70, 100, 130mm evaporation from evaporation pan) and sub plot were N including (100, 75, 50 of food necessity) and P including (100, 150, percent of food necessity) and K including (100, 750 , 200 percent of food necessity) . The quantity of inflow and outflow water was mesured by partial flume and the rate of outflow water in each plot was calculated . The yeild of fruit, the weight of fruit and bush, PH, Brix and acidity of fruit were determined.

The quantity of water had significant effect on yeild , acidity and Brix of fruit. Mild stress caused decreasing of yeild and severe stress caused intensive decreasing of fruit yield. By increasing the quantity of N, P, K the yield was increased and interaction effects of the quantity of food elements and quantity of water were significant.

More consumption of food elements caused improving of the yield in water deficiency condition. The treatments of K on Bx, PH and acidity of fruit had significant effect. The effect of N on Bx of fruit was significand and P has no significant effect on quality characteristics.