

Factors involved in rooting of avocado cuttings

Michael Raviv

1975. Final Thesis – M.Sc. in Agricultural Sciences.
The Hebrew University of Jerusalem, Rehovot, Israel (in Hebrew)

Summary

In this study different aspects of the problem associated with the rooting of avocado cuttings were investigated. The work followed two directions:

- A. Finding methods to improve rooting.
- B. Testing of endogenous factors influencing rooting.

It was found that it is possible to improve and enhance rooting by the following methods:

- 1) Treatment with fungicides (1% Benlate or 5% Captan in talcum) to the base of the cutting to avoid browning.
- 2) Treatment with auxins (1% IBA-K powder in talcum) to the base of the cutting to encourage rooting initiation.
- 3) The use of aerated substrate with high water absorption capacity and which contains an organic component such as peat moss.
- 4) Heating of the substrate to the optimal temperature (30°C)
- 5) Protection of the cuttings' foliage by spraying with materials which delay senescence and leaf drop (auxins and cytokinins) in different concentrations for different clones.
- 6) Correct treatment of the mother trees (fertilization, pruning).
- 7) Utilization of adequate cuttings (young, near the end of the spring flush).

Examining the endogenous aspects it was found:

- 1) There is a positive correlation between materials that enhance rooting which is extracted from avocado leaves (and examined in rooting trial of bean cuttings) and the rate of rooting of the different clones.
- 2) There is a positive correlation between the starch level at the base of the cutting and its ability to root.
- 3) There is a negative correlation between the level of magnesium in the cutting's leaves and its ability to root.
- 4) Indirect evidence hints to the function of auxins in rooting and the protection of the cutting's foliage and the function of the cytokinins in the preservation of the foliage.
- 5) Indirect evidence hints to the effect of anatomical factors in the rooting of certain clones.