

Comparison of drip and surface irrigation in terms of consumed water, product operation and water use efficiency on peach and apricot trees in Shabestar and Azarshahr regions.

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Due to water shortage for agricultural consumption that is observed in most regions of Iran, using special irrigation methods will be inevitable. Today in most arid and semi-arid regions and industrial countries of the world, using the pressurized irrigation systems, because of their irrigation output, have considerable growth. To obtain desirable irrigation outputs, using the pressurized systems need correct management in applying these systems. For this purpose in the crop year 1998-1999 in Shabestar and Oskou regions a comparison was carried out between drip and surface irrigations, in terms of consumed water, product operation and water consumption on peach (in Shabestar) and apricot (in Azarshahr). In the irrigation of the apricot orchard, in each Hectar 4530 m³ water was consumed in the drip section with the base period of every two other days, and 6370 m³ in the surface section with the base period of every ten days. The comparison of the amount of consumed water in the said orchard showed that use of drip irrigation had caused 30% economy in water consumption compared to the surface irrigation.

Also in the apricot orchard the product operation was 21150 kg in the drip section and 17750 kg in the surface section per hectare. The operation comparison, also, revealed 19% rise in operation had been in the drip section compared to the surface section.

The water use efficiency was estimated 4.7 kg/m³ in the drip and 2.8 kg/m³ in the surface method which implies that the drip irrigation in the

general the highest percentage of twin fruit was in Siaha-Daneshkadah, Zarde-Danshkadah, Ghazvin, HibridNol-Karaj and the least percentage of twining fruit was in Ghermeze-Rezaeieh, Siaha-Mashhad and Napoleon. Although, twin fruit was not observed in cultivars Tak-Daneh-Mashhad, Arake and Mahaly-Karaj. In addition to the mentioned results an exceptional phenomenon of emerging ovary and pistil from some anthers of some cultivars was observed. Preliminary assessment showed that there is a positive correlation between this cause and twin fruit setting.