



Effects of Drip Irrigation System for Long-Life Fruit Trees on Different Economic Bases

The important step for an agriculture project is to select from the available alternatives, based on the site conditions, the crop type, system of irrigation, system configurations, and laterals' arrangement. Based on economic selection bases, the best combination is that requires minimum initial installation cost and/or minimum total annual costs and/or minimum energy cost and/or minimum maintenance cost or gives maximum benefit/cost (B/C) ratio and/or maximum net returns and/or maximum net cultivated area. The objectives of the present study were to use the drip irrigation model TISD linked with the measures of the economic analysis to study the effect of system configurations and lateral's directions for long-life fruit trees on the selected economic bases. The study was conducted on eleven long-life fruit trees based on physical, crop, and economic conditions. The long-life fruit trees considered in the study were: apples, apricots, bananas, citrus, dates, figs, grapes, guavas, mangoes, olives, and pears. The results revealed that the drip irrigation system with configurations and laterals' direction has a very small effect on the B/C ratio, the annual net return, total annual costs, and net cultivated area. Further, the system used in the study has a very high effect on initial capital cost and annual energy cost. Moreover, the drip irrigation system configurations and laterals' direction have a considerable effect on the annual maintenance cost.