

# Community Nurseries

Growing trees and shrubs for your communities, farms and woodlots

## INTRODUCTION

Community nurseries are a source of inexpensive plants for environmental restoration, beautification or wildlife enhancement. This booklet lays out the steps you can take to start your own nursery, large or small. Since many of our more unusual native trees and shrubs are not available commercially, a community nursery may be your only source of these valuable species.

Why native trees and shrubs? These plants have evolved over thousands of years and have a proven record in our region. They grow well in this climate, with our cold winters and windy conditions. Certain species have adapted to seaside conditions, while others tolerate the edges of acidic bogs. But there is more to using native plants than suitability to climate. Some have been overharvested and now occupy little of their former range. In other cases, entire habitats have been lost to residential and industrial development. In planting a wide variety of native trees and shrubs, we ensure that rarer species are not lost to us.

Native trees and shrubs are a diverse mix and address our needs as well or better than exotic species. Furniture makers need to look no further than yellow birch, sugar maple and white pine for suitable materials. Basket weavers lean towards black ash, willow or red-osier dogwood. Landscape architects find that serviceberry, bayberry and staghorn sumac compare favourably with imports in regard to beauty, hardiness, price and value to wildlife.

Community nurseries across the province will help encourage the use of native trees and shrubs, which must be present if we hope to preserve and restore natural ecosystems.

## EIGHT STEPS TO A COMMUNITY NURSERY

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# STEP ONE

## Making Plans

The first step in starting a community nursery is deciding that you want to use trees and shrubs to improve the environment. From organization to organization, the reasons will vary. Some will want to restore a favourite stream in the area. Others will be more concerned with protecting soil, restoring degraded forests, saving energy, enhancing wildlife or reducing global warming.

Community nurseries ideally are operated through volunteers from how much time they will have to put into such a project. Church groups, Rotary Clubs, local environmental groups, Women's Institutes, 4-H Clubs and Boy Scout troops are good places to start seeking support. Try to get as many groups as you can involved in the project and don't forget local businesses – they may be looking for a project to support. The nursery and future plantings will build community spirit and demonstrate how people can really make a difference in improving the environment.

Good planting comes from knowing the needs of your area. What types of sites need restoration and what are your own interests? Nurseries primarily designed to restore a streamside will use different species and probably be on a smaller scale than one whose goals include urban plantings and wildlife enhancement. It is best to start small and let the nursery grow with your expertise, interest, volunteer base and funding. The key to sizing your nursery is to decide how many seedlings you need to produce and, perhaps even more important, how many you are capable of planting out every year.

Even a corner of your garden can produce a large number of seedlings. Conifers are usually grown in a seedbed for two years, then moved to a transplant bed for two years. Deciduous trees can be moved to transplant beds after the first year. Seedlings can also be started in containers or transplanted into containers after one year.

## ***HERE'S WHAT YOU WILL NEED***

The following example will give you a rough idea of what you can grow in a given area and when planting areas have to be prepared. If you decide to grow 1,000 seedlings a year, from fall plantings, you would need:

**FIRST GROWING SEASON:** A seedling bed 3'x10' (.9m x 3m) Another seedling bed 2'x10' ready to plant in the fall.

**SECOND GROWING SEASON:** Four transplant beds 3'x10' or an equal area for containers.

**THIRD GROWING SEASON:** Four transplant beds 3'x10' or an equal area for containers, for the second seedling bed's transplants.



## **STEP TWO**

### **Site selection**

Almost any site is suitable for a small, short-term nursery, including a section of backyard garden. More care should be taken in selecting a site for a larger, permanent nursery. Here are some tips on what to look for and what to avoid.

**ACCESS** – A road that is accessible during the entire growing season is almost a necessity, especially if you have to haul water or soil amendments (manure, peat moss, etc.) very far. This means setting the nursery beside a road or a well-maintained driveway. The closer a nursery is to the centre of your group's operations, the better. Volunteers will be more likely to help out if they don't have to drive long distances to get to the site. Transplants, especially bare root stock, will benefit from a closer distance between the nursery and planting site - they can be put back into the ground sooner and are less likely to dry out in the back of a truck. Accessibility has to be balanced against the chance of vandalism. Your common sense and knowledge of the area will be the best guides.

**WATER** – no matter how much rain falls during the year, there are times when having water on site will make or break a crop of trees.

Seeds need moisture to germinate, while a dry spell can ruin newly transplanted trees. Running water is the easiest solution – whether from a town system or well, or pumped from a nearby pond. If those are not available, you will have to haul water.

**SOIL** – dramatically changing soil is a challenge, so start off with the best you can find.

When selecting a site, consider the following:

- what has the site been used for during the past five years? Avoid land that was continuously cropped or that had heavy applications of pesticides.
- what is now growing on the site? Alders will have added nutrients but can take quite a while to eradicate. Couch grass (also known as quack or witch grass) and thistles are hard to get rid of without losing a year of growing time. Again, if all other aspects of the site are ideal, it may be worth the effort.
- what is the drainage like? Building raised beds will help overcome drainage problems, but only to a degree. Make sure there is no standing water and avoid heavy clay soils.

**SITE CHARACTERISTICS** – the site should be flat or slightly sloping, with a southern or south-western exposure. Light shade is acceptable, but the nursery must receive sun for most of the day. Avoid “frost pockets” that receive frosts earlier than surrounding areas. Someone who knows the area will probably be the best source of information on this subject.

**SHELTER** – windbreaks that slow prevailing winds can be trees or even buildings. If there are no windbreaks, trees and shrubs can be planted for this purpose. Fencing made from slabs or boards can slow wind and keep out wildlife at the same time. Proper windbreaks reduce wind speed, allowing 50% permeability. Under normal conditions, a windbreak or fence 10 ft. (3 m) on the windward side of the nursery will protect plants up to 100 ft. (30m) away.

With this information, you can now decide what compromises must be made and choose the best site available in your area.

## **STEP THREE**

### **Soil testing and conditioning**

The ideal soil for a nursery site is a light, loamy sand with plenty of organic matter. Samples should be taken from several areas on the site and tested for nutrients, pH and organic matter. The provincial Department of Agriculture (see Resources) can instruct you in this and charges a nominal fee for the test.

Once you know the condition of your soil, begin preparing the site. If the nursery will occupy part of your garden, the work may already be done. Small plots in urban areas can be worked with hand labour and a rototiller. Use a spade to strip off the sod, which should be added to your compost pile. The ground should be worked as deeply as possible, using a spade and a garden fork. To improve drainage and increase organic matter, add peat moss at the rate of 4-5 cu.ft. (.1-.15 cu.m) per 100 sq.ft. (9 sq.m) of seedbed. Well-rotted manure or compost adds nutrients and organic matter. In the spring, spread dolomitic limestone to bring the pH up to about 5.5, then use a rototiller to prepare the soil for planting.

For larger nurseries in rural areas, you may decide to hire a nearby farmer to prepare the site, making use of his/her expertise. Fall plowing should be followed by spreading manure or compost and peat moss. This can be disced in while the soil is still workable. Spread limestone in the spring then harrow several times or use a rototiller.

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### ***THE BUCKWHEAT METHOD***



*If your site is very weedy and lacks nutrients and organic matter, prepare the site and plant buckwheat in the spring. When this crop is in the flowering stage, turn it under and plant more buckwheat. When it reaches the flower stage, turn it under and plant winter rye. Next spring, disc in the winter rye and harrow or rototill. The soil will be almost weed-free with improved levels of nutrients and organic matter.*

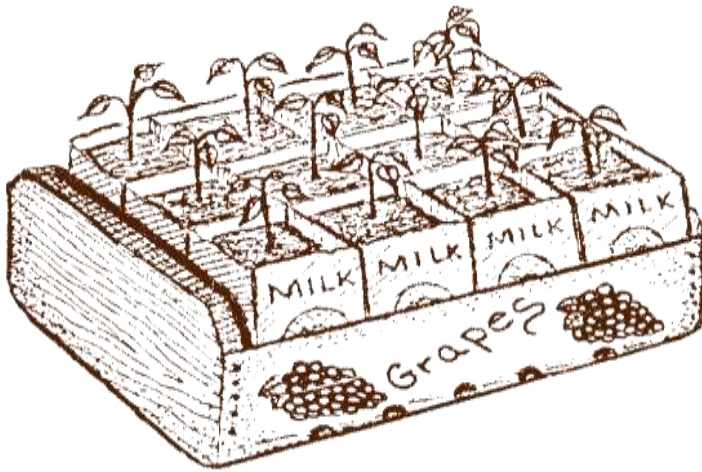
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Other natural soil amendments that may be available in your area should not be overlooked. Crab and lobster shells, fishmeal, bonemeal and seaweed all are excellent sources of nutrients.

Some old fields may have developed a hard pan, a compacted area just below plowing depth that can hamper drainage. A chisel plow, designed to break up the subsoil and disturb the surface as little as possible, can solve this problem. It should be noted that even rototilling too often at the same depth creates a hard pan. Tiller can be used for the initial preparation of the site and seedbeds, but should not be used more than absolutely necessary. Excess tillage can destroy the soil texture that you have worked so hard to achieve.

## ***STEP FOUR***

### **Laying out the site**



In the gardens and urban areas fencing may not be necessary, though cats and dogs can become problems. In most rural areas, it is best to fence the nursery before planting. A 4-6 ft. (1.2-1.8 m) fence will usually keep snowshoe hare from browsing twigs in winter. Fencing can be made from

chicken wire, boards, slabs, snow fencing – whatever is handy. If deer are a problem in your area, contact your local agriculture department for ideas on fencing. Plant a windbreak along the fence for protection.

Between the fencing and the actual planting beds, maintain a weed-free strip. This will stop weeds that spread by underground stems from creeping into your nursery. Lay down newspaper and then a heavy mulch, or till the strip regularly.

Your nursery may include one or more seed beds, potting area, transplant or container area, compost bins and watering system.



*An end-view profile of raised beds used for either seedlings or transplants*

**SEED BED** – a good working size for all beds is 3 ft. (.9 m) wide by up to 20 ft. (6 m) long, with 18 in (.45 m) paths. Mark out beds with string and use a spade to move soil from paths into beds, making the centre of each bed slightly higher than its edges. On heavy soil beds, beds should be 4 in. (10 cm) above paths; on well-drained soil, 2 in. (5 cm); and on very sandy soils the beds need not be raised. Soil in beds should be firmed by using a roller, a tamping board or stepping on a wide piece of wood.

Framing a raised bed with 8-10 in. (20-25 cm) wide planks or boards is more costly but offers several advantages. The bed is easier to weed; dries out more slowly along the edges; erodes less, and is more easily screened to keep out rodents.

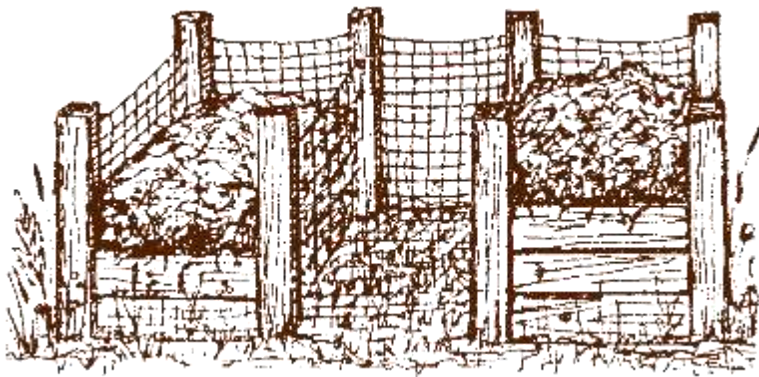
**POTTING AREA** – this can include a shed for tools and working indoors when it rains or be as simple as a large table at a convenient working height. Whether planting sprouted seeds or year-old seedlings into containers, a good soil mixture is important. No one formula

will fit every situation, but here is a good general mix:

2 part garden loam; 1 part compost or leaf mold; 1 part clean, coarse sand. The addition of pulverized rock phosphate and either granite dust or greensand (1 tablespoon of each per 2-litre container), will reduce the chance of nutrient deficiencies.

Take a soil sample of the mix and then raise the pH to about 5.5. About 6 lb. (2.7 kg) of dolomitic limestone will raise the pH of 1 cu. yd. (.77 cu.m) of mix 1 unit (e.g., 5.0 to 6.0).

**TRANSPLANT OR CONTAINER AREA** – whichever method or combination of methods you choose, the area will be at least four times the size of the seedling area. Both systems have advantages. Transplants in beds are easier to water, require less water, have better drainage, can be grown in a smaller area, and suffer less loss from winter damage. Container-grown plants can be planted out throughout the spring, summer and fall. This is especially important if you will be doing plantings around certain events that take place



outside of early spring and allows you to spread the work over a longer period. In addition, plants in containers often experience better growth and suffer less setback when transplanted.

Containers can be anything you find locally, preferably for free. This system works well: use wooden grape crates (free from most grocery stores)

to hold 12 2-litre cartons. Use a drill or knife to make ½ in. (1.3 cm) drainage holes in the bottoms of cartons.

**COMPOST BINS** – a three-bin system, using wire fencing or boards for sides, will give you room for all the composting materials you collect. It is also easy to aerate the material as you periodically move it from one bin to the next. All dimensions of each section should be about 4 ft. (1.2 m).

**WATERING SYSTEM** – however you obtain it, water must be clean and adequate to ensure good growing conditions. A convenient way to transport large quantities is in 45-gallon (205-litre) food-grade plastic barrels. These can be purchased from fish-packing plants and beverage companies.

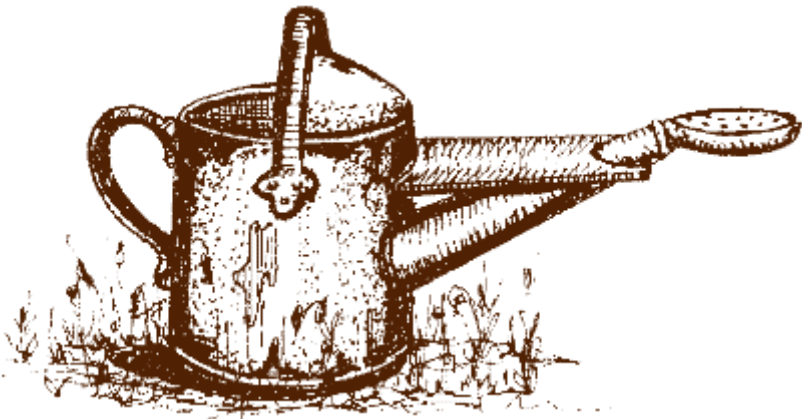


## ***STEP FIVE***

### **Buying and collecting seeds and transplants**

Seedlings of some native trees and shrubs may be purchased from commercial growers to begin stocking your transplant beds. In most cases, though, you will probably want to grow your own from seed. Visit our website or email us for a copy of our pamphlet on collecting and storing seeds of native species.

Most seeds are best planted in the fall, while some prefer the spring. Plant seeds no deeper than three times their diameter. Small diameter seed can be broadcast and covered with a 50-50 mix of inland sand and sawdust, about ¼ in. (.6 cm) deep. Cover the seedbed with burlap or cardboard, held down by pegs or boards along the bed's edges, and hardware cloth (1/4 in. mesh wire) to protect seeds from birds and rodents. For fall planting, wait until the ground is frozen and then cover the bed with a 4-6 in. (10-15 cm) mulch of pine needles, chopped straw or eelgrass to prevent freezing and thawing. Remove mulch in early spring. Keep a close eye on the beds in the spring and remove the burlap before seedlings emerge.



The seedbed should be kept moist until the seeds have germinated and established roots. For both seeds and tender seedlings, use a watering can or a special hose nozzle that spreads out the water. These most closely emulate natural rainfall.

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### ***GERMINATION BEDS***

*When large-seed species such as oak are to be planted in containers in the spring, they should be overwintered in boxes with 10 in. (25 cm) wooden sides. Over a three-inch, (7.6 cm) layer of sand and peat moss, spread one layer of acorns. Attach hardware cloth to the top of the frame. Check regularly in the spring and plant in containers when the acorns have just begun to sprout.*

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For the first two months after germination, apply water several times a week if it does not rain. After that, a thorough, weekly watering will usually be adequate. Deep watering promotes better root growth at lower soil levels.

Most seedlings need partial shade during the first summer to conserve moisture and escape excessive heat. The simplest is to make a frame to support snow fencing about 1 foot over the bed, which gives you about 50% shading. If the weather is especially wet and muggy, you should remove the shading to allow

the beds to dry out faster. This helps avoid problems with fungi and bacteria. Seedlings growing in the wild can be dug, with the landowner's permission, from areas of future construction (houses or highways) and are usually quite abundant along 2-3-year-old forest roads. Another good source is the strip of land that is mowed along highways if there is a nearby source of seed. Be sure to obtain permission from the Department of Transportation before removing seedlings from these areas. Move seedlings to beds for a few years to produce large, sturdy transplants.

Always transplant in early spring before plants produce new growth, unless you are able to dig up and carry a substantial ball of earth around the roots. Young seedlings up to 2 ft. (.6 m) give the best results. Deciduous seedlings should be marked in the fall with flagging tape (a different colour or code for each species) while they are still in leaf since it is often difficult to identify leafless seedlings in the spring. Make sure the seedling has a good form and avoid suckers that have grown up from a stump. Deciduous and coniferous trees can be transplanted bare root (without soil) or with a plug of soil. Treat the transplants the same as if you were moving seedlings to transplant beds (step six).

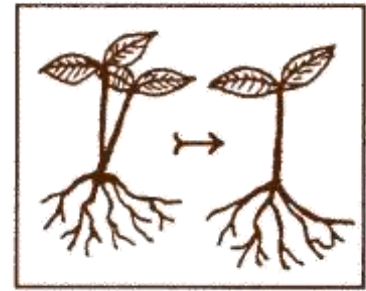
## ***STEP SIX***

### **Moving seedlings to transplant beds**

In the spring following the first growing season, before new growth has emerged, move seedlings to either transplant beds or individual containers. For transplant beds, the simplest way is to remove seedlings with a garden fork, taking care not to break the roots or damage branches. On seedlings under 2 ft. (.6 m), prune roots longer than 5-6 in. (1.3-1.5 cm) with hand pruners or a pair of sharp scissors. Seedlings with split roots or other major defects



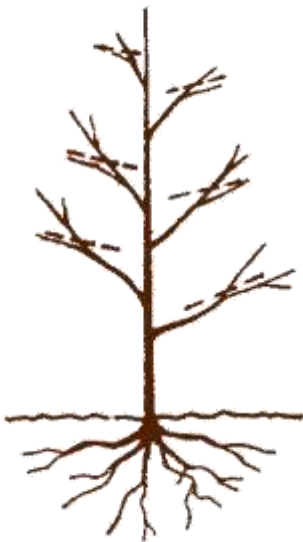
should be discarded. Prune multiple leaders (the growing tips of the plant) to a single stem. Roots **MUST NOT** be allowed to dry out. They can be bunched together in wet moss and burlap, dipped in thin mud or



placed in a bucket of water. It is best to dig up small amounts of seedlings and transplant them quickly.

Plant seedlings in rows across the bed. A handy tool is a 6 in. (15 cm) wide board, 3 ft. (.9 m) long, marked off in increments of three, four and five inches (7.5, 20 and 12.5 cm). Using a spade, dig a trench next to the board deep enough to hold the roots. The side nearest the board should be vertical. Place seedlings against the vertical wall of the trench at the same depth as they grew in the seedbed, indicated by a slight change in bark colour at the root collar. Roots should be spread out evenly, not twisted or L-shaped. Spacing differs for

each species, but use the markings on the board to ensure each is the same distance apart. Replace soil and firm around transplants to eliminate air pockets. Transplanting should be done in the evening or on a cloudy or rainy day to avoid drying out the seedlings. The greatest risk is loss of water from shoots, especially if roots damaged in transplanting can not replace the water. Pruning immediately after planting reduces the plant area from which water loss can occur, so trim off about 30% of the tree branches. Avoid cutting back the leader if at all possible (this is less crucial for shrubs than trees).



Treat transplants as you would new seedlings - a deep weekly watering and regular weeding are essential. A ½ in. (1.3 cm) mulch of sawdust or straw keeps weeds down and conserves moisture.

## ***STEP SEVEN***

### **Nursery maintenance**

Apply a 3-4 in. (7.6-10 cm) mulch to the seedling and transplant beds in November before the snow falls. This will protect the roots from freezing and thawing and prevent frost heaving. Remember to apply mulch late in the fall and remove it early in the spring. If you have trouble with rodents, you may have to pull the mulch away from the



seedlings and transplants, or let some local cats patrol the area.

Overwintering container stock can be especially tricky – they do not have the large thermal mass of soil for protection. Containers can be moved into an unheated building (a garage or your front porch). If left outdoors, pack containers tightly together and place sawdust, seaweed or spruce boughs around the outside of the area to lessen frost damage to roots. They should be in an area that will collect snow, which is an excellent winter mulch. Snow fencing or spruce boughs can be used to trap snow.

Be a regular visitor to the nursery – this is the only way to avoid serious problems with underwatering, pests and diseases. Many insect and disease problems can be avoided by growing plants in healthy soil with adequate water. Plants that are undernourished, overfed or subject to repeated dry spells are prime targets. When absolutely necessary, look for organic insecticides that are the least harmful controls. Most of these will also kill beneficial insects, so use them sparingly.



Good record-keeping is an important part of nursery work. Seed batches should be labelled (species, when collected and where they are from) and beds should be marked to clearly show the species and age of the plant. A map made of the nursery to identify seedlings and transplants is also essential. Accurate records allow you to learn from your successes and mistakes.

After a few years of growing seedlings, you will probably want to develop new beds so that crops can be rotated. This will allow you time to plant green manures and add nutrients to beds so that seedlings always get off to a good start. It will also let you take care of weed problems before they get out of hand.



## ***STEP EIGHT***

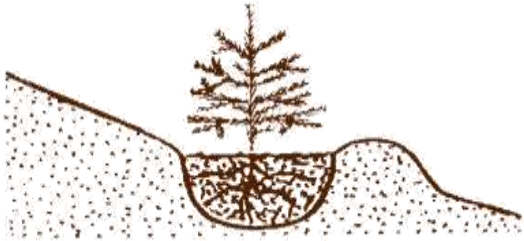
### **Outplanting finished stock**

This is the fun part, where all your planting and work pay off. Before deciding on a planting site, consider the possible ecological effects of moving a plant to the area. Will the plant be too successful and crowd out what is already growing? Can you transplant and not damage the roots of existing plants? Are you meeting the growing needs of the plant (amount of sunlight, water, soil conditions) so that the plant will be healthy?

Here are some potential uses and species that are suitable:

### 1. STREAMSIDE RESTORATION

How many of us have seen a favourite stream go from prime fishing habitat to silted, sluggish brook. These areas should be rich in wildlife, yet often are severely degraded. To



*When planting on slopes, especially into dry soil, put a half-circle of soil on the down-slope side to collect rainwater.*

restore badly eroded and silted streams, use species that grow quickly under difficult conditions and their roots will help stabilize the soil. Once the stream banks are more secure and the shrubs are providing shade, underplant a species such as yellow birch. Trees and shrubs planted in floodplains often have to tolerate wet conditions. Silver maple, eastern white cedar, balsam poplar, black ash, red maple, black spruce, red ash and others suit this purpose. Know how each species likes to grow – some tolerate shade while others prefer full sunlight.

### 2. IMPROVING URBAN LANDSCAPES

Trees can help convert unused and degraded urban areas into ecologically healthy and diverse parks, nature trails and “green spaces”; provide beauty and shade and reduce air pollutants. Red ash and red oak are excellent choices for city plantings, as park trees or planted along streets. Basswood, sugar maple, white pine, bur oak, red spruce and eastern hemlock are other trees that do well in urban situations such as recreation or natural areas. Shrubs such as alternate-leafed dogwood and mountain ash beautify areas and attract desirable wildlife. Red-berried elder and common elderberry make effective plantings- in July, the scarlet berries of the elder and the white flowers of the elderberry contrast with the dense green foliage.

### 3. SOIL PROTECTION AND CROP IMPROVEMENT

In rural areas, windbreaks and hedgerows slow the wind and help prevent soil erosion by wind and water. They also have a positive effect on crops, with yield increases of 5-40% commonly reported. Mixed plantings of conifers and deciduous species will also attract beneficial birds and insects. Species often used in these types of plantings include white spruce, red pine, eastern white cedar, mountain ash, serviceberry, hobblebush, honeysuckle and willow.

#### 4. ENERGY CONSERVATION

Sugar maple, red oak or white ash provide summer shade and reduce cooling costs when planted to the south of your home. Plant a windbreak with conifers and shrubs along the north side of your house to block prevailing winds and lower heating bills. A well-planned shelterbelt can also prevent snow from piling up around the house and on the driveway.

#### 5. RESTORATION OF DEGRADED FORESTS

Across much of the province, forests have been simplified and important components may be missing even in mixed wood stands. Underplant red spruce, yellow birch, sugar maple, white pine, and/or eastern hemlock, at rates of 5-10/acre (2-4/ha). Where pure softwood stands have replaced mixed forests, plant red oak and white ash in openings. Yellow birch and sugar maple grow well if the conifers provide shade. Some unusual

trees that can be added are black cherry, bur oak, hop hornbeam and basswood.



#### 6. WILDLIFE ENHANCEMENT

While all trees and shrubs have value for wildlife, certain species are favoured over others. They may provide food for rarer types of birds; offer a food source throughout winter and blossom early to provide dense cover for small mammals. The ideal is to have a diversity of deciduous and coniferous species, from low shrubs to tall trees. Learn about the needs of birds and mammals you want to attract, then plant appropriate species. Black cherry and eastern white cedar attract cedar waxwings, while hawthorns form a dense, thorny growth that provides a safe haven for many smaller birds. All the conifers (especially white pine) are desirable as wildlife trees. Choke cherry, serviceberry, wild raisin, willow, staghorn sumac, mountain ash, red-osier dogwood, beaked hazelnut, wild rose and nannyberry are also especially beneficial.

## 7. REDUCING GLOBAL WARMING

Windbreakers and other energy-saving plantings not only save money- they reduce the amount of fossil fuel that is turned to heat or cool homes and offices. This reduction means that less carbon dioxide, a major contributor to global warming, is released into the atmosphere. Trees also remove carbon dioxide from the air as they grow and release oxygen. Planting a mix of native trees and shrubs is an environmentally-sound way to achieve this goal.

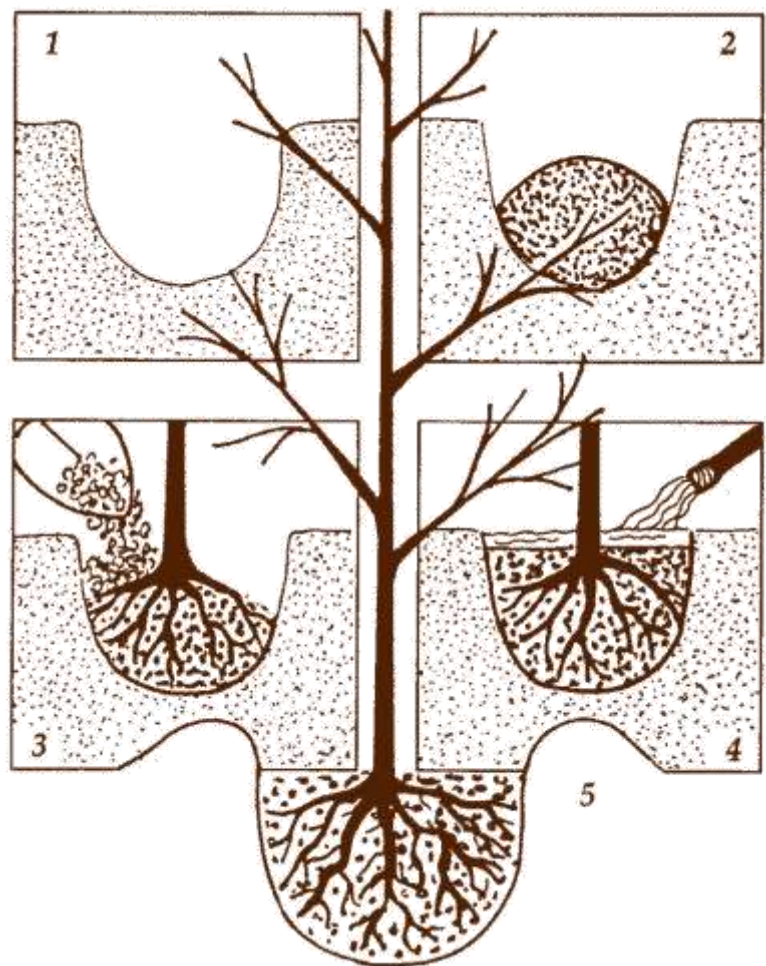
### ***BARE ROOT TRANSPLANTS***

The same care used in moving seedlings to transplant beds should be used in moving transplants to their permanent homes. The following illustrations give steps for bare root and container transplanting.

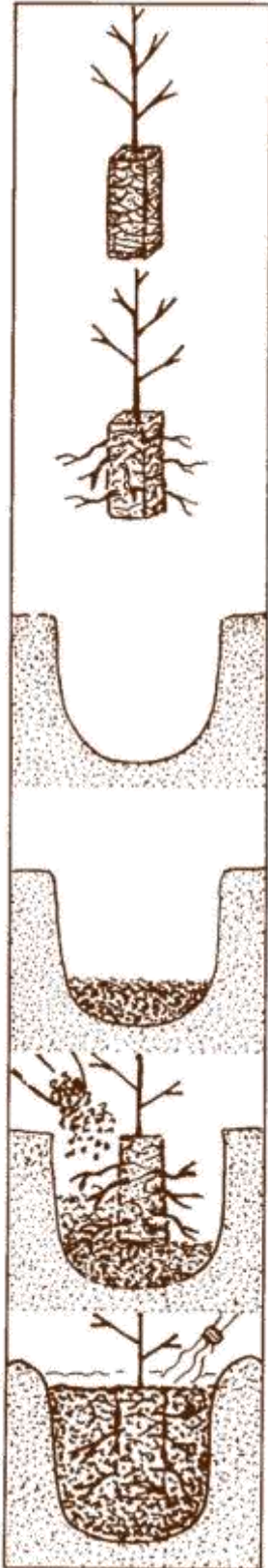
The tricks to successfully transplanting bare rootstocks are spreading out the roots and making sure that the depth is correct. Prune roots of small transplants so that none are longer than 6 in. (15 cm) and trim any that are circling the trunk and might eventually girdle the tree. Dig a hole 12 in. (30 cm) deep and at least that wide, roughing up the sides to allow easier root penetration. Place a ball of topsoil or compost and peat moss in the same hole and spread roots over this mound.

The transplant should be at the same soil depth or slightly higher than it grew in the nursery (look for a change in bark colour at the root collar).

Fill in the hole and tamp down well to remove air pockets. Water if possible and form a rainwater-collection basin around the plant. Fill this with a 3 in (7.6 cm) layer of leaf mulch or wood chips, keeping the mulch 3-4 in (7.6-10 cm) from the trunk to discourage rodents.



## ***CONTAINER TRANSPLANTS***



To remove the transplant, turn over the container and give it a good rap with the palm of your hand. Catch the root ball with your other hand as it slides down, being careful not to damage the stem. Prune any roots that are circling the trunk and might eventually girdle the tree. Using a screwdriver, pull some of the larger roots away from the ball to help stimulate new root growth. Dig a hole 12 in. (30 cm) and at least 2-3 times the container width, roughing up the sides to allow easier root penetration. Place topsoil or compost and peat moss at the bottom of the hole. It is critical that the transplant is at the same soil depth or just slightly higher than it grew in the nursery. Fill in the rest of the hole and tamp down well to remove air pockets. Water if possible and form a rainwater-collection basin around the plant. Fill this with a 3 in. (7.6 cm) layer of leaf mulch or wood chips, keeping the mulch 3-4 in (7.6-10 cm) from the trunk to discourage rodents.

For bare root stock, prune back about 30% of branches, taking care not to damage the leader. Container transplants do not normally need as much pruning, especially if they are young plants. Staking is usually not necessary with smaller trees, but if size requires it, use two stakes and rubber tubing or hose. Remove stakes after six months.

The more you know about the needs of each species of tree, the more successful your plantings will be. It is well within each of us to gain the knowledge necessary to plant trees and shrubs for a wide variety of purposes and the rewards are worth the effort.

Richard St. Barbe Baker, forester and founder of The Men of The Trees Society, put it very well when he said: “Who plants a tree loves others than himself.” In the spirit, make your plantings a celebration of the good work you have put into growing the trees.

## ***RESOURCES***

**Soil tests:**

New Brunswick Department of Agriculture, Aquaculture and Fisheries  
c/o Hugh John Flemming Forestry Centre, P. O. Box 6000, Fredericton, NB, E3B 5H1.  
Call (506) 453-3826 or Email DAAF-MAAP@gnb.ca for more information.

**Reading material:**

**American Wildlife & Plants – A Guide to Wildlife Food Habits**, by Alexander Martin. Dover Publications – the use of trees, shrubs and other plants by birds and mammals.

**Growing Trees in Small Nurseries**, by A. Dickson, Information Bulletin 68, NY State College of Agriculture and Life Sciences, Cornell University – very good, inexpensive source of information

**Growing Trees in the Home Nursery**, Bulletin 458 (revised), Cooperative Extension Service, University of Maine at Orono – another good source of information on small nurseries

**Native Trees of Canada by R.C. Hosie, Fitzhenry and Whiteside** – useful information and photographs of trees and shrubs

**Plant a Tree – Working Guide to Regreening America**, by Michael Weiner, Collier Books.

**Seeds of the Woody Plants in the United States**, Forest Service, USDA Agriculture Handbook No. 450, U.S. Government Printing Office – information on all aspects of growing trees from seed.

**Shading Our Cities** – ed. By Gary Moll, American Forestry Association, Island Press.

**Silvics of Forest Trees of the United States**, Forest Service, USDA Agriculture Handbook No. 271, U.S. Government Printing Office – a complete reference to where and how trees like to grow.

**The Man Who Planted Hope and Grew Happiness**, by Jean Giono, Friends of Nature (also available as *The Man Who Planted Trees*) – a wonderful story of hopefulness and the values of planting trees.

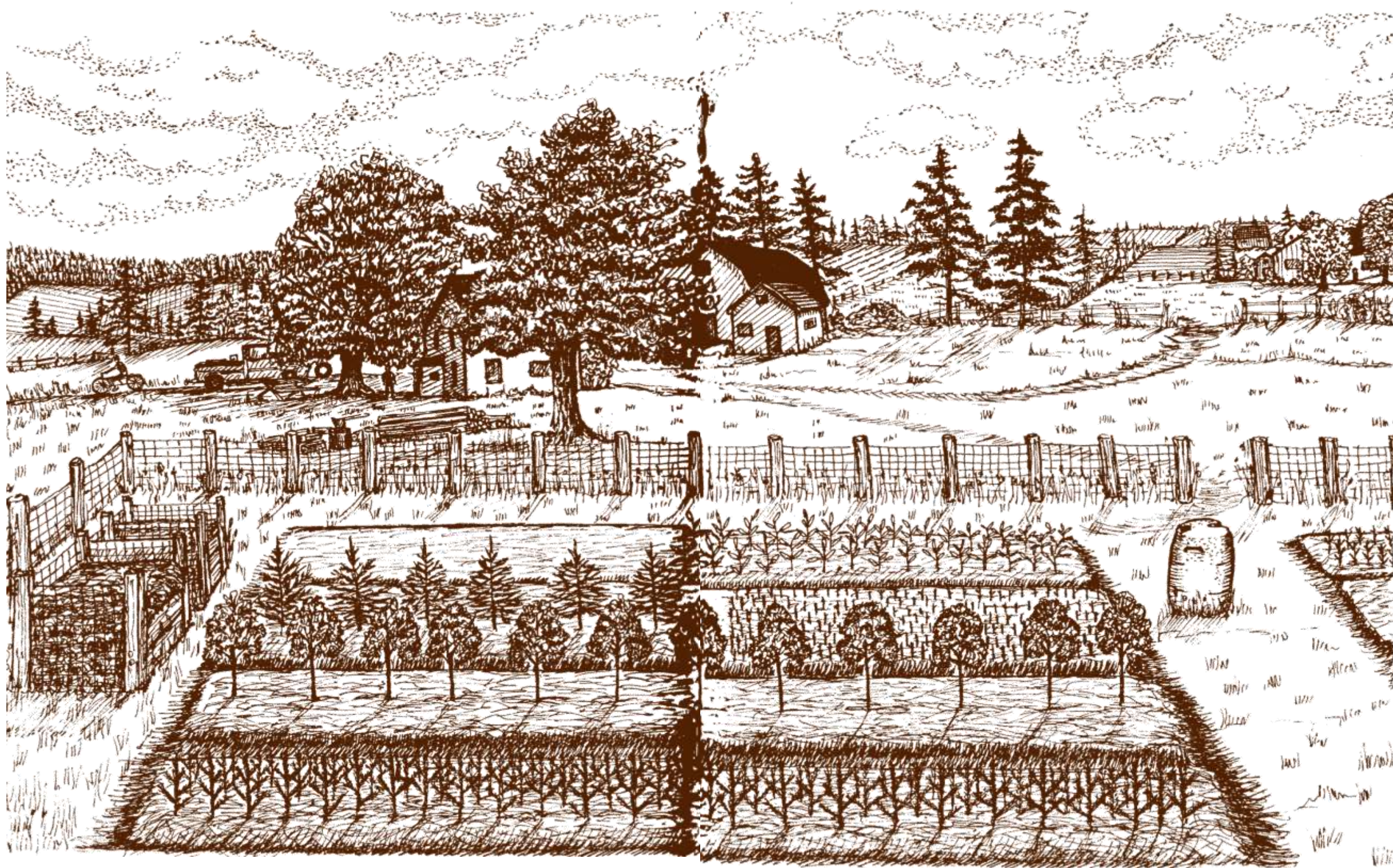
**The Modern Nurseryman**, by John Stanley, Faber & Faber – a readable book on nursery practices, including propagation by cuttings.

**Wildlife and Wildlands – What You Can Do**, by Gary Schneider, Environmental Coalition of Prince Edward Island – encouraging wildlife by treating your forests well.

Writing & Design: Gary Schneider

Artwork: Katherine Poole





*Community nurseries can vary in design, depending on many factors. Here is what one community nursery might look like. In most cases, beds will contain everything from seeds to large transplants, so that an adequate supply of trees and shrubs is always available. Containers can be used instead of beds.*