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Avocado Tree Pruning in Los Angeles County

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Introduction

Many avocado growers have long felt that some attention should be given to pruning, at least to the extent of removing branches which interfere with cultural operations and which prevent the development of well-formed trees. And there is the further fact that some pruning is necessary to produce trees which will bear satisfactory crops without breakage.

In the belief that pruning is unnecessary, many avocado growers have not employed the practice, the results of which are clearly evident. Experienced growers are in agreement, however, that training and pruning are necessary if the most satisfactory results are to be obtained.

Some Basic Principles

The main consideration in training and pruning avocado trees is to accomplish the desired results with the removal of as little leaf surface as possible. No cutting should be done without a specific and well-considered reason. Young trees should not be expected to bear large crops since their leaf surface is small in relation to their size. Not until a proper balance is attained does the tree reach the "bearing age." In the young tree there is a surplus of nitrogen compared to carbohydrates, the latter being manufactured in the green portions of the tree. As long as this condition exists, there is a tendency to vigorous shoot growth and low fruit production. As the tree increases in size and age, the leaf surface becomes proportionately larger, and the vigor of growth lessens with a better balance between nitrogenous compounds and carbohydrates. The latter are, of course, manufactured in the leaves and green portions of the plant from carbon dioxide absorbed from the atmosphere. Food is manufactured for all parts of the tree from carbon dioxide, together with water and crude materials which come up in solution from the soil.

Pruning should not become a mechanical process. Every cut has a physiological effect on the tree. By cutting away green portions of the tree, such as the leaves, the manufacture of plant food necessary to supply both top and roots Is temporarily reduced, at the expense of growth. As a consequence, only the minimum amount of pruning necessary for the attainment of the specific object in mind should be done.

Training the Young- Tree

Many growers, in setting out young trees, cut them back very little. In most instances the trees as purchased from the nursery are five to six feet in height. When they are balled, the lateral roots are cut as well as the tap root, the latter being cut about eighteen inches from the surface. Since much of the root system has been removed, the top should be cut back sufficiently to restore the balance, otherwise a weak-growing tree will result. Sometimes such trees remain inactive for a season or two before starting to grow; in many cases they never grow.

A practice followed by some experienced growers is to cut back the newly-planted trees very severely, without removing the lower lateral branches. Strong, vigorous shoots develop close to the top point of cutting back, one of which may be used as a central leader. The central-leader form appears to be that best able to bear large crops without breakage. The lower branches must be kept pinched back in order to prevent their outgrowing the leader, which is to form the top of the tree. The objective is to develop an entirely new top, using the original lateral branches to nourish the tree until such time as the new top is established. These lower branches, none of which should be allowed to make much growth, will gradually decline and should then be removed. In this way a strong tree for future production of fruit may be developed.

The general practice at the present time is to stake young trees, primarily for protection against wind, but the need for staking the new top varies with the tree. Some growers feel that the practice should be avoided because it tends to develop a weak framework. In their opinion training for framework formation gives better results than staking. Staking appears to be necessary, or at least useful, in some cases, where upright shoots do not develop and become rigid unless the tree is staked. The tree developed without staking appears to be preferable in most cases, however.

Young trees should be given such training treatment as may be necessary, at least every three months. Strong-growing branches on the trunk which tend to outgrow the others should be held in subjection by pinching. Lateral branches should be allowed to develop on the new leader, but should be held back if outgrowing either the leader or other lateral branches. The new framework should be gradually developed as properly spaced branches become available.

As little pruning as necessary to accomplish results is the practice which should be followed. It is better to prune lightly and often than to prune severely and less frequently. Pinching out the buds is a better practice than to permit branches to grow which later must be removed.

Pruning- the Bearing Tree

Bearing trees should always be pruned lightly, whether thinning the top to let in sunlight, removing weak growth, or cutting off larger branches.

The pruning of bearing trees should consist primarily of the following practices:

1. Keeping the top and sides moderately open to permit penetration of a sufficient amount of light for the development of inside branches, thereby in creasing the leaf

surface. This will also assist in insect control, especially the latania scale where present.

2. Removing suckers and vigorous top growth which are objectionable because of position or excessive vigor.

3. Removing low hanging or sprawling branches which interfere with cultural operations.

4. Shortening in certain branches which outgrow the others.

5. Removing mechanically weak limbs and deadwood.

The smaller cuts should be made above the dormant buds which terminate a cycle of growth. Stubbing of branches should be avoided as much as possible. Time to Prune

Late winter and early spring are probably the best seasons for pruning avocado trees, particularly if much cutting is required. There is, however, no definite evidence that avocado trees cannot be pruned at any time of the year. Some growers believe that pruning during the blooming and setting period is injurious, but there are no conclusive data to support this conclusion. Pruning at that period may serve to thin a crop of heavy set and actually be beneficial for that reason. Special Cases

Where the tops of trees have declined because of over irrigation, it has frequently proved beneficial to give the trees a rather severe pruning in order to re-establish a balance between the top and the root system. Over-irrigation of trees results in a weakened root system, which is reflected in a poor condition in the top of the tree. Other factors may also be responsible for injury to the roots, which is reflected in the top of the tree. Trees injured by frost or wind should not be pruned until such time as the extent of the injury can readily be determined. Treatment After Pruning:

Sunburn: After a severe pruning, a whitewash should be used to protect branches suddenly exposed to the direct rays of the sun. The following whitewash is recommended for this purpose: Quicklime, five pounds; salt, one-half pound; sulphur, one-fourth pound. Slake the lime slowly and completely in five pints of water, adding the salt and sulphur while the water is boiling. Enough water should be added to make a good wash. Some avocado growers have felt that lime applied to the trees is injurious; a recent survey has failed to prove such injury.

Wounds: All large cuts should be treated with a paint or pruning compound, such as pure white lead mixed with enough oil to apply, asphalt or other wax or compound which will not injure the bark. Painting wounds two inches in diameter or more is advised.

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