

## Pruning By Pinching and Disbudding

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These general remarks are written especially for the Fuerte variety but are applicable to most varieties. Due to the newness of the avocado industry, there seems to exist a profound lack of knowledge on the subject of pruning the avocado tree.

Natural laws are constant and unvaried in their operations. Our knowledge of natural laws is derived from accurate observations of causes and effects and science offers the systematized explanation of these observations. The science of pruning therefore gives the explanation derived from the accumulated knowledge of ages of observation and experiences of effects produced by manipulation upon the branches and other portions of plants.

Plants left to nature maintain a reciprocal action between the branches and roots and every branch and root removed must exercise an influence either injurious or beneficial; therefore no one should remove a branch until satisfied of a reason for doing so and foreseeing the influence and effects of such removal.

It is the opinion of many growers that the most uniform and satisfactory crops of fruit are produced in orchards where but little pruning is given to the trees. While it is true that the injuries to fruit trees and the losses to fruit growers from vicious and altogether unnecessary pruning cannot be estimated, yet it would be erroneous to assert that the trees should not be pruned at all.

It is the axiom in vegetable physiology that the production of flower buds depends upon the presence of nutritious matter in sufficient abundance for their support. One of the most apparent facts connected with this subject is that a rapid growth and a fruitful habit do not simultaneously exist in the same plant. Young, vigorous trees do not fruit to any extent while those that from any cause receive a check to growth will become fruitful. Many expedients based upon similar observations have long been practiced by cultivators; such operations as ringing branches, root and top pruning. Pinching results in a much jointed growth which tends to slow down the sap flow. During citrus studies a much more rapid rate of sap flow has been shown to occur in the sucker than in the fruit wood.

The principle upon which the advice "Prune in summer for fruit" is based, recognizes barrenness in fruit trees as being the result of a predominancy of wood growth; also that any process or manipulation tending to reduce redundant growth, so long as it does not seriously involve the health of the plant, will favor the production of flowers and fruit.

"Pinching" is a technical term used in horticulture literature, which although well understood by the initiated, has a very indefinite meaning to the general reader, at least in its horticultural application. It is a method of summer pruning whereby robust shoots

are checked at any early stage of growth by removing their extreme points with a pinch between the fingers and thumb without the further removal of foliage. This operation retards for a time the extension of such shoots, induces additional growth in other buds, and develops shoots where a more active extension is required.

"Disbudding" is the removal of buds or young shoots that have not made more than one inch of growth, and it is the best practical method of preventing growths where they are not wanted without interfering with the health of the tree.

Pinching and disbudding are the most rational modes of directing the growth of plants. If rigidly practiced there would be but little necessity for winter pruning or the removal of branches, small or large, at any time. It certainly seems an inconsistent practice to allow a tree to make growths of wood during summer to be cut out in the winter by saw and pruning knife, thus sacrificing and destroying what it has been the aim of the cultivator to produce, leaving out of the question any injury to the vitality of the tree.

Even from an economical standpoint with reference to labor, it is obvious that a saving will be gained by rubbing off a bud in May instead of having to cut a branch in December. Indeed, by proper attention to pinching and disbudding, the amputation of branches will be rendered unnecessary, and the health of the plant will also be maintained, which is not the case where the frequent pruning of branches is a routine practice.

The perfection of summer pruning provides for the complete control and disposition of growth without involving any material removal of foliage. When the extreme terminal bud of a growing shoot is removed, growth will be checked without removing foliage and without injury to the vitality of the tree.

Due to the fact that budded varieties are reproduced by budding, great care should be exercised during the early years of tree growth in the way of equalizing the strongly vegetative shoots as such shoots tend to produce a one-side, unbalanced tap. If pinching and disbudding is intelligently and systematically followed, such unruly shoots will branch sufficiently to form a shapely, well-balanced crown capable of sustaining successive crops of fruit without the assistance of props and wire guys that interfere with the picking of the fruit and orchard operations where clean cultivation is practiced under the trees.

The well-trained budded avocado tree has many and varied advantages both economical and ornamental over the budded tree permitted to grow wild even as nature never intended, for we must keep in mind that a budded tree has been produced through artificial reproduction (budding) which tends to dwarf and cause unruly growth.

A few of the advantages of the properly trained budded trees are as follows: The minimizing of limb breakage due to the severe winds and heavy crops. Greater protection of fruit against wind scarring, sun blotch, bruising against cross limbs, dead wood, props, ground and wire as is often used to strengthen weak limbs. In the case of roadside orchards, petty theft is lessened as the foliage of the trained tree conceals the fruit more than the untrained tree where the fruit hangs from the long limbs protruding outside of the general contour of the top.

Sunblotch, commonly called sunburn, is a very serious physiological disease and is due

to the lack of foliage which would ordinarily protect the bark of the tree from the direct rays of the sun and can be eliminated to a great extent by the pinching off of the terminal bud of the rapidly growing shoots. This will in turn force the auxiliary buds into growth, thus supplying the necessary amount of foliage for the shading of the limb.

Due to the soft wood of the avocado tree, it is generally considered inadvisable to remove large, undesirable limbs from old trees that have been neglected when young as the drying out of the sapwood and heartwood creates a shallow cavity which collects rain and sap exudation; later many small cracks occur in the wood permitting the entrance of wood rotting fungi. If the removal of undesirable limbs must be practiced, the most favorable time seems to be during the cool spring months before growth has commenced.

Extreme care should be exercised with the young tree, especially during the first season of growth after transplanting from the nursery in the selection of the young shoots that shall later develop into the main limbs. Pinching and disbudding is generally necessary to suppress the extension of the shoots that interfere with the uniformity of growth and regularity in the formation of the future tree.