

EXTENSION NOTES



Ontario

PLANNING A SCHOOL TREE PLANT

Trees are the world's air-conditioners and the earth's shield from wind and rain. They provide habitat for animals and add beauty to our surroundings. Through photosynthesis, they capture light from the sun and use it to convert water and carbon dioxide into the oxygen we breath. Without trees, there would be no life on this planet.

Building awareness and appreciation for trees is important, particularly among school-age children. One hands-on

learning opportunity for students of all ages is to take part in a school tree planting project. Using trees supplied free of charge from the Ministry of Natural Resources, a school tree planting project is educational, fun and of lasting benefit to the environment.

This Extension Note has been prepared to assist in organizing a tree planting project on school property or on another suitable site.

BEFORE YOU GET STARTED

In addition to this Extension Note, other information sheets have been prepared to help landowners plant trees successfully. You may wish to read them over. They include: *Planning for Tree Planting*, *Clearing the Way: Preparing the Site for Tree Planting*, *Careful Handling and Planting of Nursery Stock* and *Room to Grow: Controlling the Competition*.

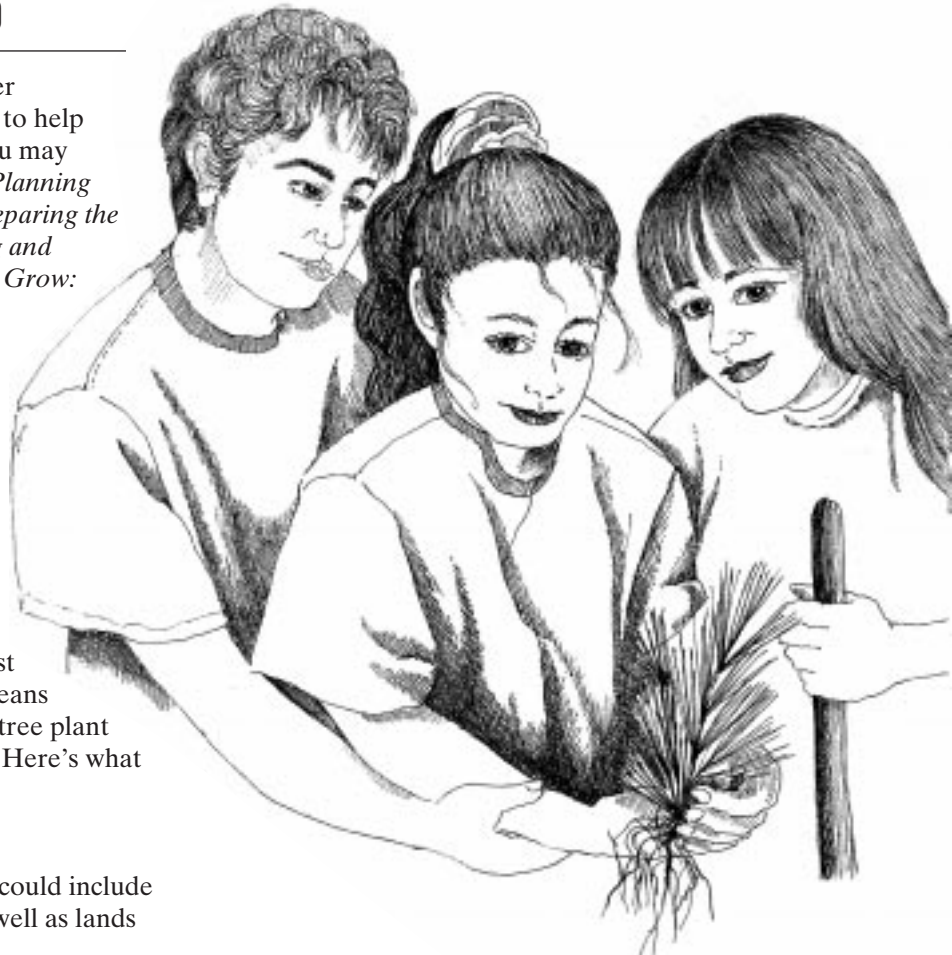
The information in these publications, along with the tips provided on the following pages, will help teachers ensure that a school tree-planting project runs smoothly.

PLAN AHEAD

Trees must be planted just after the frost leaves the ground in the spring. That means you should start making plans for your tree plant as early as the previous summer or fall. Here's what you'll need to do:

1. SELECT A SUITABLE PROPERTY

Suitable properties for tree planting could include school yards and municipal sites, as well as lands



owned by teachers, parents or neighbours. For other locations, including publicly held lands, contact the Ministry of Natural Resources office in your area.

If trees are going to be planted on a school property, it's a good idea to make the school administrator and grounds keepers aware of the commitment required to maintain the trees. For example, extra care may be necessary when weeding or mowing grass around newly planted trees.

Keep in mind that an ideal site should have sandy soil rather than heavier clay soil, which can cause problems for smaller children using shovels.

2. DEFINE OBJECTIVES

Once you've selected a property, think about what you hope to accomplish. On an urban school property, for example, the intention may be to provide an outdoor laboratory for students learning about tree growth. On a rural school property, it may be to study how trees act as a windbreak and prevent soil erosion. A private landowner, on the other hand, may want to reforest an abandoned agricultural field to provide wildlife habitat. Whatever the reason, defining the tree planting project's objectives is essential before you select the tree species.

3. SELECT TREE SPECIES

Coniferous trees (with needle-like leaves) are generally recommended over deciduous or broadleafed trees.

Coniferous trees have a better chance of surviving and require less care. Deciduous trees, on the other hand, require more intensive care, such as protection from competing grasses and weeds. The Extension Note: *Planning for Tree Planting* includes a guide to aid in selecting the species best suited for your planting site.

4. ORDER TREES

MNR nurseries supply trees at no cost to schools for educational purposes. When deciding how many trees to order, consider the following:

- the size of the site
- the age of the students
- the amount of time available

Trees are usually planted 2.1 metres apart, although you should check with your school to be sure another policy for spacing trees doesn't already exist. At these distances, you'll need about 2,300 trees a hectare of land. A class of 30 Grade 3 students with a teacher and a few parents assisting can plant about 100 trees an hour. A class of 30 Grade 8 students with a teacher and a few parents assisting can plant about 300 trees an hour. A class of 30 Grade 12 students and a teacher can plant about 300 trees an hour.

When scheduling time for tree planting, keep in mind that seedlings should be in the ground no later than the second or third weekend in May.

HOW TO ORDER TREES

Applications for nursery stock are available from MNR offices throughout the province. Trees must be ordered in multiples of 50, with a minimum of 50 trees a species. Orders for school tree planting projects must be placed by the end of October. If you have any questions regarding species selection, contact your local MNR office.

To fill a request for trees, MNR will need the following:

- a completed Application for Nursery Stock form
- written approval from the organization or individual who owns the lands to be planted
- a map of the property to be planted
- a project outline which includes dates for planting

PREPARING A SITE FOR PLANTING

The purpose of site preparation is to mark rows and to reduce the effects of grasses and weeds that will compete with the seedlings for sunlight, nutrients and water. Rows can be marked in a number of ways including rototilling strips, scraping lines with a tractor or tying string between stakes. If you chose not to plant in rows, the trees may be harder to maintain later on. Also, you'll need to spend some time clearing away the grass and weeds already growing on the site. Decreasing these competitors will speed up the growth rate of the seedlings and improve their chances for survival.

How to protect seedlings:

- transport in covered vehicle
 - plant as soon as possible
 - store in cool place (one to five degrees Centigrade) for no more than 10 days
 - protect from sun while on site
 - open one bag at a time
 - protect planted seedlings from rodents and weeds
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GETTING STUDENTS READY TO PLANT TREES

A prepared student is a productive student. Students must be aware of what is expected of them and what type of equipment is needed. Proper handling and planting of seedlings should be discussed in the classroom. For ideas and lesson plans, ask for the Focus on Forest activity book available from MNR.

Before tree planting day arrives, a list of suitable clothing and equipment should be prepared and distributed to all participants.

It's also a good idea to watch the weather forecasts to ensure that students are prepared for the range of possibilities.

WHAT TO BRING ON TREE PLANTING DAY

SHOVELS

A standard round-bladed shovel is often the best planting tool since it can create a hole big enough to accommodate seedlings of all sizes.

FOOTWEAR

Steel-toed work boots, hiking boots or rubber boots are recommended. Avoid sandals or light shoes.

BUCKETS

Buckets are used to carry water and trees. They should be a minimum of 30 centimetres deep with a minimum diameter of 30 centimetres.

NOURISHMENT

A full day's work requires nourishment. Remember to bring a hearty lunch and lots of cold drinks.

CLOTHING

Spring weather is unpredictable. All participants should have long pants, a short-sleeved shirt, a sweater and a raincoat. Shorts may be worn but bugs are often bad in the spring. Grass and shrubs may also scratch legs. In addition, everyone should have a hat, bug repellent, suntan lotion and work gloves.

TREE PLANTING DAY

Trees from provincial government nurseries come in large paper bags that are lined with plastic. The number of trees is written on the outside of each bag. Depending on the species, a bag may contain from 200 to 350 trees. The trees are bundled together with elastic bands in groups of 10. When removing the elastic, slip it off over the top to prevent damaging the roots, or better yet, cut the elastic. Seedlings are 20 to 30 centimetres tall with a 10 to 20 centimetre root system. At the planting site, keep seedlings in the shade (under a tarp, for example), protected from drying winds and with a source of clean water.

Students work better in teams of up to three. Larger teams can have difficulty focusing on the task at hand. Each team should have a planting pail and shovel. It is a good idea to make sure each team includes at least one person wearing heavy boots.

Each team should include:

- one person shoveling
- one person holding the seedling in the hole
- one person tamping the seedling into place

A teacher or assistant should be on hand to help each team and assess planting quality.

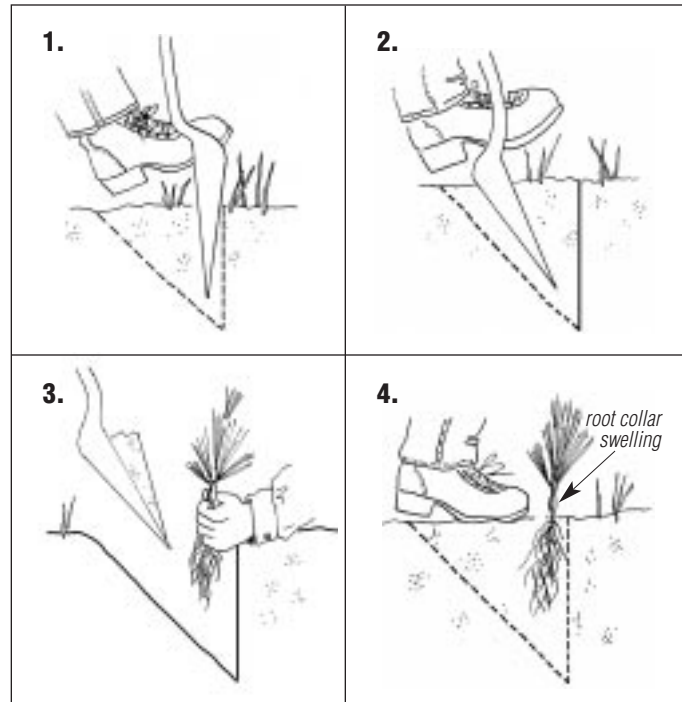


HOW TO PLANT SEEDLINGS

Be sure to tell students not to plant seedlings in places where there are water holes, stumps or rocks and not to plant more than one tree per hole. For trees packed in separate containers, students should be reminded to handle seedlings by the base of the stem taking care not to bruise the bark.

Here's how to plant:

- Dig a hole deep enough to cover the root system.
- Remove one tree at a time, separating roots by carefully shaking them loose in the bag.
- Lay the roots straight down the hole in a natural arrangement. Do not bunch, spiral, double-over or bend roots.
- Keep stones and twigs out of the hole. They create air pockets that dry out roots.
- Plant seedlings slightly above the root collar swelling.
- Cover with soil. Do not bury live branches or foliage, or leave any roots exposed to the air.
- Tamp soil firmly with the toe (not the heel) to remove air pockets.



MAINTAINING THE TREES

Newly planted trees will require attention until they are large enough to survive on their own. On a school property, for example, trees may need protection from lawnmowers and overzealous students. It is important that staff and students know about the trees and have a role in taking care of them. The planted area should be marked with stakes.

CONTROLLING GRASS COMPETITION

Grass, weeds and shrubs can rob newly planted seedlings of moisture, nutrients and growing space. Trees should be tended until they are taller than the surrounding competition and no longer adversely affected by it. Grass should be cut and weeds hand pulled around trees, but be careful not to damage the tree's bark. Watering trees during periods of drought will also greatly enhance growth and survival.

USING MULCHES TO CONTROL COMPETITION

Depending on the number of trees planted, a mulch can decrease maintenance. Mulches are spread around trees and do not allow grasses and weeds to grow. Made from wood chips or straw, a mulch should be applied to a radius of 60 centimetres around the base of the trees. Organic mulches should be five to 10 centimetres deep. If you're using wood chips, be sure to mix conifer and deciduous species since the resin in the conifer chips can affect the soil's acid balance.

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