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AVOCADO INDUSTRY IN WESTERN AUSTRALIA

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The avocado industry is not well developed in Western Australia. It may be a misnomer to call it an industry. Some trees may be found in an area extending from the northwest coastal district to Perth, which is situated in the southern part of the State. The largest number of trees in any one district would be in the Carnarvon area and more particularly on the Gascoyne Research Station.

Gascoyne Research Station records show that the first importations of avocado to the Carnarvon area were made in 1949. These were from South Africa. The trees failed to survive after planting out. Since then, avocado seeds and budded planting material have been brought in from a number of sources in Queensland (Australia).

Today 14 trees are well established on the Research Station. It is estimated that another 20 trees are situated on the plantations in the district. This may appear small by overseas standards, but one must remember that the area is prone to cyclones, droughts and floods and that the establishment of an avocado tree means a long term investment. The economies of this type of investment have not been proved, whereas local cash crops of bananas, beans, tomatoes, capsicum, pumpkin and others are of a short-term nature with quick cash returns.

CONDITIONS OF GROWTH

Weather—The climate of the Carnarvon area is suited to the growth of numerous tropical and sub-tropical fruits. As the average annual rainfall is 866 points (24 years) all crops are grown under irrigation. Although occasional frosts have been recorded, the average monthly winter temperatures are high enough to prevent cold damage and slight growth continues in tropical crops.

Mean average temperatures are shown below (10 years)

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Average Maximum	93.1	95.0	91.8	85.5	78.7	72.8	70.5	74.3	78.2	79.7	85.6	87.1
Average Minimum	73.8	75.4	71.0	64.7	57.5	54.4	51.5	51.7	56.6	70.5	65.0	68.0

Carnarvon is very windy. During September to December, constant southerlies blow each day, ranging in velocity from 10-35 m.p.h. The following months, from January to April, the wind direction is usually from the east and north, influenced by the cyclonic

depression moving down the coast. The months of May to August are relatively calm.

These winds result in leaf scorch in unprotected trees, and high fruit losses at times. Endeavours are being made to plant budded trees as these develop into a prostrate habit, whereas development from seedling trees is upright and mainly confined to a single stem.

Soil type—The soils in the irrigation area in Carnarvon are classified as micaceous fine sandy loams.

The following is a description of the soil on the Research Station.

Depth (ins.)	pH	Chloride Nacl. %	Acid Soluble Potas-sium	Acid Soluble Phos-phorus	Caco 3 %	Coarse Sand %	Fine Sand %	Silt %	Clay %
0 — 1	7.2	0.002	0.66	0.057	0.41	2	68½	14	11½
1 — 4	8.8	0.008	0.78	0.058	0.45				
4 — 8	9.3	0.004	0.76	0.053	2.5	1	59	21	15½
19 — 23	9.2	0.010	0.82	0.060					

Irrigation water—This is pumped from wells situated in the sands of the Gascoyne River. The salinity of the water varies according to the salinity of river flows. Generally it is about 150 ppm rising to 300 p pm after 6-9 months pumping and before the next river flow.

Yields—The incidence of wind and heat influences our yields tremendously. To quote an example of this, and to indicate yields obtained in the district, please note the following:

Tree Number and Variety

Year	5 Nabal* No.	5 Nabal* Weight lbs.	6 Fuerte* No.	6 Fuerte* Weight lbs.
1964	70	63	99	63
1965	195	160½	139	137

*Trees 15 years old.

During 1965 a small amount of fruit (12 cases) was sent to the Perth Markets. The net return per fruit after deducting price of cases, freight and commission was 3/6. The variation was 1/9 - 4/6 per fruit. No assessment of growing costs has been made to date.

THE FUTURE

During recent years all fruit from the Carnarvon area has found a ready market in the South. If sufficient fruit was available, consumer interest and demand could be raised considerably.

At present, any development is restricted by lack of adequate and permanent water supplies and sufficient information on growing techniques and varieties.