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ARABIC SUMMARY

4. SUMMARY

The present investigation was carried out in the Farm of The Department of Horticulture, Faculty of Agriculture, Kafr El-Sheikh, Tanta University during 1998 and 1999 seasons.

The aim of the present work was to study the effect of Amino nutrients solution and different levels of irrigation on growth characters and water relations of Apriect and Fig young trees the results are summarized as follows:

1. Total water content in the tree tissues was decreased by lengthening irrigation intervals, the trees which were irrigated every 4 days recorded the highest values of total water content.
2. Free water content had a similar behaviour to total water content. On the other hand, bound water content had a reversible trend to free water content.
3. Osmotic pressure of the cell sap was at its lowest values in the trees which were irrigated every 4 days intervals and was increased by lengthening of irrigation intervals.
4. Decreasing soil moisture by lengthening irrigation intervals increased water deficit percentage in leaves of the trees.
5. Maximum values of leaf areas were recorded by the over irrigated trees and leaf area was decreased by lengthening the irrigation intervals.
6. Plant height, trunk growth and shoot lengths were at their maximum values in the trees which irrigated every 4 days and were decreased by lengthening the irrigation intervals.

Summary

7. All applications of solution used in this study decreased total and free water contents and increased bound water one under using all different irrigation treatments which indicates the improving of growth and increasing the dry matter content in the tissues.
8. All solution sprays increased osmotic pressure of the cell sap of the sprayed trees, and increased water use efficiency.
9. All solution sprays stimulated growth of the sprayed trees.

Based on the results of the present work it could be concluded that foliar spray with Amino solution could increase plant drought resistance through increasing bound water content, osmotic pressure of the cell sap and organic matter percentage of the leaves leading to increasing water use efficiency of the plants.