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FLOWER TYPE OF THE REED AVOCADO

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Research data and field observations indicate that cross pollination of avocados is required if maximum yields are to be attained.

The flower characteristics and behavior of the avocado flower are well understood. The avocado flower has both female and male parts, but they do not function at the same time. Each flower opens twice. First, as a female (Stage I) and then as a male (Stage II). The opening and closing are specific for each variety and open with clockwork precision.

	FIRST DAY		SECOND DAY	
	Morning	*Afternoon*	*Morning*	*Afternoon*
Type A	Female	—	Male	—
Type B	—	Female	—	Male

If cross-pollination is to take place when Type A flowers are open as a female (morning), then pollen must be provided from Type B flowers which open as a male during the same period.

Likewise, Type B flowers open as female in the afternoon must be provided with pollen from Type A flowers which are open as male during the same period.

Therefore, to provide varieties that are compatible for cross-pollination, a grower must know the flower type of each variety planted to assure a source of both female and male functioning flowers. The flower type of the Reed, a relatively new variety, was unknown. A project was initiated for determining its flower type.

The Brokaw Nursery, Ventura, provided an 18-months old container-grown Reed avocado tree in full bud.

Twenty-four flowers were tagged with small pieces of string, starting at 10:30 A.M. Most of the flowers were fully or more than three-quarters open. Each flower was observed every half hour. At 12 noon all flowers were open and functioning as a female (Stage I). At 1:00 P.M. all flowers were closed or nearly so.

All flowers remained closed through the afternoon and night but started to reopen at 12:00 noon the following day. At 1:00 P.M. all flowers were open as a male (Stage II). Dehiscence (shedding of pollen) started about 2:00 P.M. At 4:00 P.M. flowers started to close. At 5:00 P.M. all flowers were closed.

The precision at which flowers open and close is dependent upon the average

temperature (day maximum and night minimum). Optimum average temperature is considered to be about 70° F. As the average temperature falls below about 70° F, the flower parts function less well. Below 60°, there may be zero fruit set. The temperatures over the two-day observation period were as follows and the average temperatures appear to be ideal for proper opening and closing of flowers.

Day	*Maximum*	*Minimum*	*Average*
1	92° F.	51° F.	72.5° F.
2	94° F.	52° F.	73.0° F.

From this study it is concluded the Reed variety is a Type A avocado and could be used as a pollinator for avocados with Type B flowers.

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