

Avocado in Spain

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EARLY HISTORY

Although avocado trees had probably been planted in Spain from the early 16th century, it was only after 1930 that improved cultivars and growing techniques were introduced. Wilson Popenoe wrote in the California Avocado Society Yearbook of 1959, a lively account of avocado growing in Spain and of its early pioneers (1). His prophetic words were: "... it occurs to me that 25 years from now when, as I hope and believe, the avocado shall have attained commercial importance in Southern Spain ... !"

The avocado industry of the Canary Islands has recently been discussed by Victor Galan in the California Avocado Society Yearbook of 1985 (2). This paper concerns mainly the industry in mainland Spain.

GROWING AREAS

Figure 1 shows the two main avocado-growing areas in Spain: the Costa del Sol and the Canary Islands. Most of the future development will probably take place in these areas.

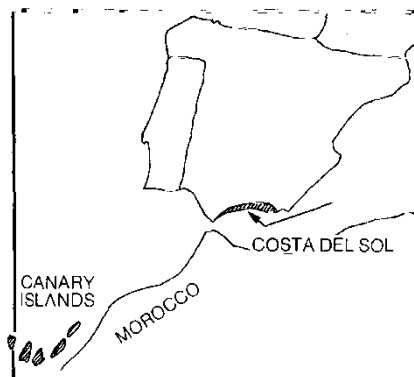


Fig 1 Avocado growing areas in Spain.

MARKETING

The rapid development of the last decade can be clearly seen in Figure 2. The planted area has grown faster in the mainland, where both production and marketing costs are lower. Due to the limited development of the home market, increased production immediately showed through increased exports (Figure 3). Home consumption also increased from about 800 t in 1976 to nearly 8 000 t in 1986.

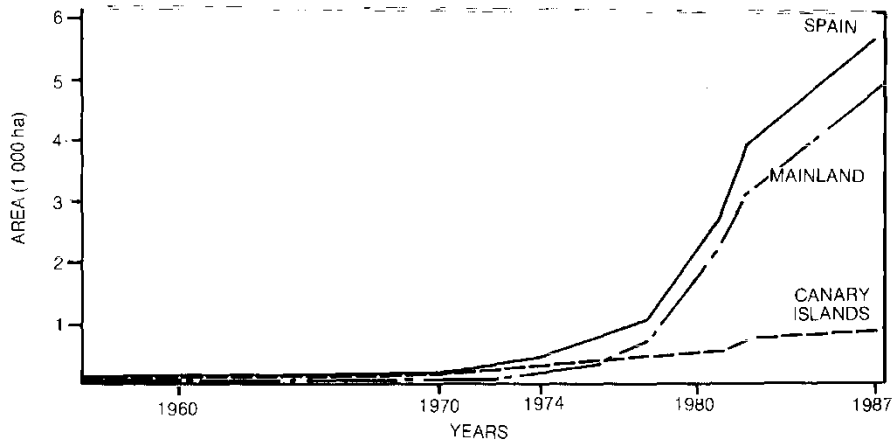


Fig 2 Areas under avocados in Spain (ha).

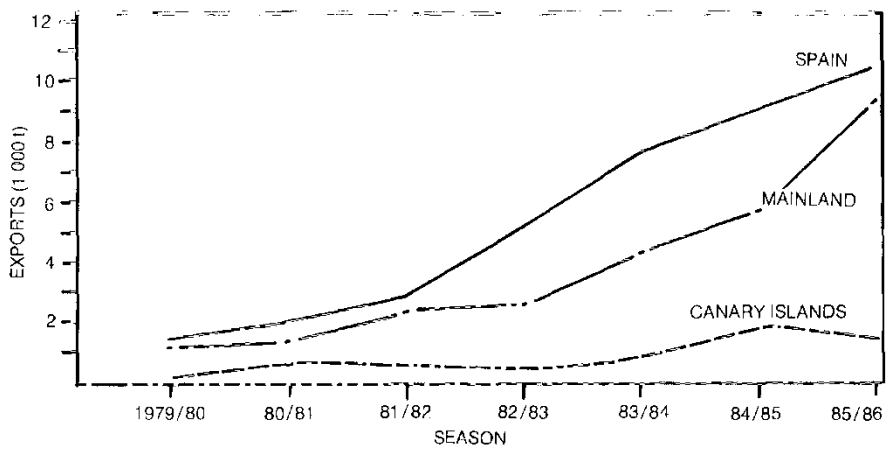


Fig 3 Spanish avocado exports.

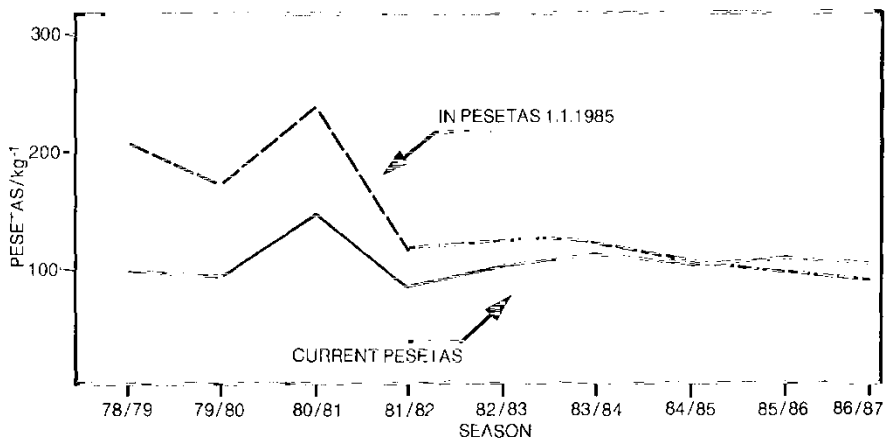


Fig 4 December grower price (pesetas/kg⁻¹).

Figure 4 shows the December grower price for export grade Fuerte avocados. Prices in current pesetas have been more or less constant, except for the short Israeli crop of 1980/81. On the other hand, the real price to the grower has decreased by about half, due to increased competition from Israel and the Republic of South Africa.

Spanish production will probably reach 40 to 50 thousand tons per year after 1993. Although home consumption is increasing, it is likely that about half of it will be exported. This could put some pressure on European prices, especially if Israel and the Republic of South Africa also increase supplies.

Most of the fruit is handled by a multitude of small packhouses. The need for better quality control and a stable offer is leading to the appearance of co-operative organisations.

In the last two seasons over 90 per cent of the exports have been sent to France by refrigerated truck. The journey to the main markets in northern France takes less than two days. This probably accounts for the low incidence of storage disorders in properly handled Spanish avocados.

WEATHER

Avocados of the Mexican and Guatemalan races are well adapted to the growing conditions in the Costa del Sol. Temperatures above 30°C and winter frosts are very infrequent and affect only five per cent of the planted area.

PICKING SEASON AND YIELDS

Fuerte, Bacon and Zutano reach 20 per cent dry matter from October 20 to November 10 in the Costa del Sol. Hass with 22 per cent dry matter can be picked around the first week of December. In older trees, Hass can be stored up to the end of June. In the Canary Islands ripening varies according to the elevation and can therefore be either earlier or later than in the Costa del Sol.

Most of the plantings are still young and consistent yield records are therefore scarce. Fuerte yields are consistently low in some areas and good, but alternating in others. Hass also alternates, although pruning can decrease yields considerably. Average yields in well-cared orchards will probably vary between 8 and 12 tons per hectare,

VARIETIES

The popularity of Hass is increasing, now covering nearly 60 per cent of the planted area. Fuerte still remains the second most important cultivar with about 20 per cent of the area, followed by Bacon with about 15 per cent. Reed plantings are below five per cent of the total.

The reasons for the increased popularity of Hass could be:

- (a) The prices paid to the growers in spring are about 50 per cent higher than in winter.
- (b) By using the right management techniques consistent yields can be obtained.

ORCHARD MANAGEMENT

Most avocado orchards are drip irrigated and tensiometers are used by the most advanced growers. Minisprinklers are gaining popularity in mature orchards, mainly because of lower maintenance costs.

Orchard soils are generally not cultivated but kept clean with herbicides. Orchards are planted on hillsides in terraces built by bulldozer.

Leaf phosphorus levels are generally adequate but potash and zinc have to be added regularly.

About 40 per cent of the soils in the Costa del Sol are calcareous. Iron chelates have to be applied regularly and excess irrigation has to be watched carefully.

Soil mulching with sugar cane bagasse increases growth of young trees considerably.

PESTS AND DISEASES

Protopulvinaria pyriformis and thrips are the two most important pests. Improving air movement decreases these problems considerably. Argentine ant control also helps.

Phytophthora cinnamomi and *Armillaria* have been isolated from roots of dying trees. Deep soil preparation before planting, which leads to proper subsurface drainage, will probably prove to be essential for long-term survival.

ACKNOWLEDGEMENTS

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REFERENCES

- 1 Popenoe, W, 1985. Avocado growing in Spain and its early pioneers. *Calif Avocado Soc Yrb*, **1959**, 55-66.
- 2 Galan, V, 1985. Avocado industry of the Canary Islands. *Calif Avocado Soc Yrb*, **1985**, 73-80.