

TREE SPACING TRENDS IN AVOCADO GROVES IN DADE COUNTY

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One of the major developments in fruit production in the past 15 years has been the development of high population plantings. This started with apples and pears, then spread throughout temperate zone fruit and finally to citrus and avocados.

Until relatively recently, avocado groves here ran about 70 to 85 trees per acre. A common spacing was 25 ft. x 25 ft., which is about 70 trees per acre. The trend, however, is toward the higher populations, with closer spacing both in the row and between rows. I see young avocado groves planted 15 ft. apart in the row, with the rows only 22 ft. apart, a population of 130 trees per acre. The reason given is that with costs of establishing and maintaining groves as high as they are these days it is necessary to get into profitable production as early as possible. Planting more trees per acre will certainly achieve early production but I have serious doubts about the wisdom of this course in the long run. The conditions that make it successful in the more northern climates do not apply equally here in the sub-tropics.

In both latitudes high density plantings soon run out of space and production decreases because of lack of proper light and the inefficient shape caused by a canopy top. This is well-known, of course, and the growers of temperate zone fruits take measures to counteract it. Their trees are pruned heavily, and in many cases dwarf varieties or dwarfing stocks are used to mitigate the problems of over-crowding. Vegetative growth stops during the cold winter and most of the new growth eventually develops into fruiting wood. This is not so true with tropical fruit trees. We do not have any means of dwarfing avocado trees, and they do not go dormant in winter.

When avocados are planted so close that they use most of the available space efficiently in the first six or eight years, they soon afterward are much too crowded. Their reaction to the heavy pruning that is required to maintain an acceptable shape and size is to rapidly regenerate all the lost growth and regain their original dimensions.

Close planting and frequent heavy pruning may be a successful method with avocados but until we have more evidence in its favor I suggest that we try some other way to achieve the same end.

One method, which I am trying, is to plant the avocado trees at a spacing which will be suitable to the mature tree, say 23 or 24 ft. apart in the row, with rows 25 or 26 ft. apart, then plant a more rapidly growing crop between the trees. When the grove becomes too crowded the secondary crop can be taken out. I have seen vegetables used for this purpose, as well as bananas and papayas. I tried bananas, but while they were easy enough to grow I wasn't able to sell the fruit for enough to make the effort worthwhile. Papayas are harder to grow but they might be easier to sell. At present I am planting

limes between the avocados and am planning to take them out in six or seven years, unless, of course, the limes prove unexpectedly profitable, in which case I might keep them and take out the avocados. It has been suggested that a better plan would be to double plant with more avocados and either cut down or take out every other tree when they get too thick. This may be a better way than the lime-avocado combination, which has several drawbacks from the standpoint of the cultural requirements of the two different crops. I do not know of anybody who has planted with this in mind, although when I look at some of the recent plantings I wonder whether this method is not being tried inadvertently.

In any case I think growers who plan to plant avocados should be warned of the problem of overcrowding that is associated with high population plantings, so they can try to cope with it by one means or another before they commit themselves to a course which is difficult to correct.