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The Small Avocado Industry in Greece

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A few years ago, the Greek Ministry of Agriculture imported a number of avocado cultivars and a collection was established by the Institute for Subtropical Fruit Crops in the District of Chania, on the island of Crete.

The total number of commercially growing avocado trees is about 12,500, and the total avocado production is up to 100 tons (1980). The total avocado area is 75 hectares; and the main avocado growing district is Chania (72 ha), followed by H Iraklio (1 ha), Messinia (1 ha), and the Province of Troizinia (1 ha).

The usual avocado rootstocks used are Topa Topa and Mexicola.

The number of avocado trees and production in the area of Chania are, respectively, 11,813 and 84 tons (1980). The distribution of cultivated varieties and their corresponding production for the same area are:

<u>Cultivar</u>	<u>Number of Trees</u>	<u>Production [tons]</u>
Fuerte	8,592	65.9
Hass	1,320	7.9
Zutano	1,290	6.6
Nabal	396	2.3
Ettinger	215	1.4

The harvesting period for each of the above-mentioned avocado cultivars is shown in the table below:

<u>Cultivar</u>	<u>Beginning of Harvesting</u>	<u>End of Harvesting</u>
Fuerte	November 1	May 30
Hass	February 1	August 30
Zutano	December 30	September 1
Nabal	January 15	May 30
Ettinger	November 15	January 15

The distribution of avocado cultivars according to their adaptability and productivity in Chania are:

Adaptability

Fuerte (excellent)
Hass
Zutano
Nabal
Ettinger (poor)

Productivity

Ettinger, Hass (excellent)
Fuerte
Nabal
Zutano (poor)

It is evident that the best adapted avocado cultivar in the district of Chania is the Fuerte, while from a productivity point of view the cultivars Ettinger and Hass are best. No deficiency problems have been observed as yet in this district. From the plant pathological point of view, the fungus, *Phytophthora megasperma*, caused some tree losses in two locations in 1980.

The avocado grower prices for fruit marketing for local consumption depend on the marketing period and which for the 1980-81 period, per cultivar, were as indicated below:

Month

[U.S. \$1=50.50 DRX]

Drachmas/kgm

November	60 - 80
December	65 - 85
January	70 - 90
February	72 - 97
March	75 - 102
April	80 - 105

The fruit which was exported by air cargo to West Europe — Munchen — achieved a price in the market of 4 D.M./kgm. This export took place during the months of February and March, 1981, corresponding to 3,350 kgm.

The main problems encountered at the stage of production were those of fertilization, fruit set, alternate bearing, and grafting. A small decrease in fruit production was observed in trees growing in clay soils after the sixth year of planting.

The district of Chania is considered suitable for avocado culture. The quality of water is excellent and the deep, fertile soil with a pH value = 6 -7, with low CaCO₃ content, sandy-sandy to sandy-clay type soils, give good results.

In the district of Messinia (Kalamata city), there is an avocado trial grove consisting of 200 trees with four cultivars (Fuerte 105 trees, Zutano 25, Rincon 25, and Hass 25). 160 trees are of bearing age. The total 1980 production was 3.5 tons.

From the adaptability and productivity points of view, the best cultivar is the Fuerte,

followed, in this order, by Zutano, Rincon, and Hass. No phytopathological problems have been encountered as yet, while it seems that the cultivars Hass and Rincon are the more sensitive to cold conditions.

The Research Institute for Subtropicals in Chania studies the adaptability and the general behaviour of a number of avocado cultivars under the local environmental and soil conditions. In its collections, there are 18 avocado cultivars under study; that is, Hass (California), Fuerte (Cal.), Nabal (Cal.), Bacon (Cal.), Reed (Cal.), Zutano (Cal.), Anaheim (Corse), Rincon (Cal.), Ettinger (Israel), Benik (Isr.), Mexico (Isr.), Fuerte MacArthur (Corse), Booth 8 (Corse), Booth 7 (Corse), Dickinson (Corse), Waldin (Florida), Fuerte (Isr.), and Hass (Isr.).

In 1970, a new avocado experimental plantation was established at Grysopigi-Chania, while in 1972, another one at the same location and a third one at the location Gortyna-Messora, on the island of Crete, were established. These experimental plantations consist of the above-mentioned 18 avocado cultivars. The data collected for the evaluation of these cultivars are: (a) tree characteristics; that is, compatibility-incompatibility, tree size, blooming period, production, and resistance to diseases; (b) fruit characteristics; that is, weight, fruit size, oil content, maturity season. Up to now, the best avocado cultivars from the commercial point of view are: Fuerte, Hass, Zutano, Bacon, and Reed.

In 1977, another avocado rootstock experimental plantation was established by the Institute. Four different rootstocks are used: Topa Topa, Mexicola, Duke, and Canda and seven different cultivar scions: Fuerte, Hass, Zutano, Nabal, Rincon, Bacon, and Reed.