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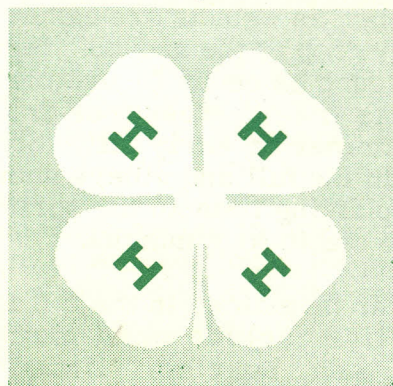
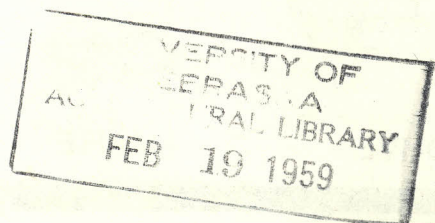
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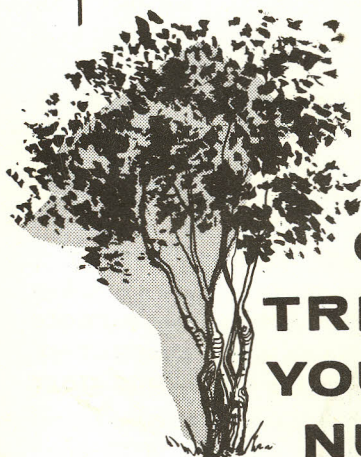
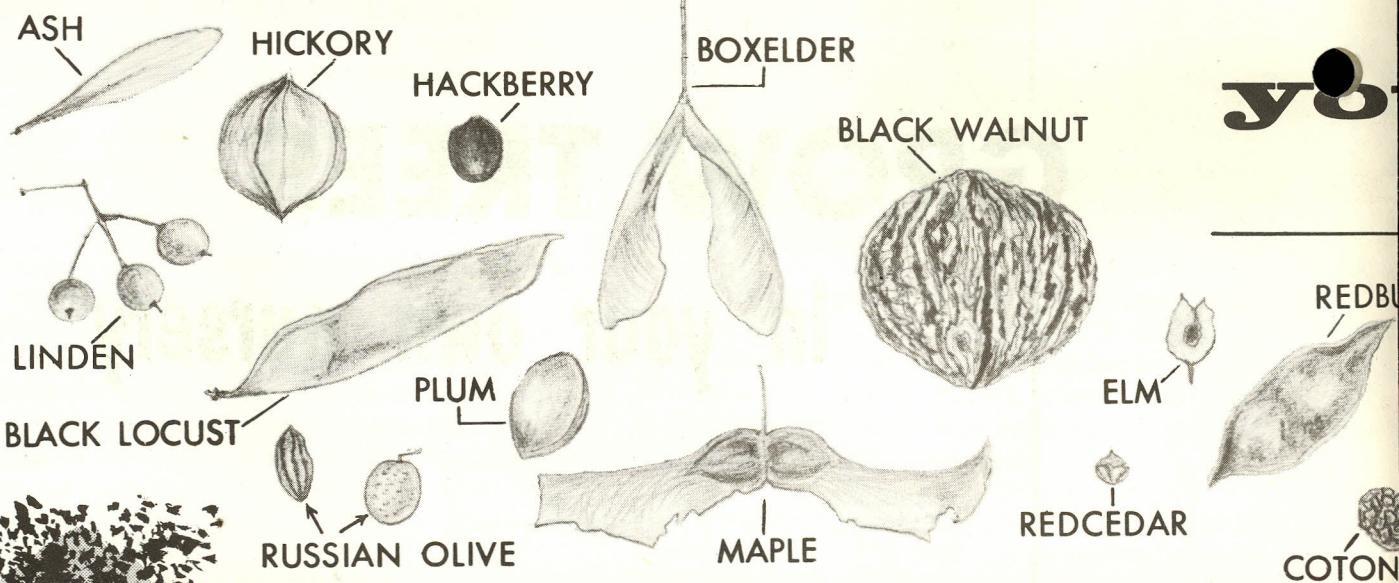
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GROW TREES

in your own nursery



EXTENSION SERVICE
UNIVERSITY OF NEBRASKA COLLEGE OF AGRICULTURE
AND U.S. DEPARTMENT OF AGRICULTURE
COOPERATING
W. V. LAMBERT, DIRECTOR



GROW TREES IN YOUR OWN NURSERY

Requirements:

This manual has been written to aid boys, girls, and leaders interested in planting and raising trees in 4-H Nursery Projects. The general topics covered are -- Collecting Seed, Planting and Caring for a Nursery, and Planting and Caring for a Transplant Bed.

Project requirements are that you complete in all details one of the following:

1. For broadleaf trees. Collect the seed and plant and care for a 4 foot by 6 foot nursery bed.
2. For Evergreen trees. Collect the seed and plant and care for a 2 foot by 2 foot nursery bed.
3. Plant and care for a transplant bed of at least 200 evergreen seedlings.

Collecting and Storing the Seed

When you begin to collect tree seeds, you will make many fascinating discoveries. You will learn that nature has provided trees with different ways for scattering seed; that some trees bear seed and others do not; and that not all tree seeds ripen in the fall. Always collect seed from parent trees that appear healthy and bear large quantities of seed.

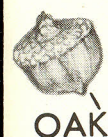
Elms, cottonwood, willow, and soft maple flower in April and their seed matures in May. Their seed is blown easily, so look for drifts of seed in sheltered corners and alongside street curbs. Seeds that ripen in spring lose most of their ability to germinate after three or four weeks. For this reason plant the seeds as soon as possible after they are gathered.

Large nuts such as walnuts are easier to gather after they drop to the ground. Small fruit-type seed such as cedar is ordinarily picked from the tree. Most tree fruits ripen in late summer or early fall. Some can be planted in the fall and others should be stored until planting time in the spring, or stratified for one to four months.

Seeds that can be planted in the fall following collection include hard maple, Russian olive, ash, boxelder, linden or basswood, lilac, honeysuckle, and buffalo-berry.

ur tree nursery

BY KARL LOERCH
EXTENSION FORESTRY SPECIALIST



OAK



PINE



KENTUCKY
COFFEETREE

EASTER

Seeds collected in the fall that should be stored under dry, cold conditions, preferably in fruit jars or other containers, include honeylocust, black locust, sycamore, Kentucky coffeetree, and pines.

Some of those that require a period of stratification are hackberry, black walnut, osage orange, oak, redcedar, and plum. This can be done by placing the seed between layers of moist sand or peat moss and keeping them moist and cool (around 41° F.) for a period of 60-120 days depending on the species. Walnut and redcedar require longer periods. For complete information on seed treatment refer to "Woody-Plant Seed Manual", U.S.D.A. Misc. Publication No. 654.

The seeds of all our common evergreens such as pines and cedars ripen in late August or September. The seed usually is picked by hand from standing trees or trees recently cut. Before you collect cones, be sure they are ripe. Open a scale of the cone and see if the seed at the bottom of the scale is brown. If it is brown, the cone is ripe and ready for collection. It is not ripe when the seed is white and full of a milk-like fluid. Good, ripe cones are unopened, brownish, and fresh looking. Old cones open their scales in dry weather and close them in wet weather. Be sure you collect cones which still have the seeds. After you have gathered the cones, store them in a cool, dry place until you are ready to take the seed of the cones out, or to sell the cones.

Note: If you do some investigating you may find a market for evergreen cones and cedar seeds. A local nursery may be in need of the seed or the state forestry service may be in the market for such seed. Such an activity might be a good way for the club to raise money.

Preparing the Seedbed

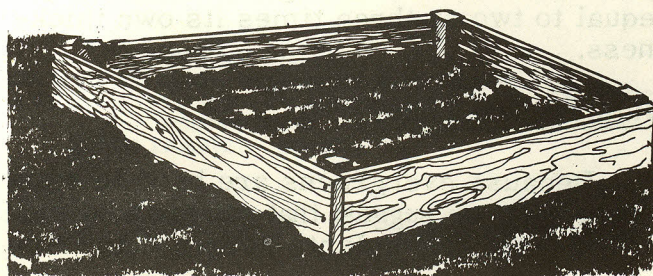
The best location is usually limited to the immediate area where you live. As a result you may not find a place to satisfy all requirements of a good seedbed on your farm. However, keep the following points in mind and try to find a location as near as possible to them.

1. A well-drained area with a gentle slope.
2. Sandy loam soil.
3. Protection from winds.
4. Soil that is free from grass roots and weeds. (If the area is sod-covered, summer fallow to break up clods and store up moisture.)
5. Near home where water is readily available and where livestock can be fenced off.

A part of the family garden usually fits these conditions very well.

A nursery bed that is four feet wide and six feet long will allow for the production of about 150 seedlings when the plants are spaced two inches apart in rows that are 12 inches apart.

The first step in preparing the nursery bed is to build a frame out of old boards and set it on edge around the seedbed. Then nail the frame to stakes driven in the ground. This frame will help protect your soil from washing and/or blowing away.



Next, thoroughly work the soil within the frame to a depth of eight inches with a spade. Break up all lumps. If you can get well-rotted manure, spread several inches of it over the ground before spading.

When you finish spading, remove stones, sod lumps, and roots by raking several times.

Now you can begin to form the seedbed by filling up the frame. Make the middle of the bed a few inches higher than the sides. On the sides the soil should be an inch or two below the edge of the frame so that soil is not washed away. Finally, press down the surface of the soil with a flat board.

Sowing the Seed

Seed which ripens in the spring or early summer should be sown at that time. Seed that you collect after it ripens in the fall may be sown then or stored until spring.

In the autumn, plant the seed just before cold weather sets in. When the seed is planted too early in the fall and warm weather follows, the seed often sprouts and is later killed by sudden temperature drops. Seed stored over winter should be sown in spring just as soon as the frost is out of the ground.

Mulch your fall plantings with three inches of leaves. (Straw may be used if it is free of weed seeds.) Mulch will prevent rain from washing out the seed and will also prevent alternate freezing and thawing of the ground. Remove the mulch as soon as the seedlings appear in the spring.

Small or thin seed, such as elm seed, can be broadcast or planted in rows. If you broadcast the seed, press it into the loose soil with a board. Cover lightly with a half inch of soil and then mulch.

Always sow large seeds in a row. Plant them thick enough to get 12 or 15 seedlings per foot. Cover the large seeds to a depth equal to two or three times its own thickness.

Raising Transplants

Because evergreens are hard to start from seed, we suggest that you produce such trees from transplants rather than from

seed. Small evergreens that are grown from seed for two years are commonly described as 2-0 seedlings. They are also spoken of as lining-out stock. This is the type of evergreen plant that is well suited to the 4-H Home Tree Nursery. After they have been growing in your nursery bed for two years, they are called 2-2 transplants. As such they are ready for planting in a permanent location.

You can get 2-0 evergreen seedlings from a commercial nursery. These seedlings should be planted three inches apart in rows that are 12 inches apart. Be careful to see that roots are kept moist until the seedlings are transplanted.

Resetting seedling stock (2-0) helps make sturdy roots and slows up top growth. The result is a plant better able to compete with weeds and survive poor growing conditions.

Watering

If water is conveniently close, keep your seedbed moist. Once the trees are started, apply water less frequently but more per application. This practice will encourage good root development.

Weeding

Begin weeding early to avoid damage to the small trees when you pull up large weeds.

Shading

Evergreen seedlings are tender and therefore easily injured by the sunlight. Give them partial shade such as a covering of brush or tree branches in leaf. A better suggestion is to use a section of snow fence or corn cribbing hung on stakes about 12 inches above the ground.

Conclusion

After you have successfully completed this project by growing your own trees from seed, you are ready to move on to one of the projects involving the planting of trees. Available projects are "Grow Trees for Windbreaks," "Wildlife Habitats," and "Grow Trees for Commercial Purposes." The type of trees you raised in your nursery project will help determine the type of tree planting to undertake.