

## Response of Sugar Beet to Planting Dates and Water Requirements in Middle Egypt. 1- Consumptive Use and Water Use Efficiency

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**T**WO FIELD experiments were carried out at Sids Agric. Res. Station Farm, Beni-Suef Governorate, Egypt during 1995 / 96 and 1996 / 97 seasons to study the relationship between planting dates (25Sept., 10 Oct. and 25 Oct.) and irrigation treatments (irrigation at 40, 60 and 80% depletion from available soil moisture added to recommend irrigation). The results were as follows:

No clear difference in applied irrigation water could be attributed to planting dates. Early planting date caused small increase than other planting dates.

Irrigation at a depletion of 40, 60 and 80 % from available soil moisture saved 27.9, 30.7 and 32.3 % in the first season and 29.4, 32.9 and 34.5% in the second season, respectively compared to normal farm irrigation treatment (control).

No clear difference in ET could be noticed between the three planting dates. Average values of ET were 73.38, 71.48 and 71.52 cm in the first season and 76.77, 75.70 and 75.65 cm in the second one. Irrigation as recommended in the region recorded the highest ET in both seasons. Arranging these results in descending order, as average, was: ET of control > depletion at 40, 60 and 80 % from available soil moisture in both seasons.

The rate of soil moisture extraction from soil layers of root zone was very high in the surface layers (0-15 cm) and became less with



































