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
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**Determination of Irrigation Performance of Water User Associations in the
Vicinity of Sarigöl and Alaşehir Using Remote Sensing Techniques**

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 [Keywords](#)
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Abstract: The aim of this research was to determine the irrigation performance of Sarigöl, Bağ, and Üzüm Water User Associations (WUAs) in the vicinity of Sarigöl and Alaşehir using remote sensing techniques. For this purpose, the performance of the irrigation system for the 2004 irrigation season (May to September) was determined according to 5 indicators, namely overall consumed ratio (ep), relative water supply (RWS), depleted fraction (DF), crop water deficit (CWD), and relative evapotranspiration (RET). Potential and actual evapotranspiration parameters used in determining these indicators were estimated according to the SEBAL (Surface Energy Balance) method using NOAA-16/AVHRR images. Seasonal averages of Sarigöl, Bağ, and Üzüm WUAs calculated from the results were, respectively, 0.82, 0.88, and 1.26 for ep; 1.21, 1.13, and 0.94 for RWS; 0.53, 0.59, and 0.68 for DF; 45.61, 42.44, and 45.81 mm month⁻¹ for CWD; and 0.64, 0.67, and 0.64 for RET. According to the seasonal average values of all the performance indicators, the irrigation performance of all WUAs was usually poor, and only the depleted fraction indicator for Üzüm WUA was within the range of acceptability. Thus, performance indicators showed that less irrigation water was supplied to WUAs than was needed.

Key Words: Irrigation performance, remote sensing, SEBAL

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