PECAN NUTS.

By C. R. JAMES.

The Pecan Nut is a handsome, deciduous tree, a native of the Southern States of America and is found growing chiefly on the river banks in latitude 30N. It is long-lived and very large, and under favourable conditions is known to produce 400 to 500 pounds of nuts annually. The nuts are of very high food value and in flavour far surpass the walnut or any other of our edible nuts.

The tree thrives under our coastal conditions in well watered and sheltered valleys, where the soil is deep and either of a clayey or even sandy loam nature.

The nut has various uses; apart from being the finest dessert nut, it can be used in all classes of confectionery and will no doubt in time, replace both the walnut and almond.

There are various means of propagation, viz: from seed, layers, grafting and budding.

The growing of these trees from seed, however, has several big disadvantages; first, being the long wait of about 10 to 12 years on the average, before any nuts are produced, exceptional trees, however, may produce a few nuts in 7 to 8 years. Layering is so very uncertain, and the percentage that root so low as to rule it out as a commercial proposition. We now come to grafting and budding; these terms are, to all intents and purposes, synonomous, there being no difference in the resultant tree, notwithstanding statements to the contrary. By these methods of propagation, horticulturists have greatly reduced the waiting periods for practically all classes of fruit trees.

Worked trees, that is trees grown by grafting or budding, will as a rule commence bearing in 6 to 7 years after planting, but even under the best conditions, nothing much can, with reason, be expected, as the Pecan is a very long-lived and large tree. On very rare occasions an odd tree may possibly bear a few nuts in the fourth or fifth year, but that does not really constitute what I call coming into bearing. At the present time, I have in my nursery of young grafted trees several of this year's grafts carrying nuts. This is merely a freak, owing to the fact that the scion was due to fruit on the tree from whence it was cut for grafting and these same trees now carrying nuts will not again show fruit for 6 to 7 years after planting into their permanent situation.

The planting of Pecan trees must be done during their dormant period, that is from end of June to end of September, as during that period they are quite leafless, coming into new foliage early in October. We now come to one of the most important items, that is the distance apart. Some people, either from lack of knowledge or from wrong advice, have planted these trees from 25 to 30 feet apart, at those distances they cannot possibly thrive and produce what we want and that is nuts, because just when they reach the bearing age and size, they become overcrowded and rob one another. To prove this conclusively, I have here a photograph of one of my bearing trees. This tree was planted by me in August, 1922, as a one year old seedling, about 6 inches high and as thin as a knitting needle. In the photograph, you will notice two bamboo poles each 20 feet above ground and 36 feet apart, that is 18 feet on each side from the trunk. No Pecan trees should be planted closer than 60 feet apart each way, if good results are to be obtained. I recently visited a plantation of Pecan trees about 25 years old and found they had been planted about 30 feet apart and they are now starving one another and will never be the success they should have been.

After planting, trees must be kept well watered until established and good rains have fallen. One very important point I have not mentioned in regard to planting seedling Pecan Nut trees is that they do not come true to type from seed and the percentage of good profitable trees is only about 10%, this I have proved to be correct and is borne out in the standard work, called "The Pecan and its Culture," by H. Harold Hume, of U.S.A.

The first sign that your Pecan trees are approaching the bearing stage is the production of catkins, this usually occurs the year before any nuts are borne. The catkin is the pollen producing or male flower and in bearing trees are produced in great profusion along all the branches and shedding the pollen which falls and is wind borne to the very insignificant female flower at the secondary terminal branches where the nuts develop in clusters varying from 2 to 6. No special way or method of laying out is necessary as far as I can see nor does Mr. Hume say anything on this subject, as owing to the great profusion of catkins and the varying winds, pollination can hardly fail to take place unless destruction of either one or the other or both sets of blossoms owing to frost or some other cause, as even trees growing singly are known to bear good crops. The market for good Pecan Nuts is practically unlimited and at the present time the U.S.A. are not even able to supply their own needs and the price has advanced in recent years notwithstanding the increased production from cultivated orchards.

New varieties of Pecans are produced from seed, and then reproduced by grafting, which ensures the young plants so raised being true to type.

I do not pose as an expert, and I have been greatly assisted in the raising of these trees by the helpful advice in Mr. Hume's book.

In conclusion, I should not advise anyone to go in for Pecan growing unless prepared to give the trees suitable land and fair attention. If this is done, I firmly believe that the Pecan could be worked up to a highly payable industry with a huge overseas market. The beauty of our country could be enhanced, and our many streams protected from the fierce sun's rays and thus prevent them from drying up as many have done of recent years, owing to the natural trees having been destroyed along the banks.

Having planted the Pecan trees at not less than 60 feet apart, something remains to be done with the very large space which will not be fully occupied for about fifteen years.

This space could, therefore, be very beneficially used in the growing of grape fruit and lemons spaced at 20 feet apart between the young Pecan trees.

Again between these trees, could be grown beans, peas, cabbages and other small annual crops, thus in a measure reducing the cost of cultivation of the main object.

Occasionally, say every third or fourth year, the sowing of a crop of buckwheat to be ploughed in would prove of great benefit to the land by adding to the humus content of the soil and thus helping to conserve the moisture. In growing catch crops, it is advisable to use manure or fertilisers and the benefit is bound to find its way to the permanent trees.

A great mistake is very frequently made by applying manure and fertilisers too close to the growing trees and this often causes damage to the stems and young roots. Roots are seekers, and when the soil is in good condition they travel in search of nutriment.

Watering is also a very important item; always remember that one bucket of water under the roots, when planting the trees, is worth at least three applied above the surface. Young, transplanted trees must be thoroughly done, as one good, heavy watering, once a week in dry weather, is preferable to daily, surface dampings, as so often occurs when this is left to Sammy or Jim without proper supervision. Given good trees, properly planted and well watered, the loss in transplanting should never exceed 2 to 3%.

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CHAIRMAN: It is very refreshing to get away for a time from the eternal sugar question. This morning we have had grass, and now we have had pecan nuts. Mr. James is prepared to answer questions.

Mr. MARTIN: If you have a small holding of 300 to 400 acres you have to plough out cane if you go in for Pecan Nuts. If you decide to plough out 5 acres, that would be 60 trees. That would be a tremendous wastage of land and you suggest catch crops. I do not think catch crops appeal to the sugar planter. Would it not be possible to have two or three rows of cane in between the trees and allow that cane to be reaped for two or three crops until the trees indicate that they are taking up the space. In that way you would be keeping the land cultivated and helping to keep up your average tonnage of cane. Another question I would like to ask is, that having planted 5 acres, at the end of 7 years approximately what return might one expect per tree?

Mr. JAMES: With regard to the planting of cane in between, I see no very great objection to that provided that there is plenty of space left round each tree and it is not crowded out. Of course you will not have to burn your cane, otherwise you will scorch up your trees. With regard to the production of the tree, it is difficult to say. It is supposed to be 60 to 70 pounds, but I have no definite figures on that. Being quite new at the game it is very difficult to make any definite statement. The trees in bearing are only 10 year seedlings My young grafted trees are not yet in bearing. But taking figures from books like Hume's they reckon 50 to 60 pounds after the seventh or eighth year. The price per pound at present is about 3/-; they run from 75 cents to a dollar in the United States of America for the best nuts.

Mr. MARTIN: I wanted to get at, having studied results of other countries, what profit per acre you might place as being a conservative estimate. Give us some idea of what profit we might expect from going in for this proposition. Perhaps Mr. James could give us some idea of what distance he would consider reasonable to leave between the cane lines and the trees.

Mr. JAMES: I should think that it would be necessary to leave fully 15 feet all round the trees clear of cane. With regard to the quantity per tree, in the United States, and I believe even here, people have had 250 to 300 lbs. of nuts per tree, but all the trees in this country are in their infancy, but even at 1/- per pound it is still a payable proposition. It would be £5 a tree or £60 an acre. That would be an extremely low figure. They yield every year after maturing.

Mr. PALAIRET: Once your trees are established, what is your maintenance cost and what is the method of reaping?

Mr. JAMES: The nuts are borne very much in the same way as the Walnut tree, in shooks; they open and a very little tap will knock them down. In some places, in the States, they use ladders, and where they are too large for ladders, boys go up the trees, and a shake brings down the nuts. Different varieties ripen at different times. Very large nuts are usually about a month later than the smaller or medium size nuts in ripening. My trees are ripening now.

Mr. MOBERLY: Does Mr. James know the best selling varieties? I have seen these trees a good deal in America, and one of the troubles of the Pecan compared wih the Walnut as an edible nut is that it does not come away so easily from the shell, but they have produced a variety called the "Paper Shell," a very thin shell which you can break off with your fingers. Another question, it occurs to me that the Pecan Nut is somewhat similar to the Walnut so perhaps Mr. James could throw some light on the old saying about a woman, a dog, and a walnut tree!

Mr. JAMES: The old theory was and still holds good. You will notice many fruit trees are the same way, that is, if a branch is injured, that branch will carry more fruit than one not injured. This is an effort of nature to reproduce. People drive nails into trees, for instance the Avocado tree. Most of the Pecan Nuts grown here are the "Paper Shell" varieties

Mr. LADLAU: What is the maximum age at which a planter might engage in this Pecan Nut industry? I could not commence it for instance. I would die before I got any results! (laughter.)

Mr. JAMES: I don't see why our friend should die before his trees would gain him at least a few nuts! They would probably prolong his life. (laughter.) If we all looked at things in that way we would make no progress.

Mr. LADLAU: I take it Mr. James suggests this as a sideline. You would not suggest that a planter should abandon cane farming and go in largely for these nuts. He would have a long time to wait.

Mr. JAMES: There is no harm in a man planting a few acres of them annually. He need not rip out all his cane at once, but I understand that sugar is very much over-produced in the world and everybody is looking for something else to help things along. The Pecan Nut certainly will and the sooner you get your trees planted the sooner you will reap the benefit. If you procrastinate and say "I am getting too old," well it will never be done. I am not in my first youth, but I am determined to go in for as many trees as I have available land for, as I beleieve they have a big future.

Mr. VERNON CROOKES: I decided about six months ago to go in for Pecan Nuts and bought a large quantity of trees to plant about 10 acres. I got the advice from a well known authority in the country and he advised me to plant 50 trees per acre—it seems rather a difference between 12 and 50. He told me the trees would bear within three to four years, that is budded trees.

Mr. JAMES: In reply to Mr. Vernon Crookes, I cannot do better than read the following passage from Mr.Hume's book, "The Pecan and Its Culture."

"In old orchards of most fruits, it has been proven by careful observation, that trees given a good distance are in better health and give larger yields than those closely set.

"Yet it must be admitted that in the case of varieties which are precocious, i.e. come into bearing early, close planting is an advantage. The plan might be followed if we would only do the necessary thinning at the right time."

"The best straightforward advice that can be given is to give the trees a good distance, and make the mistake on the side of planting too far apart, rather than too close. Unfortunately, nurserymen and tree sellers often urge too close planting, for the simple reason that more trees will be required for the planting. This is not fair, and every planter should know something about the tree's habit of growth and is requirements. It is doubtful whether Pecan trees should even be planted closer than 40 feet apart, even on light lands, while on heavier soils, this distance should be increased to 60, 75 or 80 feet."

I think that answers the question and the photograph certainly bears out that contention.

Mr. DODDS: Can Mr. James tell us what diseases and insect pests are likely to attack the Pecan Nut?

Mr. JAMES: At the present time, so far as I know, we have no diseases of the Pecan in the country. So much so, that some months ago I wrote to the Minister of Agriculture suggesing that they should have limitation of further importations from countries where they have several diseases.

CHAIRMAN: If there are no further questions I will ask you to show your appreciation of Mr. James' paper in the usual manner. (loud applause.)