OPPORTUNITIES FOR A PROFITABLE NUT INDUSTRY IN THE NORTH CENTRAL REGION

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Abstract.--Almost everyone is familiar with the high value of black walnut lumber and veneer, and most research to date on walnut has been oriented towards wood products. However, the nuts are a valuable but often overlooked commodity that can make plantation culture a profitable venture at a very young age. With proper management, growers can realize an income from both the nuts and the logs.

INTRODUCTION

I have been asked to represent the nut industry. At the present time at the grower level, a nut industry does not exist in the north central region, but black walnut cracking plants have been buying nuts over a large portion of the black walnut's natural range. This year Hammonds Products of Stockton, Missouri, are setting up hulling stations in Iowa, Nebraska, Wisconsin and Minnesota. These are largely new areas for the buying of black walnuts for commercial purposes.

Two years ago Hammonds set a buying goal of 45 million pounds of nuts; they were able to buy only 26 million pounds, and they had sold out by mid-winter. Last year was a disaster for the native walnut crop with drought, frost, and high temperatures wiping out large areas.

The industry is desperately in need of black walnuts both for the shell and for the kernel. At present, they are substituting pecan shells, apricot pits, and English walnut shell to try to supply their customers, who much prefer the black walnut shell.

I have elected to tell you of some of the opportunities the nut trees offer rather than to tell you of problems we need solved. I do so because it will take less time, and because if we take advantage of the opportunities I am confident you will conquer the problems that arise. By looking at the opportunities you will also see the needs.

SOME OPPORTUNITIES AND PROBLEMS

There are a number of native nut trees which offer opportunities for the north central region, including the hickories, the pecan, the butternut, the black walnut, the hazels, the American chestnut, and though not considered in the edible nuts, some of the oaks and the buckeye. In the non-natives, the Chinese chestnut, the Persian walnut, the heartnut, the Turkish tree hazel, and the European filbert have potential for the nut industry.

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I am going to confine my remarks to the black walnut, for it offers the greatest promise for a profitable nut industry in the north central region.

Almost all research on black walnut has been directed toward its use for timber, with little or no regard for nut production. I acknowledge that considerable progress has been made in this area. Purdue University has recently patented three black walnut clones, and developed a grafting system to propagate them. This was a major step forward in the use of clonal materials for timber production.

In terms of nuts, research has been primarily directed towards a large easily cracked nut, with little or no emphasis on high annual yields, and little attention to the tree. The dominant variety, Thomas, is an excellent example. It is not a good annual nut bearer, it is quite susceptible to anthracnose and to bark canker. It frequently produces poorly-filled nuts, and definitely should not be planted in most of the north central region. Seedlings of it are frequently advertised as superior, but close observers have long known that on average they produce very poor trees.

Timber growers frequently mention that black walnuts are erratic bearers of nuts. They are correct in their observations on their trees. Why? They are growing closely spaced seedlings, and by the time they have passed the juvenile stage (about ten years) they have closed the canopy, and of course few flower buds occur.

With the present high cost of land and high interest rates I believe growing walnut for timber only is only marginally profitable. A more attractive alternative is to grow for both nuts and timber. If the old nut varieties are not productive enough, why not, and what must we do? Historically with all fruit crops selections were made within the trees available, and then further improvement was obtained through breeding.

PERSONAL OBSERVATIONS ON NUT PRODUCTION

For fifteen years I have been evaluating the named varieties, as well as selections of my own and selections from others who have picked good clones. I have over 50 clones, but only 8 to 10 warrant further testing as to growth and yields.

The things I look for are annual bearing of high quality kernels. These trees must have exceptional leaf health and leaf density, and should be late foliating and late blooming. They should be precocious, bearing the third or fourth year after budding and transplanting, they should have a high number of nuts per cluster, three to four common with an occasional cluster of five. The most important trait of all is bearing on lateral branches. This is very important for if you want substantial yields, then you must have lateral bearing. I do not understand why lateral bearing has been ignored for as long in black walnut. Now let us go one step further for those clones which bear well on lateral branches, there are a few with flower from a little spur from last year's growth. In other words they are producing nuts from a lateral which is on the current seasons growth. I have examples and pictures which show this characteristic, and unless I am completely off base this is a breakthrough in finding a truly heavy nut-bearing black walnut which can put it in the commercial class.

Other characteristics which one should consider are tree shape (wide crotch angles), disease resistance, notably against anthractnose and bark canker, resistance to or tolerance of certain insects, and the ability to mature nuts on or before frost.

We need observers to seek out superior clones. If I and a few others have found such trees, you can also; you will have to pick the one in a thousand or the one in ten thousand, but they are out there. If we can identify a number of clones suitable for a given area, the next step will be to produce these clones dependably, and to sell them at a price which would be profitable to the propagator and acceptable to the grower. The people at Purdue feel that their method of side grafting of patented clones in pots in the greenhouse is dependable, but regretably expensive.

We have a field budding technique we have been using for five seasons that be believe will approach the success Purdue is having at a lower cost, however not all our efforts will be placed on that system.

Now let's look at the grower planting an orchard. He has a much higher cost per tree. He will plant forty or slightly more per acre, will intensely care for and protect each tree, and maintain it in a vigorously growing condition. If each tree is a superior clone and all other requirements are met, in no more than five or six years the trees will bear crops worthy of harvesting. Those which bear earlier should have the nuts removed early in the season to maintain a vigorous vegetative growth.

The trees should be gradually pruned to a clear nine foot log. The diameter growth of this nine foot log will be much greater than the diameter growth on similar timber stands, and with intensive culture a very high percentage of the trees will develop a veneer log.

While there are no hard figures to support this, the nut crops over the years will produce many times what the timber crop will produce. And this occurs with no loss in the price the timber will bring.

The black walnut has a good reputation with the retail customer, even though with the present procurement methods we are unable to supply the public with the quality of kernels we should. If superior clonal orchards are planted in the north central region, and proper cultural and harvesting practices occur, the quality of kernels on the market could make the black walnut the "snob nut" of the future, like the macadamia is now.

If an increasing acreage occurs, a promotional campaign similar to the present one conducted by the almond growers would greatly expand the market. We need to establish some well managed orchards and keep accurate records for both nuts and timber to demonstrate that a profit can be made from a clonal black walnut orchard. The north central region does not need to relinquish to California the growing of all nuts. Let us get started.