

METHODS OF AVOCADO GROWING IN THE TROPICS APPLICABLE TO CALIFORNIA

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Methods employed in one country are not always applicable in another, still they offer many suggestions worthy of trial.

Having passed practically all my life in the tropics I am more familiar with those countries than with California. In my own planting of the avocado I am trying to reproduce as nearly as possible, the same conditions under which the best fruit is grown there, in the former place.



Figure 8.—Avocado tree in Guatemala from which buds of the "Linda" were taken.

I know that some of my methods of growing avocados are not yet accepted by most growers; but we must each work along the lines that we believe best, and ultimately out of all of our experience develop that which gives the best results.

Avocados grow over a far greater range of climate than most avocado growers imagine; but like many other kinds of fruit, those with the best flavor are always found in a cool climate. In the extremely cold climates where the avocado grows, Nature has covered the fruit with a thick and unyielding shell to protect it from the cold. This makes it impossible to tell when such a fruit is ripe; therefore it is useless as a commercial proposition. But as the elevation drops and the climate becomes warmer, the shell becomes less rigid and there are found the best of the hard-shelled varieties which give promise of being of great importance to the avocado industry in California. I have never known a first class avocado to be produced in a hot, damp climate. Whatever success Florida will have in growing the hard shell variety remains to be seen. I have shipped a number of my hard-shelled varieties there and am waiting the results. In Guatemala, the avocado flourishes where the orange will not grow on account of frost. I believe avocado culture will ultimately extend over a much larger area in California than is now believed possible.

Seedlings.—All avocados in the tropics are seedlings; therefore each tree produces a variety all its own. The avocado has more varieties along all lines than almost any other fruit that I know. There are only two qualities which are always reproduced in a seedling and these are hardness and type of skin. For instance, a seedling of a thick-skin variety will always produce thick-skin fruit; a seedling of a thin-skin variety will always bear thin-skin fruit; or a seedling of a hard-shell will always bear hard-shell fruit. Other qualities, such as color, flavor, size, etc. are never constant in the reproduction through seeds. It is a rare exception, that a seedling is found to have all the qualities in fruit and tree which tend to make it a desirable commercial proposition. This is true even where the avocado trees are very numerous. The varieties now found here in California average fully as well, if not better, than the average trees do in the tropics. This, to me, is a proof that we can grow as good avocados here as anywhere else in the world, when we have eliminated the undesirable varieties and concentrated upon the best ones.

Varieties.—There is a misunderstanding in California concerning the classification of varieties that ought to be rectified as soon as possible. There are four general heads under which all avocados known in California may be classified. These are: 1, thin-skin; 2, West Indian; 3, thick-skin; 4, hard-shell. The first two classes seem to be fairly well known, but the last two, the thick-skin and the hard-shell are constantly confused or classed as one group. This error should be corrected at once, for if it is allowed to grow, it will be almost impossible to rectify it later on. It is as easy to distinguish a thick-skin from a hard-shell as it is to tell the difference between a thin-skin and a thick-skin. A thin skin will not peel because there is no clearance between the skin and the meat. A thick-skin always peels. A hard-shell never peels. The meat and skin of a hard-shell are always differentiated but the shell will not bend, it breaks. The hard-shell also has a distinct way of putting out its flowers.

Soil.—The best fruit I have found in the tropics grows in the coffee fields where the land is only hoed about three times per year, never plowed nor cultivated deeply. The avocado does best on a rich heavy soil with plenty of humus and leaf mold. Some of the best fruit I ever saw were grown on red clay and adobe. The ground should be shaded as much as possible. I believe that there is more danger in over-fertilization than there is in under-fertilization.



Picture Taken Oct. 1, 1915
Figure 9.—Growth of tree of the Rey Avocado; budded July 6, 1914; trans-
planted March 10, 1915.



Picture Taken Aug. 6, 1916



Picture Taken Oct. 1, 1915
Figure 10.—Growth of tree of the Queen avocado; budded July 2, 1914; trans-
planted March 10, 1915.



Picture Taken Aug. 6, 1916

Water and Cultivation.—Most avocado growers use too little water. Some use too much at one time, and still others do not irrigate often enough. Ninety per cent of these fruits in the tropics flower and grow during the wet season and ripen during the dry season. The land should be kept damp, but not wet, where there is no danger of souring the soil.

Cultivation is bad for several reasons:

First: The taproot of an avocado tree practically stops growing after the first year, or as soon as the side roots begin to grow, and if the ground is soggy with water, the trees easily lean with the wind.

Second: Root pruning is harmful to the tree.

Third: I have never seen an avocado tree attacked by pests when the ground was hard around it.

To me the most important methods to follow are:

First: To keep the soil damp not wet with frequent irrigations.

Second: Not to cultivate in such a manner as to disturb the roots, or, better still use a permanent low cover crop or mulch.

Third: To pinch back frequently the lower branches so as to promote growth of the upper ones. Eventually to remove the lower limbs, so that when the tree is ten or fifteen years old the lowest branch will be at least three feet from the ground.