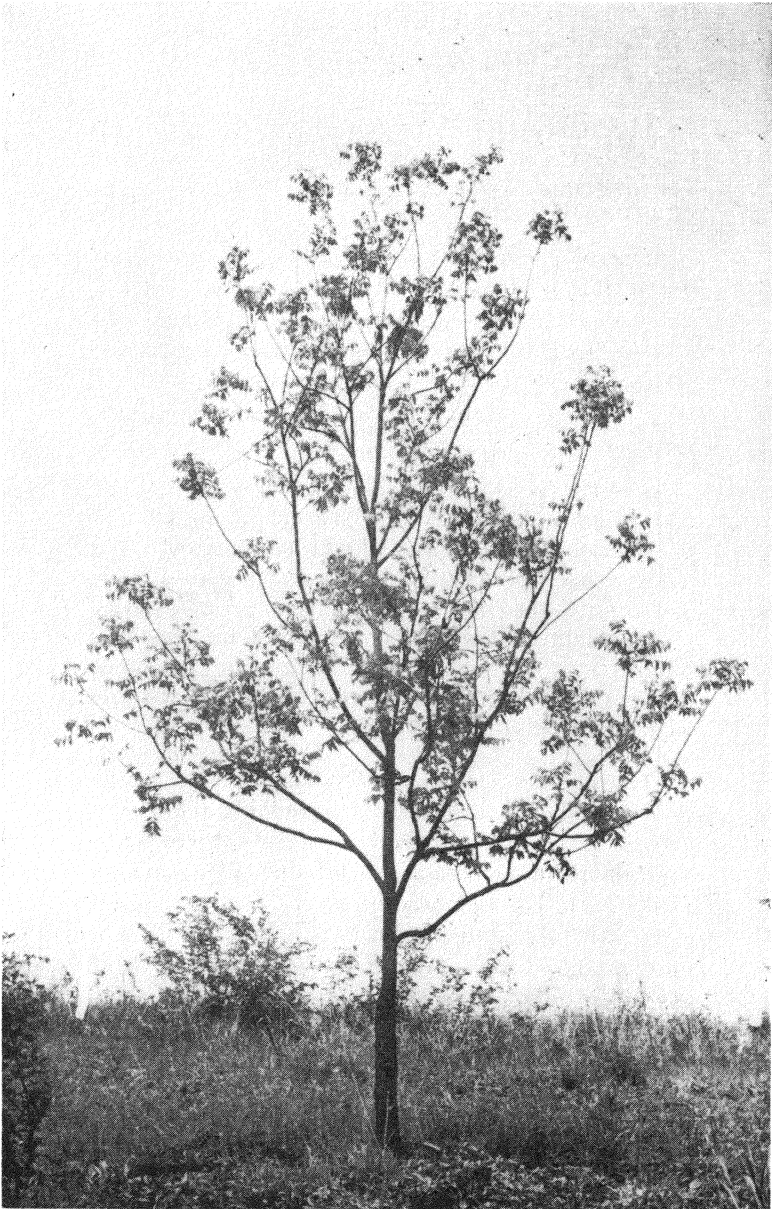


4-H Pecan Project



Circular 543

EXTENSION SERVICE
OKLAHOMA A. & M. COLLEGE

Shawnee Brown, Director
Stillwater, Oklahoma

OKLAHOMA 4-H CLUB PECAN PROJECTS

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The purpose of this project is to acquaint 4-H Club members, in pecan producing areas, with practices that make the growing of pecans more profitable.

The pecan is the most important tree nut produced in Oklahoma. Oklahoma, on the average, ranks about 2nd or 3rd in pecan production in the United States. About 90% of the state's production is from the native or seedling trees, while about 10% of the production is from the improved varieties.

In 1947, Oklahoma produced 44,000,000 pounds, and in 1948, it produced 13,000,000 pounds. The production for 1949 was 21,000,000 pounds. The ten-year average (1942-1953) is 19,000,000 pounds. The annual income to farmers from pecans is from five to eight million dollars. Pecans are produced commercially in more than 55 counties in Oklahoma. The northwest corner of the state is the only area not adapted to pecan production.

The pecan is native to Oklahoma, and is an excellent food high in energy. It contains about 3400 calories per pound of kernels. Early settlers found the Indians using pecan nuts for fuel, light, and for food. Each native or seedling pecan tree is a variety of its own, and is different from any other tree. The nuts produced on native trees are different from any other nuts. They differ in size, shape, color, type of kernel, percent of kernel to shell, etc. A few native trees have been found to produce better flavored, better cracking nuts, and a higher percent of kernels than some of our better improved varieties. As a rule, the native pecans do not have the disease, "Scab," which is severe on some of the best improved varieties.

PECAN ACTIVITIES FOR 4-H CLUB MEMBERS ARE DIVIDED INTO FOUR PROJECTS. MEMBERS MAY ENROLL IN ONE OR MORE OF THE PROJECTS:

- I. Starting a Pecan Orchard by Planting the Pecan Nuts.
 - II. Native Grove Management.
 - III. Pecan Propagation. (Changing the Variety)
 - IV. Starting a Pecan Orchard From Nursery Trees.
- I. STARTING A PECAN ORCHARD BY PLANTING THE PECAN NUTS:

A. Planting the Nuts.

- 1. Select well filled nuts.
- 2. Prepare the nuts for planting.
- 3. Plant the nuts in hills (3 to 5 per hill).
- 4. Plant nuts about 3 inches deep.
- 5. Drive a stake to mark location of each hill.
- 6. Locate hills at least 35 feet apart.
- 7. Plant 5 or more hills.

B. Locating the Planting.

- 1. Plant on good land if possible.
- 2. Plant along creeks or draws.
- 3. Plant in fence rows.
- 4. Plant for shade trees in the yard or backyard.
(See Home Grounds Improvement Project)

C. Caring for Young Trees.

- 1. Protect young seedling trees from livestock.
- 2. Protect the trees from fire.
- 3. Cultivate around the young trees.
- 4. At the end of the first year, select the best tree per hill and cut off below the ground the other trees.
- 5. After the trees have made a 5 to 8 foot growth (3 to 5 years old), they should be budded or grafted to improve varieties.

D. Other Requirements.

- 1. Learn to identify 5 varieties of pecans.
- 2. Prepare a timely topic on the subject, "Pecans in Oklahoma."
- 3. Keep a record and make a report of the work done and observations made. Give this report to your County Agent.

Fig. 1.—To plant pecans, dig a hole eight to ten inches deep and fill in with loose, rich soil to three or four inches of the top then place four or five pecans in this soil and cover.



SUMMARY

A pecan orchard may be started by planting pecan nuts at desired locations. Native nuts, well filled, should be selected in order that a better germination will result. The nuts may be stratified (placed in a box in layers of wet sawdust or sand) and held during the winter. If pecan nuts have not been prepared before planting, they may be treated with hot water and allowed to soak for a week, changing the water daily. The nuts should be planted by March, with 3 to 5 nuts to the hill. The hole should be dug about six inches deep and the nut covered about three inches, leaving a low place to collect water when it rains. From the time the nuts are first soaked in water until they are planted, they should not be allowed to dry out.

Locating the place to plant the nuts is important. A pecan makes a suitable shade tree for the yard if additional trees are needed. They should be located at least 30 feet from the house. Pecan trees make a good shade tree for the poultry yard.

On most farms where trees will grow, there are a few places where pecans should do well. Pecans do best on deep fertile soils that are well supplied with moisture. Over-flow land may be used if the water does not stay over the soil too long. Pecan trees grow slowly for the first few years. Cultivation and protection will hasten their growth.

II. NATIVE GROVE MANAGEMENT:

A. Improving the Native Grove.

1. Select one-half acre or more of a native grove to improve.
2. Cut out the other kinds of trees.
3. Remove the briars and brush.
4. Prepare the area for mowing or cultivation.
5. Thin the pecan trees to the desired spacing (30 to 40 feet).
6. Select and keep the native trees that bear the best nuts and bear quite regularly.

B. Making a Study of the Pecan Nut.

1. Keep a record of the nut production of at least 2 trees.
2. Study the different sizes, shapes, and quality of the nuts from each tree.



Fig. 2.—A pecan seedling should be handled carefully and planted in a hole to a depth approximately two inches deeper than it originally set in the nursery. Firmly pack the loose soil around it so that no air pockets are left, water thoroughly.

3. Determine the number of pecans that it takes to make a pound from each tree.

C. Other Requirements.

1. Keep a record of the time spent working in the pecan grove.
2. Prepare a timely topic on the subject, "Each Native Pecan Tree is a Variety of its Own."
3. Learn to identify at least 5 improved varieties of pecans.
4. Keep a record and make a report of your activities for the year to the County Agent.

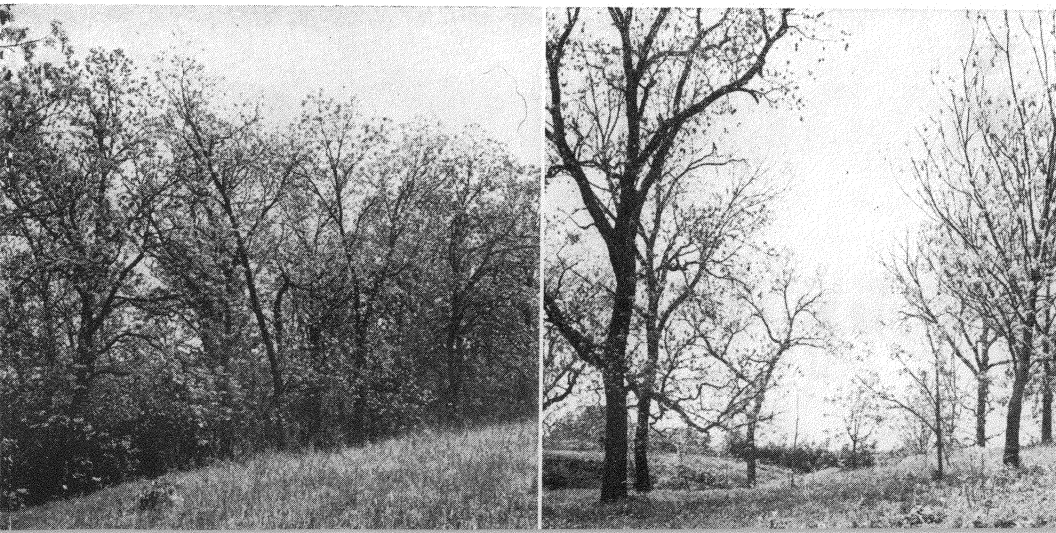
SUMMARY

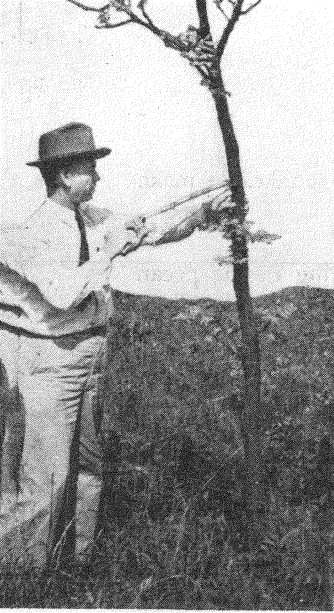
Pecan trees respond well to practices that result in more space, soil improvement and moisture conservation. Native groves crowded with other kinds of timber, briar and brush, rob the pecans of food material, sunlight and moisture. Many times the timber removed is suitable for posts, lumber or fuel wood. The sale of, or use of the wood products, usually will pay for the clearing work. The area should be cut close to the ground so mowing or discing can be practiced to keep the area clean.

Small grain, rye grass, hairy vetch, and winter clovers, may be used for pasture and soil building. These crops do not compete too closely for moisture with the pecans because the pecans fill the nuts during late summer—usually in July, August, and September.

Since each native tree is a variety of its own, unlike any other tree or nut, it is interesting to study the characteristics of the nuts produced on each tree—the thickness of the shell, the way the kernel cracks out, the color, taste, shape and size. There is also a difference in the size and shape of the leaves, the kind of bark, and growth characteristics. The leaves stay on some of the trees longer than on others.

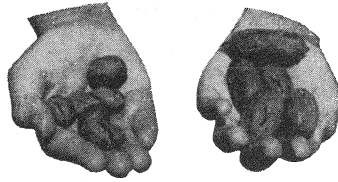
Fig. 3-4.—These two pictures show the difference in improved and unimproved pecan groves. For best results clear away the underbrush and undesirable trees.



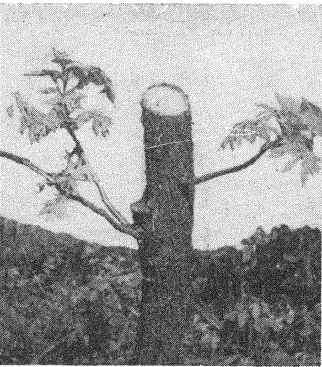


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Improving Pecans



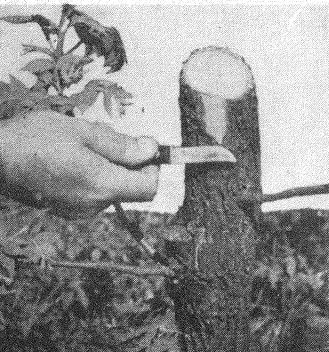
Through Grafting



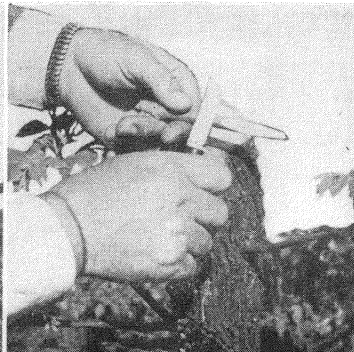
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5. The first step in grafting pecans is to select a suitable young native tree and remove the top. This should be about shoulder high in order to have the graft above the backs of livestock that might be grazing in the area and rub the graft off.
6. After the top is removed, the smooth surface shows the exposed cambium layer in which the graft is to be inserted.
7. With a sharp knife, thin the bark and cambium on opposite sides of the stock so that two grafts may be put on.
8. Prepare the graft for placing on the stock. Note the long smooth cut which allows it to fit firmly against the stock.
9. After the long smooth cut on the graft, trim the sides lightly so that the cambium is exposed.
10. With the graft against the stock cut along either

7.

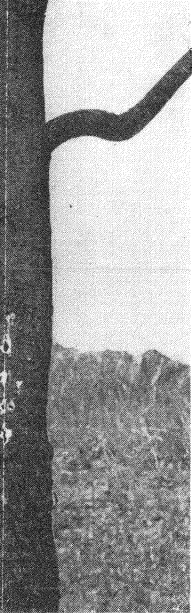


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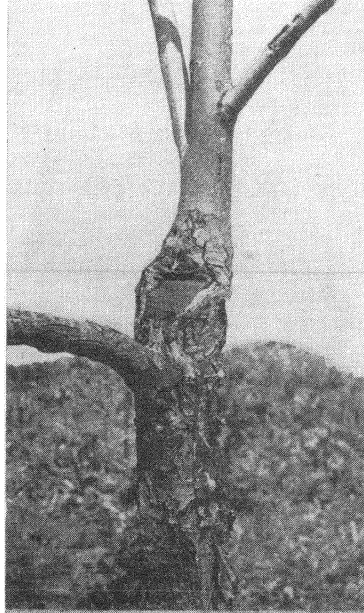


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14.

side through the cambium and slip the graft into this slot.

11. Nail the graft firmly to the stock. Use a small nail and do not split the graft.
12. After the graft is nailed firmly in place cover the entire exposed surface with wax to prevent water and exclude air.
13. This shows the grafts completed on opposite sides of the stock. Later one should be removed, keeping the better of the two.
14. After one year of growth remove all but a small part on one of the grafts.
15. After the second year of growth completely remove the shortened graft.
16. As a rule the graft union will be completely healed after three years.

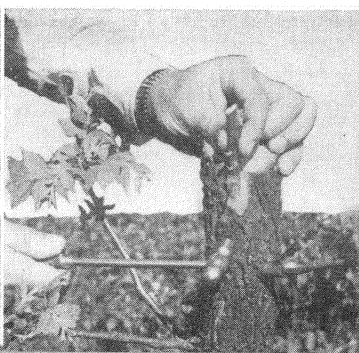


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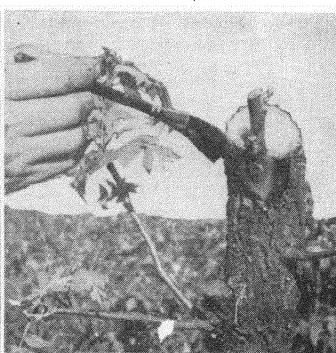
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12.



III. PECAN PROPAGATION (CHANGING THE VARIETY):

A. Bark Grafting.

1. Preparation and use of grafting equipment.
2. Learn to make grafting wax.
3. Learn how to prepare pecan bud and graft wood.
4. Give a grafting demonstration.

B. Patch Budding.

1. Selection and care of budwood.
2. Become acquainted with equipment.
3. Give demonstration on patch budding.

C. Other Requirements.

1. Prepare timely topic on the subject, "Pecan Propagation."
2. Learn to identify at least 5 improved varieties of pecans.
3. Keep a record of the work done during the year and make a report to the County Agent.



SUMMARY

Small native trees, 1 to 4 inches in diameter, may be changed by budding or grafting to produce a selected variety of pecans. Since many seedlings are very small and of little value it is advisable to change the tree to one of known performance. The pecan grafts should be put on selected trees, not closer than 30 feet apart. If you are enrolled in this project, ask your County Agent for instructions on how to bud or graft pecans.

Reference: Mimeographs—BARK GRAFTING, PATCH BUDDING, CUTTING AND STORING PECAN BUD AND GRAFT WOOD, CARE OF THE GROWING PECAN GRAFT.

Fig. 17.—Small native trees of questionable variety may be changed to a known variety by budding, which is accomplished by taking a live bud from the desirable tree and putting it into the cambium layer of the native.

IV. STARTING A PECAN ORCHARD FROM NURSERY TREES:

A. Planning the Orchard.

1. Choose orchard site.
 - a. Select good, deep soil if possible.
 - b. Trees may be located in yard, backyard, or fence row. (See Home Grounds Improvement Projects.)
2. Stake place for each tree (trees should be at least 35 feet apart).
3. Select varieties desired.
4. Secure two or more trees.

B. Planting the Orchard.

1. Set trees in the spring just before growth starts.
2. Prevent trees from drying out during the planting operation.
3. Dig hole large enough and deep enough to permit the roots to be placed in a normal position. (Sometimes it requires a hole a foot in diameter and as much as three feet in depth.)
4. The trees should be set about 2 inches deeper than they grew in the nursery row.
5. Place good, mellow top-soil in the hole first.
6. Start firming the soil when hole is half filled.
7. Finish filling the hole with soil and water to settle soil.

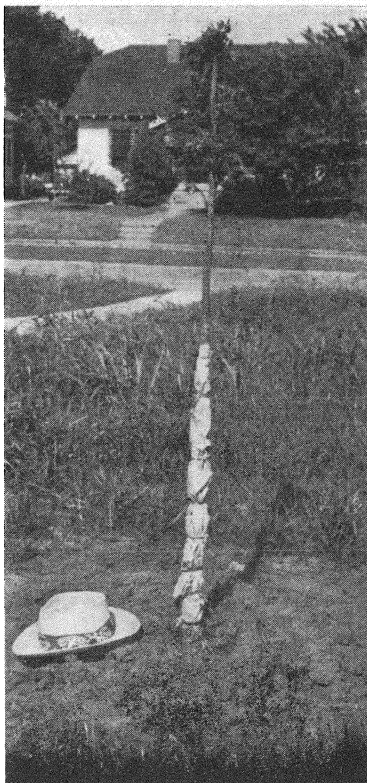


Fig. 18.—Wrap heavy paper around the base of young trees to protect them from sunscald and rabbit injury.

8. Prune the top back about one-half to balance the root system with the top.
9. Wrap the lower 18 inches of the tree with heavy paper to protect it from sun scald and rabbit injury.

C. Caring for the Young Trees.

1. Protect trees from livestock.
2. Protect trees from fire.
3. Cultivate.
4. Water if possible during dry weather.

D. Other Requirements.

1. Learn to identify 5 or more of the improved varieties.
2. Prepare a timely topic on "The Varieties of Pecan for Oklahoma."
3. Keep a record and make a report of your activities to your County Agent.

SUMMARY

- (1) Consult your County Agent about the varieties that do best for your conditions.
- (2) Order the trees from the nursery for delivery in March.
- (3) Set trees as soon as possible after receiving them.
- (4) Some well rotted manure may be used around the tree for a mulch.
- (5) Leave the soil a little lower around the tree to form a pocket to hold water after rains.
- (6) In cultivating around the young trees, avoid damaging the trunk with cultivating equipment.

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