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# Arbor Day Handbook for New Jersey



THE TATEM OAK, N. J.

Circumference 25 ft., Height 86 ft., Spread 115 ft.

*The Majesty, Beauty and Stability of a tree grows as the tree grows and persists through all the seasons.*

*A child can start it.*

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DEPARTMENT OF

CONSERVATION AND DEVELOPMENT

STATE OF NEW JERSEY

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## Arbor Day Message

I HAVE noticed that Arbor Day is a time when we talk about planting trees.

The purpose of Arbor Day is not to talk about it, but really to see that trees are planted. Of course, we have to talk about it in advance, in order to see that something is accomplished at the time.

It is my hope that this year we may have an Arbor Day on which trees are actually planted, and planted in goodly numbers.

Those who have seen the beautiful trees planted along the highways in Europe know how much they mean to the country and how they beautify the country-side and bring joy and pleasure to those who travel along the highways.

There is no finer State than New Jersey, with its hills and mountains and its seashore. We are really the summer playground of a large part of the country.

If we will plant trees along our highways and so further beautify our State, it will not only increase the adjoining property values, but make the State a more attractive place in which to live.

Joyce Kilmer, in his beautiful poem, said: "Only God can make a tree." But we must see that the tree is planted, give it a start, and look after it, and in a short time we will have something of beauty and usefulness.

I trust that all of our people will join in making the coming Arbor Day one on which we shall plant more trees than have ever been planted before at one time in this State.

GEORGE S. SILZER, *Governor.*

# Let's Plant New Jersey's Country Roads and Highways This Year



THE BLEAK ROAD

*A bare, blistering, blustery strip of cement*



THE RURAL AVENUE

*An attractive, comfortable, protected highway*

## ARBOR DAY HANDBOOK

C. P. WILBER, *State Forester.*

### PURPOSE OF THE PUBLICATION

**T**HIS booklet is prepared to give information and help to those responsible for arranging Arbor Day celebrations and for supervising Arbor Day tree planting. It cannot be entirely complete and specific. Detailed questions on any feature of Arbor Day celebrations and work will be gladly answered by the State Forester, State Office Building, Trenton.

### MEANING OF ARBOR DAY

Throughout the United States, Arbor Day is becoming more and more associated with the economic as well as with patriotic and aesthetic ideas. Its celebration is a means of doing practical good to the community and at the same time is a stimulus to civic betterment along a multitude of lines. The primary purpose of the Arbor Day idea is to secure the planting of trees. In connection with this the occasion provides an opportunity for educational programs pointing out the aesthetic, memorial and practical value, of both shade and timber trees to the individual and to the community.

### ORIGIN AND GROWTH OF ARBOR DAY

Celebrations similar to the American Arbor Day are known to have been held in the older countries of the world in early days. The occasion was first formally observed in the United States by Nebraska, upon the initiative of the Hon. J. Sterling Morton in 1872, when over a million trees were planted in the "treeless state." Since that day it is estimated that more than 700,000 acres have been planted to trees in Nebraska, and the movement there started has grown so that Arbor Day is now a statutory observance in more than half of the States, and is annually observed in the others and in all the dependencies of the United States by official proclamation. In addition, it is in vogue in Great Britain, Canada, Australia, the English West Indies, South Africa, New Zealand, France, Norway, Russia, Japan and China. In New Jersey, the second Friday of April each year is designated Arbor Day by law.

## ORGANIZING THE WORK

In communities where there is an official Shade Tree Commission, the Arbor Day celebration should be worked out through or with this body. Its supervision, advice or cooperation will not only be of value in the planting, but even more so in providing for the subsequent care so necessary in such work. Where no such commission is available, those interested in shade tree work are urged to make every effort to have the governing body appoint a commission, as provided for by Chapter 325 P. L. 1915 and Chapter 58 P. L. 1918, or Chapter 15, P. L. 1924, so that the shade tree work may be systematically planned and developed. The school authorities can always be depended upon for active interest and support of the Arbor Day movement. The enlistment of the scholars is of real value, not only because of its practical help in the planting, but because of its educational value to the young people. In most communities active cooperation can be secured from the patriotic, fraternal, civic and social organizations in furnishing both moral and practical support.

## TYPES OF PLANTINGS

**Forest Planting.** The planting of trees on Arbor Day to provide a direct economic resource can be made of tremendous practical value to the community. Such plantings on city watersheds, on unused, barren areas of public property or by the owner upon otherwise vacant and unproductive areas nearby to towns, cities, villages and farms, will, of themselves be profitable and at the same time become sources of comfort, pride and pleasure



A FOREST PLANTATION

*Scotch Pine 7 years old, 5 feet high*

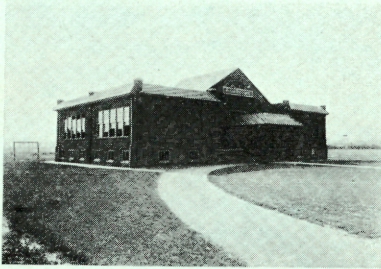
to the community as time goes on. Planting of this nature should not be undertaken without the advice of trained foresters. On the average, 1200

two-year-old trees per acre are used for such planting at a total cost of from \$8 to \$15 per acre planted.

**Rural Highways.** A barren, open highway in the country is unattractive, uncomfortable and unnecessary. An Arbor Day celebration in the rural sections can do nothing which will repay the community more than a planting along such roads. Not all roadsides need to be planted to develop shade. Where natural woodlands adjoin the road, thinning out or parking a strip will make attractive roadside shade conditions at little cost. In many places young trees or sprouts of suitable species are already started along the roads or on fence or property lines, so that simple selection when trimming out the "brush" will provide the shade at practically no cost. Where Arbor Day planting is planned, therefore, the work should be done, first at least, on stretches where nature has not already provided the shade or where it will not do so with reasonable encouragement without planting. In planning such planting, previous inquiry should be made of the municipal, county or State body having jurisdiction over the highway, to make sure that the planting to be done will not conflict with laws, regulations or construction plans for the highway. Regulations affecting overhead wires, obstructions on curves, protection of the road drainage and surface, or plans for widening, straightening or rebuilding the road may make planting suitable at certain places and ill advised at others, or may materially affect the species best for use and the spacing preferable. Trees along an open highway need not and often should not be set in a straight line. Sometimes gaps between occasional trees now standing can be filled in and accomplish more than an attempt to plant an absolutely vacant roadside. Trees should be set not closer than 50 feet apart or 105 to the mile for one side of the road. The cost of such trees delivered ready for planting varies widely, but trees of suitable species 1" to 2" in diameter, which are usually best, ordinarily can be had for from \$1 to \$3 each, delivered to the planter, and less if bought in quantity.

**City Streets and Parks.** In the larger communities tree planting must usually be done on city streets or in public parks or around public buildings including the schools. Plans for any such planting must be worked out with the consent of the official or body which has supervision over the

area to be planted. Where there is a municipal shade tree commission, street planting can be easily arranged for through their cooperation. Where there is no such body, previous arrangements should be carefully made to be sure that the property



*There is no excuse for a desert school yard in our state*

owners along the street have no objection or cannot interfere. As a general rule, Arbor Day planting will mean more to the community if done on the streets than if done in parks or elsewhere. However, necessity or convenience may make parks or public grounds a better site. This may be especially true where large barren areas occur around schools and other public buildings, which cannot be given sufficient shade by planting the streets bordering the property. There can be no general rule laid down as to spacing for street trees; they should seldom be placed closer than 40 feet apart, but on wide streets with ample room, may be planted 60 feet or more apart. The location, the species used, the adjacent lawn space, the desirability of alternating the trees on either side of the street, etc., must determine the spacing. The cost of the trees delivered will be approximately the same as for rural planting. The cost of planting the tree will vary greatly, however, depending upon the sidewalk pavement conditions and the degree of protection which must be provided. No general statement of these factors can be made.

**Tree Memorials.** No more fitting memorial to an individual or event can be found than a tree, or an avenue or grove of trees. Since the World War the tree memorial idea has had a marked increase in favor, so that many miles of road, many acres of groves, and a multitude of single trees, have been so planted in America. Aside from the practical value of such planting to the community and the

State, its peculiar stimulus to patriotic sentiment recommends it as an educational feature, which those arranging an Arbor Day program will do well not to overlook. The species to be planted on such occasions should be more carefully chosen than may be necessary in every other case. Only the more hardy and long lived sorts of trees are suitable for such a purpose. Especial emphasis should be laid on providing proper care for tree memorials after they have been set out. Because of its association and purpose, memorial tree planting, even more than other planting, should not be permitted until the community is assured that indifference or neglect will not follow the first enthusiasm and the memorial become a travesty, both a disgrace and harmful to the planters and the public, as is most likely unless adequate and systematic arrangements for the future are made before the planting is done.

#### THE TREES TO BE USED

Most of the native trees and a few imported tree species can be used for ornamental and shade planting in New Jersey. Not all of them are of equal value for every purpose, and some have peculiar advantages for special locations. For instance; conifers (evergreens) should never be used for street and almost never for highway planting; trees of a widespreading, majestic habit are especially suitable for memorial use; small crowned or thin foliated species are more suitable for narrow streets.



*Trees on the streets and grounds make the school a place young folks like*

The list below names the trees which are more commonly and most satisfactorily used in the State. Not all of the trees in this list are usable under every condition. The preferable choices for the common



*What wouldn't a few trees mean here!  
Street trees bring beauty, protection, birds, comfort, people*

uses or locations are given specifically in this same paragraph.

Ash, White	Linden, European	Oak, Red
Elm, White	Locust, Honey	Oak, White
Ginkgo	Maple, Norway	Poplar, Tulip
Gum, Sweet	Maple, Red	Sycamore
Hackberry	Maple Sugar	Walnut, Black
	Oak, Pin	

Two other species, the Oriental Plane and the Horsechestnut have been often planted, and make satisfactory trees. The Plane is an unusually vigorous, rapid growing tree with a capacity for making street shade under trying living conditions in many places. Those using this species should know, however, that it shows an unusual tendency to severe injury from frost even after it is well grown. The Horsechestnut likewise shows a considerable tendency to frost damage and is also extremely susceptible to weakness and permanent injury from a leaf blight. Also, of the species named above, Sweet Gum and Ginkgo especially are not suited to sections where severe frost occurs. In the sandy soil of the coastal plain in South Jersey the Elm, Ginkgo, Honey Locust, Norway Maple, White Oak, Tulip Poplar and Sycamore will be found to give better results.

**For Rural Roadsides**, any of the species in the general list above may be used. The Elm, Locust, Norway Maple, Sugar Maple, Red Oak, White Oak, Tulip Poplar, Sycamore or Walnut are recommended as better choices under most conditions.

**For Narrow Streets**, where there is less than 60 feet between building lines, the Ginkgo, Red Gum

or Norway Maple will ordinarily be found most satisfactory.

**For Average Streets**, with from 60 to 90 feet between building lines, a wider choice is available. Best results usually will be secured by favoring the Ginkgo, Gum, Linden, Norway Maple, Sugar Maple, Pin Oak, Red Oak or Plane.

**For Wide Streets**, with a distance of more than 90 feet between building lines, all of the species in the above list may be used. However, the greatest beauty and dependability will be secured by choice of the Elm, Linden, Sugar Maple, White Oak, Tulip Poplar or Sycamore.

**For Groves, Parks and Public Grounds** any of the species listed are available, with a wide further choice including the pines, spruces, firs, hemlocks and even cypress or cedars. The choice made will depend upon the location and purpose of the planting and the advice of some one qualified to make recommendation should be sought before deciding, if the best results both as to appearance and adaptability are to be had.

**For Memorials**, the choice should ordinarily be restricted to the Basswood, Elm, Sugar Maple, Red Oak, White Oak, Tulip Poplar, Sycamore, or Walnut.

**Trees to be Avoided.** Some species because of their habits are undesirable and impractical and should never be chosen for shade or ornamental use, unless these factors are clearly understood and some peculiar circumstance makes them favored in spite of their disadvantages. It should be noted



*Is your home street well shaded?  
Make the planting uniform for best appearance and results*

that the quick growing species are practically always short lived. Some species have a root system which always interferes with drains, etc.; others have disagreeable characteristics of flowering or fruiting, or are brittle, have an undesirable crown shape or are especially susceptible to insect attacks and disease. Some of the commoner of our trees which are not desirable are named below with the reason why they are to be avoided.

Silver Maple—is short lived, brittle and is apt to disturb the pavement by its superficial root system.

The Poplars or Cottonwoods—are short lived, make an offensive litter in the spring, grow troublesome root suckers, and have roots which give annoyance to the drainage.

The Willows—are short lived, brittle, of poor shape save for ornamental use and have troublesome root systems.

Black Locust—is practically certain to be injured or destroyed early in its life by the locust borers.

Beech—grows very slowly, makes too dense a shade and tempts mutilation by its smooth bark.

Nut and fruit trees—tempt injury because of their flowers and fruit; in general grow with a low, compact crown, not suited to shade tree purposes, and are generally more subject to insect and disease injury than other species.



A RAGGED STREET  
*Trees all sizes, shapes, species*  
*Plan first — Plant next*

#### WHERE AND HOW TO GET THE TREE

**Forest Planting.** Young trees for forest planting should always be bought from a reliable nursery. The State Forester's office, free of charge, advises

planters what to get and where to get them, and cooperates with them in securing the tree seedlings.

**Shade and Ornamental Planting.** Naturally grown young trees may be used for shade and ornamental planting. However, great care is always necessary in selecting the trees for form and previous growth and extreme care must be used in lifting them from the woods, if such trees are to be used. It rarely pays to choose wild stock, all things considered. Nursery grown trees are prepared for moving by previous transplantings, have a root system developed for this purpose, are ordinarily much sturdier and almost invariably are better shaped. By reliable nurseries they are properly lifted and packed and are received in better condition for planting than wild stock. Suitable species of the right size can be bought from commercial nurseries at reasonable cost. The State Forester will advise planters of the nurseries available in the State, and, where conditions permit, will assist purchasers in securing the stock.

#### PLANTING THE TREE

**Forest Planting.** Because of the small size of the trees used, forest planting is in a class by itself and definite instructions should be secured from a trained forester when such planting is to be done.

**Shade and Ornamental Planting.** In planting shade or ornamental trees the following points always should be kept in mind. After the tree is received, keep the roots moist until planted. Before the tree is brought to the site, have the hole made ready for it. If the spot is on "made" ground, take out at least a cubic yard of the rubbish and provide as much good loam, then prepare the planting hole. This must be somewhat larger than the root spread, and about a foot deeper than the roots. On the bottom spread a layer of fine, mellow soil, mixed with one-third its bulk of well rotted stable manure. Have the space above this layer just deep enough to allow the roots to be placed naturally and still permit the tree to stand about 2 inches deeper than it did in the nursery, not more. When the tree arrives put it into the ground at once. Do not allow it to "lie around" in the air so that the roots may dry. All broken or badly bruised roots should

be carefully cut off with a sharp knife and, unless the crown has been pruned by the nursery before shipping, it also should be thinned out to keep it and the root system balanced. Thoroughly wet the earth in the prepared hole, set in the tree and spread out the roots so that they lie naturally and not crossed or crowded. Then fill in finely pulverized earth, work it under and around the roots, by hand preferably, and pack it firmly. If the earth is put in in layers and wet down after each layer, it will make better contact with the roots. Fill the hole to the ground level well packed, then rake over the surface thoroughly to a depth of about an inch. Be sure that the tree trunk is kept vertical all the time while being planted.

### PROTECTING THE TREE

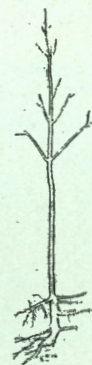
At the time it is planted, every tree should at once be tied securely to a strongly set stake, heavy enough to make sure it will be kept upright. For this use rubber covered wire, canvas, or a twine heavy enough not to cut the bark and twisted or crossed between the tree and the stake. In any location such as a city street, where carelessness or ignorance may expose the tree to injury, there should also be a guard put around the tree at once after it is planted. This may be of wood or metal, but must be large enough to be kept entirely away from the tree trunk and should be large enough to allow for the growth of the tree. Guards should be strong enough to be a protection and high enough to prevent abuse or injury above them, usually at least 6 feet high. The tree will outgrow the need for artificial support after the first or second year. Under city conditions, guards must be constantly watched to be kept in repair and must be maintained during the whole life of the tree, except under unusual conditions.

### CARING FOR THE TREE

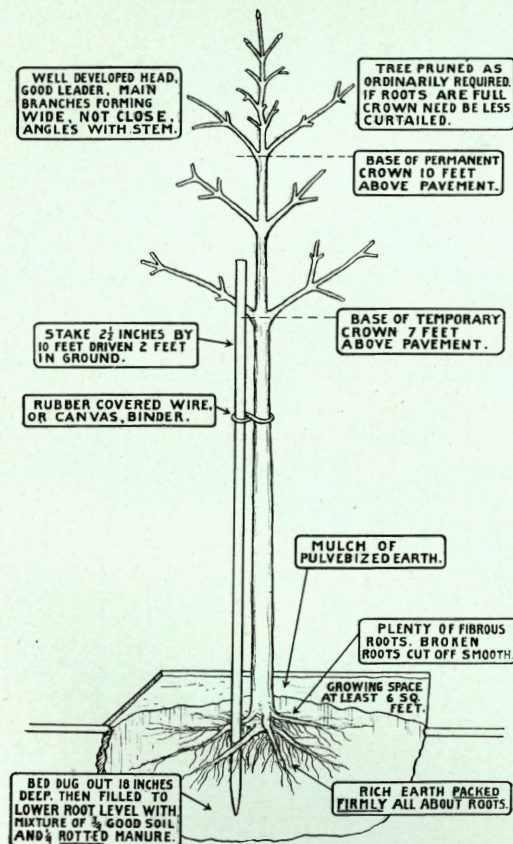
A tree is a plant. As such it requires light, air, water and food. A newly planted tree especially must be tended to see that it does not suffer from lack of water. As time goes on, trees in unnatural locations will require food and their roots will also



Young tree as received from the nursery



Same with top and roots pruned



### THE WAY TO PLANT A SHADE TREE

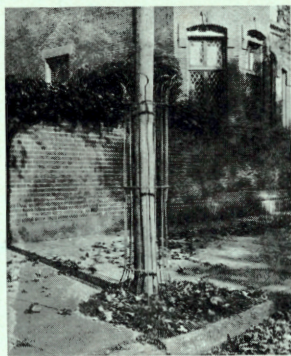
*A tree is a plant. It won't "grow anyway"  
Put yours in right and you won't have to do it over*

have to have help in securing air. Trees planted in the open will not ordinarily need such attention. Those in city streets, on close cropped lawns, etc., must be fed by spading in new soil, or manure or



NO GUARD—ALL PAVEMENT  
*Give your trees protection and  
a place to grow*

other plant foods, and must be given air by loosening up the soil about the trunk when it becomes hard packed or baked. In the open or along rural roads a tree will require little attention after it has



WELL GUARDED—GOOD OPENING  
*Keep injury away from your  
trees and give them open soil*

become established, except that provision must be made to know of insect or fungus attacks, if they occur, and for protecting the tree against them. As the tree grows up it should be pruned of lower branches to give proper clearance and vision under

it, with perhaps other pruning and tree surgery attention at infrequent intervals or upon particular occasions, such as after severe ice storms or hurricanes. Trees on city streets must be given systematic care always, to guard against injury, enemy attacks, drought, starvation, suffocation, etc. Trees under city conditions are in an abnormal situation and cannot "look out for themselves" any more than hot house plants do. Tree planting under any conditions is better than no planting at all, but carelessness or indifference in the planting and care mean poor results in the end, with consequent waste of time, money, material and interest. The individual or community whose interest in and attention to its trees stops when the trees are in the ground, may be fairly expected to be careless or indifferent in other forms of personal or civic activities.



NEWLY PLANTED FOREST

*Pitch Pine 2 years old on old field*

### TREE PLANTING IN A NUTSHELL

1. Choose the place to be planted and the species to be used carefully.
2. Prepare the place for the tree before it arrives.
3. Plant the tree properly and carefully.
4. Provide adequate support and protection at once.
5. Take care that the tree does not suffer for water, food or air or from abuse.
6. Give the tree enough subsequent attention to be certain that it develops properly and is protected against natural enemies and conditions.



A MATURING PLANTATION

*White Pine 30 years old, just thinned*



**LIKE MEMORY—IT LIVES**

*There is no memorial more fitting, more  
beautiful, more majestic  
than a tree*