

Growing Your Own Trees From Seeds



CAMP FIRE GIRLS PLANTING A SMALL PINE TREE

An effective way to promote conservation, as well as to provide fascinating projects for boys and girls, is to encourage the raising of trees from seeds. The writer's experience has proved that children can become most enthusiastic over the planting and growing of trees; and where forest plantations have been established by boys and girls under intelligent supervision these plantings have been more successful than adjoining plantings made by adult employees.

While it is advisable to secure planting stock from the state or from private nurseries for reforesting large areas, yet four distinct advantages will result from the children raising their own planting stock instead of purchasing seedlings or transplants: (1) they will become familiar with all the steps involved in growing trees, (2) their planting materials will cost nothing, (3) they can raise species otherwise not available, (4) their planting stock is always on hand, therefore the trees can be transferred directly from the nursery beds to their ultimate destination at any time with the least possibility of loss.

There is a wide divergence among different species of trees as regards times when seeds mature, methods of collecting and storing, seasons and manners of planting and length of

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time required for germination. In view of these facts generalizations are difficult.

The seeds of certain broad-leaved species that develop a deep taproot such as the oaks, walnuts and hickories should be planted in the place where the trees are desired as transplanting is often disastrous. In planting the sod should be removed from a spot about a foot in diameter, the soil loosened and several nuts or acorns planted at a depth of about two inches below the surface. Several seeds are planted in one spot as some will not germinate. These seeds can be planted directly after gathering in the fall. If it is necessary to wait until spring before planting, the seeds can best be kept in the following manner: Place a layer of moist sand in the bottom of a box, then a layer of seeds, then another layer of sand, and continue until all seeds are "layered." The box should then be placed in a hole, sinking the top of the box just below the surface of the ground. The seeds should be planted in early spring. This method of layering should be used for the seeds of all nut trees.

Seeds of the maples, ashes, elms, locusts, basswoods, birches and others of the shallower rooted species should be planted in the early spring in beds and the seedlings allowed to remain there for one or two years before final planting. These beds, in which

the seeds can be planted broadcast or in drills about four inches apart, should not be more than three feet wide so that when weeding the children can easily reach to the center from either side. The beds should be covered with a layer of sterile sand about one inch thick, and the seeds planted about a quarter-inch below the surface. By sterile sand is meant sand from a beach or from a depth of two or more feet below the surface of the ground. It should be free from weed seeds and roots. This will greatly decrease the labor necessary to keep the seedlings free from weeds.

The seeds of the pines, spruces and other conifers should be planted in early spring in seed beds like those just described. The little conifers, however, will do better if they are given partial shade during the period of germination and the first two or three months of growth and if, after two years in the seed beds, they are transferred to a transplant bed and left there another year or two before final planting in the field. After the seeds have been planted branches should be placed upon the beds to keep the soil moist. These should be removed as soon as the young plants appear. Thereafter shade can be supplied by a lattice or by branches supported about a foot above the beds to allow free circulation of air. Not more than half shade should be given even in bright weather and if the days are cloudy or rainy the screens should be removed as there is great danger during the first few weeks from damping-off, a fungous disease that will destroy all the seedlings. No shade should be provided during the fall months as the full light will promote a hardier growth. In the transplant beds the rows should be far enough apart to allow of easy cultivation and the trees should be about four inches apart in the rows.

There is no season of the year when one can not go out and gather the ripened seeds of some species of tree. Some mature in the spring, others in summer, the majority in autumn and many cling to the branches throughout part or all of the winter. Often there is wide variation between close relatives. For example, in some parts of its range the silver maple (*Acer saccharinum*) matures its seeds in May; the ripened fruits of the red maple (*A. rubrum*)

(Just turn the page)

Planting Your Own Trees

(Continued from page 51)

fall in late May or early June; the seeds of the sugar maple (*A. saccharum*) ripen just before the leaves fall, and those of the box elder or ash-leaved maple (*A. negundo*) persist on the trees throughout a large part of the winter.

Seeds of the red and silver maples and of the elms which ripen in the spring should be planted immediately. They germinate quickly and under favorable conditions the maple seedlings should be well over a foot high by fall. Seeds of the other maples as well as those of the ashes, birches, catalpas, sumachs, sycamores, tulip tree and ailanthus which mature in the fall can often be gathered in winter. Seeds from these trees can be kept until spring in a cool room that is not too dry. On the other hand if the seeds are too moist they will mold. They will do very well if placed in airtight containers (e. g. fruit jars) and stored in a cold cellar. Where the seeds are in balls or massed together as in the sycamores and sumachs they should be separated before storing.

Most coniferous seeds should be gathered in the fall and stored in the manner just described. It should be remembered that cones are not seeds, and usually when the open cones fall to the ground the little winged seeds which were borne within each cone scale are gone. The cones should be gathered from the trees just before opening, dried until they open and the seeds rattled out. It will be easier to plant the seeds in the spring if the thin wings are rubbed off before storing.

Seeds of the cherries, mulberries and other fleshy fruited species may

be treated as follows: First mash the fruit thoroughly. Then place in a pail and hold under a water tap. As the pail fills the fleshy portions will float to the top and the seeds will sink to the bottom. Pour off the liquid. Dry the seeds and keep them in a cool place.

Tulip tree, sycamore and basswood seeds have a very low viability and one can not expect more than a half dozen seeds to germinate out of every hundred planted.

After being placed in the ground some seeds remain dormant for a long time. Basswood seeds do not germinate for about eighteen months and black locust seeds require nearly as long a time unless treated in the following manner: Mix the seeds with an equal quantity of hot water and stir constantly until cool. After this treatment the seeds should germinate in a few weeks.

Seed gathering and tree growing need not be limited to those children who live in rural or suburban districts. The ailanthus, whose seeds hang in bunches on the bare limbs all winter, manages to exist even in our biggest cities and under the most unfavorable conditions. On many a winter hike other seeds can be gathered. These can be planted in gardens or even window boxes in town as well as in the seed bed in the country or at camp.

Those who wish to obtain more information concerning the growing of trees can do so by writing the New York State Conservation Commission, Albany, N. Y., the New York State College of Forestry, Syracuse, N. Y., the New York State College of Agriculture, Ithaca, N. Y., or similar sources in other states. Excellent detailed information is contained in the book *Seeding and Planting*, by Toumey, published by John Wiley & Sons.

The writer is grateful to John W. Stephens, Professor of Silviculture at the New York State College of Forestry, for critical reading of, and helpful suggestions concerning this paper.

FAY WELCH,
Camp Directors Association.

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A nursery deck where small children may play is provided on some new steamships.

The Polynesians are the tallest race in the world, averaging five feet eight inches in height.

Jewels of the Darkness

There are few things as fascinating as watching the marvelous changes which take place in the life of a moth or butterfly—to watch the progress from egg to caterpillar, then to chrysalis or cocoon, and finally to see the triumphant emerging of a beautiful winged creature with only a few fluttering hours of sunshine or moonlight to live!

We may hunt for moths, not to kill them, but to keep them until they lay eggs, so that we may watch this life cycle from its very beginning.

Miss Wickwire, Camp Fire Guardian and director of Camp Nyoda at Cortland, New York, has been most successful in interesting her girls in this phase of nature lore.

Moth hunting is a mysterious business. Six are enough for our expedition. Three should have flashlights and three poison jars. These are wide-mouthed fruit jars with tightly fitted tops, in the bottom of which the druggist has put lumps of cyanide of potassium, covering them with plaster of Paris. We put a layer of cotton over the plaster so that the moth will not shake around too much.

We must also have our sugar mixture and a whitewash brush. To make this sugar mixture we have put about two quarts of vinegar and ten pounds of brown sugar together with all the rotten apples and bananas we could find. We should also take with us six dozen five-pound paper bags bought at the grocery store.

We must find a group of trees, and with the whitewash brush daub a spot on each with the sugar mixture, letting it get well into the crevices. Daubing about thirty trees or fence posts close together will make the concentrated odor which will attract the moths.

We can rest now until it gets dark. Then slip up cautiously with the lights and turn them full on the "sugared" spot. Don't let them waver or every moth will fly away.

Those with jars must be ready with the tops loose and step quickly to the tree. Hold the jars low, raise the top and scoop down. Moths when disturbed with few exceptions dart downwards. Therefore they dart into the jars. Nevertheless be quick with the cover or they will dart out. Be sure all are stunned and quiet before going to the next tree.

We find many moths of gray, brownish gray, and other shades

(Continued on page 59)

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