Determination of Water Use, Yield and Quality of Pumpkin (*Cucurbita Pepo* L.) As First and Second Crop

Ali ÜNLÜKARA[1], Ramazan BAKIR[2]

[1]Erciyes Üniversitesi Seyrani Ziraat Fakültesi Biyosistem Mühendisliği Bölümü, Kayseri
[2]Talas Belediyesi Kırsal Hizmetler Müdürü, Kayseri
Corresponding author email: unlukara@gmail.com

Abstract: In this study, growing possibility, yield and water use efficiency of pumpkin seed (*Cucurbita pepo* L.) as a second crop after triticale-Hungarian vetch mixture in semi-arid Kayseri conditions of Turkey were investigated. For these purposes, pumpkin seed production during normal growing season in the region was considered first treatment (D_1), pumpkin seed production after Hungarian vetch-triticale but on non-cultivated area was second treatment (D_2) and pumpkin seed production as a second crop after Hungarian vetch-triticale was third treatments (D_3). Watering just after at 40 cbar (T_{40}) and 60 cbar (T_{60}) soil tensions were evaluated as sub irrigation treatments under D_1, D_2 and D_3 main plots. The experiment was designed Completely Randomized Split Plots in Blocks and each treatment was replicated 4 times. According to results, pumpkin plants could be harvested when they reached to 1230° cumulative temperatures above 10°C after sowing. Seed yield differences among growing seasons were found non-significant and 1070, 980 and 1038 kg.ha^{-1} seed yields obtained from D_1, D_2 and D_3 treatments, respectively. Irrigations at 60 cbar soil tension yielded 11.7% higher seed yield than ones at 40 cbar. Pumpkin water consumption in the first (D_1) and second production seasons (D_2 and D_3) were found as 498 and 438 mm, respectively while irrigation water use efficiency (WUE) were 0.20 and 0.24 kg.m^{-3} and higher 1000-seed weight was obtained for the first season. It is concluded that second crop pumpkin culture after Hungarian vetch-triticale mixtures was more favorable for the farmers of central Anatolian since they were able to grow both pumpkin seeds and forage crops within the same growing season.

Keywords: Pumpkin seed, *Cucurbita pepo* L., different growing seasons, second crop, water use efficiency