

# Growing Nut Trees in Minnesota<sup>1</sup>

W. G. BRIERLEY, Division of Horticulture, University Farm and

R. E. HODGSON, Southeast Experimental Station, Waseca

## Part II. Planting and Care of Nut Trees

EXPERIENCE has shown that several kinds of nut trees may be grown successfully in certain parts of Minnesota if planted in good soil and given good care. Black Walnuts and Butternuts can be grown throughout most of the state. Hickory trees can be grown from the Minnetonka area southward, and Sweet Chestnuts apparently are hardy enough to be of value in the southeastern corner of the state. The following suggestions may help those who wish to plant some of these trees.

Nut trees are particular as to the site on which they will grow well. They need a good supply of moisture but do not succeed on poorly drained sites. Usually they prefer gentle slopes near streams or lakes. They do not grow as well on dry hilltops, or on southerly or westerly slopes where they are exposed to summer heat and drying winds. On such slopes the Butternut, and sometimes the Hickory, is subject to injury from sunscald and subsequent wood decay. If native nut trees are growing well on a site it is a good indication that propagated trees also may succeed there.

The heavy root system of Black Walnut and the long tap root of Hickory show the need for a deep rich soil high in organic content and retentive of moisture. Nut trees will grow poorly if at all in shallow, dry, or gravelly soils. Neutral or slightly alkaline soils usually are best although the Butternut may grow on slightly acid soils. If the soil on home grounds is poor, trees may be given a good start if rather large holes are dug and good soil from some other source used to fill the hole as the tree is planted.

### Planting Stock

Usually nuts of the native species can be obtained readily. Bearing trees are rather easily located, and the small quantity of nuts needed for home planting may be obtained readily by gift or purchase. Northern grown nuts are preferred for Minnesota as they may be expected to produce hardier seedlings than nuts from southern sources. Sweet

Chestnuts should be obtained only from local sources. Nuts obtained elsewhere may be safe to plant, but it is unwise to risk introduction of the Chestnut Blight disease which has been so destructive elsewhere.

Seedling trees of the common native species may be obtained from local nurseries. Demand for trees of the greatly superior propagated varieties has been so limited here that such trees may have to be purchased from other sources. Propagation is not easy and prices are relatively high. Anyone familiar with grafting methods may obtain cuttings of the superior varieties and graft on well established seedling trees of the same kind. Grafting requires experience and skill and there are many causes of failure, but the work is fascinating fun.

### Planting

Planting should be done as soon as the soil is ready in spring. Care in planting may make the difference between success and failure. Nut trees such as Black Walnut with a heavy root system, or Hickory with a large and long tap root, do not transplant easily. Much of the root system is lost in moving, and the tree may be so seriously weakened that it does not readily re-establish itself, so failures can be expected.

The hole should be dug large enough to accommodate the roots properly. A post-hole digger may be needed to provide sufficient depth for the long tap-root of a Hickory tree. It is much better to dig the hole large enough than to further weaken the tree by cutting back the root severely.

If the top soil is a good loam, it can be used to fill the hole as the tree is planted. If the soil is gravelly or a heavy clay some good soil from another source can be used to advantage. The soil should be packed well around the roots to avoid air pockets. In dry seasons water poured into the holes before the final levelling off will settle the soil around the roots and help the tree get started.

Seedling trees may be grown easily if well filled and mature nuts are handled properly. Planting immediately after harvest is said to give best results. Two or three nuts usually are planted where a tree is wanted and the best seedling

saved to make the tree. Or the nut can be planted in a garden row and the best seedlings transplanted to permanent locations. The nuts should be planted from two to three inches deep depending upon size. If likely to be dug up by squirrels tin cans with an "X" cut in the bottoms can be inverted and pressed down over the nut until the bottom of the can is flush with the soil surface.

Nuts also can be stratified in moist sand and stored in a cool place over winter. They do not need to be frozen although moderate freezing causes no injury. Warm temperatures should be avoided or the nuts are likely to sprout too early. The sand should be kept moist to keep the nuts in good condition. Nuts for planting should not be allowed to dry for even a short time and dried nuts will germinate poorly or not at all.

### Care of Trees

Many young trees are lost because of neglect after planting. The soil should be cultivated frequently for two or three feet around the trunk to keep weeds down. In dry seasons thorough watering at weekly intervals will help the trees established. When the young tree is established moderate application of fertilizer in spring may help. From one to two pounds of sulphate of ammonium nitrate can be scattered around the tree as soon as frost is out.

If planted in pasture or woodland wire fencing supported on stout stakes should be placed around the trees to prevent browsing by cattle. Trunks of young hickory trees should be protected by "hardware cloth" screens to avoid rabbit injury.

Black Walnuts, Butternuts and Sweet Chestnuts, if grown in good soil, may begin to bear in eight to twelve years. Hickory trees grow slowly and often do not begin to bear until twenty to thirty years old. Earlier bearing of superior varieties may be gained by top grafting on well established young trees of the same kind.

Nut trees usually need very little pruning. Some young trees may need to have a good branch tied up to develop a good leader, or framework branches may have to be selected at the desired height above ground. Broken

1. Paper No. 759 of the Miscellaneous Journal Series, Minnesota Agricultural Experiment Station.

or dead branches need to be removed. Occasionally vigorously growing branches may have to be headed back to maintain symmetry in the head of trees used for ornament as well as for their crops.

### Hardiness

The Black Walnut seems to be the hardiest nut tree that can be grown in Minnesota. These trees usually show little evidence of winter injury after they are well established. In the northern part of the state young trees may be injured in very cold winters. Elsewhere injury has occurred mainly to trees weakened by insects or disease. Some propagated varieties seem to be as hardy as local seedling trees but others under test have been injured repeatedly.

Butternut and young Hickory trees are subject to sunscald injury. Not enough is known as yet about the hardiness of propagated varieties of Hickory. As many of these varieties originated where the winters are milder, it is likely that some at least may not be hardy here. Sweet Chestnut trees seem to be hardy enough to do well in the southeastern corner of the state. If planted outside that area they are likely to be injured or killed.

When grown in good soils and given good care Black Walnuts make attractive shade trees. They should not be planted close to gardens as a substance produced by the roots may be injurious to some annual plants. Damage to foliage by caterpillars may be avoided if a poison spray is applied as soon as the worms appear.

Hickory trees eventually will make sturdy ornamental specimens, but growth is slow. Sweet Chestnuts make very attractive shade trees if grown where they are not subject to winter injury. Butternuts grow rapidly but do not make satisfactory shade trees as the heads often are straggly, the wood is brittle, and trunk and branches often are damaged by sunscald.

### Harvesting Black Walnuts

Black Walnuts should be left on the trees until the husks soften or until the nuts begin to drop in increasing numbers following light frosts. Usually they can be shaken easily from the tree after frost. To obtain best condition and bright color the husks should be removed from the nuts as soon as possible after harvest. An old farm corn sheller makes an excellent husking machine, if available. For a small quantity the husks can be crushed under foot. If cut with a knife and removed

by hand, the hands will be stained dark brown. Some times the husks have been easily removed if a light auto can be driven over nuts placed along a wheel-track. After the husks are removed, the nuts should be washed thoroughly to remove particles of husk and juice from the shells. The nuts can be placed in a tub or tank and churned around with a stream of water from a hose. Small lots can be cleaned easily in a tub or pail if churned around with a stiff broom. Washing should continue until the wash water is nearly clear.

When washed the nuts should be dried on a wire screen for a couple of weeks or longer. If squirrels are present, a screen cover will be necessary to avoid losses. When thoroughly dried, the nuts should be stored in a cool dry place. At warm temperatures, the oils will tend to become off-flavored or rancid. The nuts will retain their quality for two or three years if stored properly.

(Next month—Part III, Propagated Varieties)

## Questions and Answers

L. C. SNYDER and O. C. TURNQUIST

*Can I save the small potatoes that I do not use for table stock and plant them for seed this spring?*

If your potatoes were from certified seed it would make little difference if the small potatoes were planted again. However, since your small tubers came from table stock it is very probable that they were produced on virus infected plants. If used for seed such tubers would produce very low yielding plants.

*Every year I have trouble from scab and blight on my potatoes. Can you suggest a solution?*

A new variety, Cherokee, has been developed which has resistance to both of these diseases. Seed of this variety can be obtained this year from several commercial seed sources.

*A reader from Hayfield writes—I'm interested in learning to graft trees so as to develop new kinds, something different. Where can I get this information?*

Grafting is not a method for producing new varieties. This is done by cross-pollination and selecting from the resulting seedlings. Grafting is a method used for increasing the number of plants of a new variety after it has been selected. An Extension folder on grafting can be obtained from your county agricultural extension service, or, from Bulletin Room, University Farm, St. Paul 1, Minn.

*Could you give me some information as to the proper care of hyacinths after they are through blooming?*

I presume you are referring to hyacinths that have bloomed indoors. If you do not have room upstairs, they could be put in a basement window and kept well watered until they can be planted out of doors. Plant in a sheltered spot where the flowers will show

to good advantage. Do not disturb after planting. The tops will die down during summer.

*A commercial strawberry grower from Forest Lake writes—Would you recommend the Arrowhead strawberry for commercial purposes?*

The Arrowhead is a late maturing June-bearing variety. The berries are firm and well colored. The plant is vigorous and produces an abundance of runners, possibly too many. Since strawberries differ in their performances on different soils it would be best to try a few Arrowhead plants under your conditions before planting an extensive acreage of this variety.

*Could you give some help on a vine for a trellis in front of a porch? The catalog description for Euonymus radicans vegetatus (wintercreeper) sounds good. Is it hardy here?*

The wintercreeper is sometimes grown here as a ground cover in protected spots with good snow cover. It would not be hardy on a trellis. Jackmann Clematis is a very fine flowering vine for a trellis.

## GARDEN CLUB MEMBERS

Ask your officers about the beautiful

## FLOWER AND BIRD

Prints, Notes, Stationery, and other items which can be obtained in club orders at a saving to you and with profit to your club treasury.