

ABSTRACT

PERFORMANCE EVALUATION IN THE DRIP IRRIGATION SYSTEM CREDITED BY AGRICULTURAL CREDIT COOPERATIVES

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In this study, performance of drip irrigation systems of 18 companies credited by Turkey Agricultural Credit Cooperative which depends on the İzmir Region Union located in the province of Aydın was evaluated. In addition, including the 18 companies, surveys in regards to problems of drip irrigation systems in 52 enterprises that are members of Agricultural Credit Cooperatives were made.

Criteria of ASAE EP458 (American Society of Agricultural Engineers Engineering Practice) were used in this performance evaluation. The acquired data were used to calculate statistically uniformity (U_s), hydraulic uniformity (U_{sh}), and parameters of dripper performance change (U_{pf}) of the drip irrigation system and to evaluate the system performance.

U_s was place between 47-95% values and drip irrigation systems were categorized as "good", "medium" and "inadequate". U_{sh} values were between 43-95%, and drip irrigation systems in terms of hydraulic performance were evaluated as "good" and "medium". U_{pf} values ranged from 51-97%. Drip irrigation systems were placed in "medium" and "weak" classification in terms of the clogging of drippers, water quality, and coefficient of variation of producer.

Although all enterprises involved in the study were in “good” condition in terms of hydraulic planning of drip irrigation systems, they were classified as “moderate” in terms of flow uniformity and dripper performance due to plugging of the drippers, lack of routine maintenance and repair, rodent damage, lack of testing and water losses.

Keywords: Agricultural credit cooperatives, drip irrigation system, performance evaluation