

Maoz Avocado Rootstock Selection¹

A. Kadman and A. Ben-Ya'acov

Institute of Horticulture, Agricultural Research Organization, The Volcani Center, Bet Dagan, Israel

Additional index words. *Persea americana*, salt tolerance, lime tolerance, fruit breeding

Maoz avocado (*Persea americana* Mill.) was selected to provide a rootstock for high saline and high lime conditions.

Origin

Maoz was selected in the early 1960's from a plot of West Indian seedlings planted near the Maoz settlement in the Bet She'an valley of Israel, in soil of high (>50%) lime content and irrigated with water of high salinity (650-700 ppm Cl).

Description

Maoz is a relatively small tree (to 6m) with pale green leaves in dense clusters. Branches have short internodes. Bark of the trunk is very rough with many elongated cracks. The fruit is pear-shaped, of medium size (300-350 g), rough leathery skin of violet color at full ripening stage. Fruit taste is sweetish, with low oil content (3-4%). Fruits ripen in October. The tree is an extreme alternate bearer.

Rootstock performance

Maoz trees have been tested in various regions with soils of very high lime content and using saline irrigation water, both as seedlings and as seed-propagated rootstocks for commercial varieties such as 'Fuerte' and 'Hass'. In all cases, they showed the highest tolerance known to us in avocado trees. Tests with Maoz seedlings were carried out also in salinized nutrient solutions containing 800 ppm Cl. No leaf scorch or other damage was apparent.

In experimental and observation orchards, Maoz rootstocks show some dwarfing effect on the grafted cultivars such as 'Ettinger', 'Fuerte' and 'Hass', compared with trees grafted on Mexican rootstocks.

Propagation

Propagation by seeds, which is recommended in Israel, gives a satisfactory uniform population. Seedlings are very similar in phenotype and most of them show high tolerance to lime and salinity.

¹ Received for publication September 1, 1979. Contribution from the Volcani Center, Agricultural Research Organization, P.O.B. 6, Bet Dagan, Israel. 1979 Series, No. 214-E.

The cost of publishing this paper was defrayed in part by the payment of page charges. Under postal regulations, this paper must therefore be hereby marked *advertisement* solely to indicate this fact.

Most early experiments to root Maoz cuttings under mist failed. During the last 2 years, an Israeli nurseryman (Mr. Getzler of the Benei Zion settlement) succeeded in rooting cuttings at a rate of 60% by a method developed in California. (1).

Availability

Maoz seeds have been sent for testing to several countries, in which problems of salinity exist, such as California, South Australia, etc. A limited amount of seeds and budwood can be obtained from the authors.

Literature Cited

1. Brokaw, W. H. 1977. Subtropical fruit tree production: avocado as a case study. *Proc. Intern. Plant Prop. Soc.* 27:113-121.