



Spring 2012 Tree Seedling Program



Ganaraska Region Conservation Authority Tree Seedling Program

The Ganaraska Region Conservation Authority (GRCA) can assist you in reforesting or planting additional trees on your property through our Tree Seedling Program. Seedlings are typically 2 or 3 years old, bare root, and are suited to the local Seed Zone 36. Seedlings provided through the Tree Seedling Program are not intended for landscaping. Seedlings can be planted by the customer or by the Ganaraska Region Conservation Authority. **For additional information and to inquire about additional seedling sizes or native species please contact Pam Lancaster, Stewardship Technician at 905-885-8173 x 247.**

OVER THE COUNTER TREE SEEDLING PROGRAM

- Customer must be willing to pick up and plant the tree seedlings.
- There is no tree survival guarantee on any tree seedlings.
- Order availability is based on nursery availability. Customers will be notified if ordered seedlings are not available.

Minimum Order

- There is a minimum purchase of 25 tree seedlings of 1 species.
- All orders must be placed in multiples of 25 per species.

Costs

All orders are subject to a \$20.00 shipping and handling charge, and HST.

Ordering

- Orders must be received by the GRCA no later than March 1, 2012.
- Payment is due when orders are picked up.
- Payment options: cheque (Payable to the Ganaraska Region Conservation Authority), Visa, MasterCard, Debit or exact cash.

Order Pick-up

Customers will be notified when tree seedlings are available for pick up (generally late April or early May). The pick up location will be the Ganaraska Region Conservation Authority Administrative Offices at 2216 County Road 28, Port Hope.

GANARASKA REGION CONSERVATION AUTHORITY PLANTING PROGRAM

- Trees will be planted by the GRCA at a cost to cover the planting and cost of seedlings. A down payment is required.
- A minimum of 500 seedlings is required.
- The landowner is responsible for having the planting site accessible.
- There is no tree survival guarantee on any tree seedlings.
- A signed "Landowner Tree Planting Agreement" is required before planting, where the landowner agrees to maintain the planted trees for a minimum period of 15 years.

CLEAN WATER – HEALTHY LAND FINANCIAL ASSISTANCE PROGRAM

Funding is available on purchases of 500 tree seedlings or more at a rate of up to 50% of the project cost, prior to taxes, to a cap of \$2,500.00.

Funding process/requirements:








- Submit a completed funding application prior to project initiation or purchasing (payment) of material. Projects already initiated or completed are not eligible.
- Only native species are eligible.
- Seedlings can not be used for the establishment of Christmas tree farms, orchards, or maple syrup bush.

For more information and additional funding requirements and opportunities please contact Pam Lancaster, Stewardship Technician at 905-885-8173 x 247.

Native Evergreen Conifers – All seedlings are \$0.50 or \$12.50 / 25 seedlings

– All transplants are \$1.35 or \$33.75 per 25 transplants









Evergreen trees when planted in a linear fashion to form windbreaks can help decrease the heating and cooling costs for your home, improve crop yields, improve livestock productivity, and reduce soil erosion. Typical windbreak spacing is 4 to 6 feet apart for cedar and up to 10 feet apart for spruce and pine. Planting evergreens is also a way to create a long term natural forest. Evergreens provide shelter for undergrowth species that will eventually create a natural diverse forest stand. When determining the age of the species a 3 year old seedling has spent 3 years in the seed bed. A 3-2 transplant for example has spent 3 years in the seed bed and 2 years as a transplant.

	White Pine (<i>Pinus strobus</i>) Appearance: Clusters of 5 soft, long needles. Smooth young bark; dark ridged mature bark. Site and soils: Best on well drained to moist sand and loams. Tolerates shade when young. Rural uses: Reforestation, timber plantations. Plant at 6 feet spacing. Can grow 2-3 feet/year once established. Plant under canopy of taller trees to help avoid white pine weevil problems. Grows well with red pine, maple, ash, and beech. Urban uses: Prune for landscaping purposes; sensitive to salt and air pollutants.	3 year old bare root seedling, 5-10" tall 3-2 year old bare root transplant, 12-18" tall
	Red Pine (<i>Pinus resinosa</i>) Appearance: Clusters of 2 brittle, long, shiny, dark green needles. Scaly, pinkish-gray bark, burrowed with age. Site and soils: Good on infertile, well-drained, sandy, gravelly soils. Needs full sunlight. Rural uses: Reforestation, timber plantations. Plant at 8 feet by 8 feet. Can grow 2-3 feet/year once established. Periodically thin to maintain health and growth. Grows well with white pine. Urban uses: Reddish bark is striking with dark green foliage; doesn't thrive in dense urban areas.	3 year old bare root, 6-12" tall 2-1 year old bare root transplant, 8-14" tall
	White Spruce (<i>Picea glauca</i>) Appearance: Short, whitish or bluish-green needles, typical "Christmas tree" form. Site and soils: Best on well-drained, moist silty soils. Tolerates poorly drained and heavy soils. Avoid dry sites. Tolerates shading. Slow initial growth, then 1-2'/year on good sites once established. Rural uses: Reforestation, timber plantations, Christmas trees. Plant at 8 feet by 8 feet, but thin periodically to maintain health and growth. Grows well with many species. Urban uses: Windbreaks, landscaping.	3 year old bare root, 7-12" tall 2-2 year old bare root transplant, 12-18" tall
	Eastern White Cedar (<i>Thuja occidentalis</i>) Appearance: Yellow to green scale-like leaves, turning bronzy-green in winter. Site and soils: Does well on many sites; dry, wet or shallow soils. Tolerant of shade. Rural uses: Reforestation, site restoration, wildlife plantings for browse and cover. Slow growing. Grows well with white pine, balsam fir, and sugar maple. Urban uses: Common as hedges, and windbreaks. Easily pruned.	2 year old bare root, 4-8" tall 2-2 year old bare root transplant, 10-18" tall
	Eastern Hemlock (<i>Tsuga canadensis</i>) Appearance: Flat, blunt, finely toothed needles with shiny, green top and whitened underside. Slender twigs, angled lead shoot; reddish-purple layers in outer bark. Site and soils: Various soils but best on a cool, moist, well drained site. Very shade tolerant. Rural uses: Found in pure stands or mixed with white spruce, white pine, sugar maple and beech. A late successional species - shade tolerance makes it best suited to under planting or stand conversion. Deer browsing damage is usually very high. Urban uses: Uncommon - not tolerant of urban situations which often include exposed sites, air pollution, heat extremes and compacted soils.	2 year old bare root, 5-10" tall
	Balsam Fir (<i>Abies balsamea</i>) Appearance: Short, dark green needles, arranged along twig for a flat branch effect. Very regular tapering form. Gray, smooth, young bark with resin blisters; brownish, scaly older bark. Site and soils: Adapted to a variety of soils. Very tolerant of shade. Rural uses: Reforestation, Christmas trees. Grows well in pure stands or with birch, white spruce or hemlock. Urban uses: Windbreaks, landscaping.	2 year old bare root, 5-10" tall
	Tamarack (<i>Larix laricina</i>) Appearance: Tufts of many soft, short, bluish-green needles; yellow and fall off in autumn. Thin, smooth, gray young bark; reddish-brown, scaly, mature bark. Site and soils: Grows best on moist, sandy soils. Tolerates wet, poorly drained sites. Needs full sunlight. Rural uses: Reforestation. Fast initial growth on good sites. Grows well in pure stands or with birch or spruce. Sensitive to chemical weed control. Urban uses: Uncommon, but has brilliant yellow autumn colour, light green spring colour.	1 year old bare root, 4-8" tall

Images from: <http://forestry.about.com> and <http://www.desert-tropicals.com/Plants>. Descriptions from "A Landowner's Guide to Putting Down Roots - Choosing the Right Tree" available from http://www.treecanada.ca/programs/urbanforestry/cufn/Resources_Canadian/ChoosingRightTree.pdf.

Native Deciduous Broadleaf – All \$1.05/seedling or \$26.25 / 25 seedlings

These hardwood trees can be used to establish new plantations, forests, or shade areas. Generally hardwoods are planted 8 to 10 feet apart. Hardwood species require extra care and time when planting, and require extra maintenance; please gauge your order accordingly. Also, some hardwood species maybe toxic to livestock. Species of note include red maple, walnut, cherry, and oaks.

	<p>Sugar Maple (<i>Acer saccharum</i>) 2 year old bare root, 12-18" tall Appearance: Deep yellow-green lobed leaves. Smooth, young bark; dark, irregularly-ridged mature bark. Site and soils: Best on deep, fertile, well-drained to moist loams. Tolerates shade when young. Responds well to thinning. Rural uses: Reforestation, maple sugar orchards. Grows well with white pine, hemlock and other broadleaf trees. Urban uses: Sensitive to salt and air pollutants.</p>
	<p>Silver Maple (<i>Acer saccharinum</i>) 2 year old bare root, 12-18" tall Appearance: Light green (lighter below), deeply cut leaves. Smooth, young bark; gray-brown, shaggy, mature bark. Site and soils: Best on deep, fertile, moist loams (withstands seasonally wet soils). Needs full sunlight. Rural uses: Reforestation, plantations for pulp and timber. Grows fast. Urban uses: Aggressive roots and brittle branches make it unsuitable to inner urban areas. Pale yellow autumn colour.</p>
	<p>Red Maple (<i>Acer rubrum</i>) 2 year old bare root, 12-18" tall Appearance: Light green (lighter below), lobed, toothed leaves. Smooth, young bark; gray-brown, scaly, ridged, mature bark. Site and soils: Adapted to a variety of soils - wet and dry. Best on moist sites. Tolerates some shade when young. Rural uses: Reforestation, plantations for pulp and timber. Urban uses: Common ornamental, brilliant autumn colour - deep red.</p>
	<p>Red Oak (<i>Quercus rubra</i>) 2 year old bare root, 12-18" tall Appearance: Dull green bristle-tipped leaves. Smooth, lined young bark; grooved and ridged, dark, mature bark. Site and soils: Best on deep, well-drained sandy loam. Tolerates drier conditions. Avoid heavy, wet soils. Tolerates some shade when young. Responds well to thinning. Rural uses: Reforestation, timber plantations, wildlife food source. Grows well with pines and other broadleaf trees. Urban uses: Large, attractive ornamental. Tolerates urban conditions.</p>
	<p>White Oak (<i>Quercus alba</i>) 2 year old bare root, 12-18" tall Appearance: Bright green, round, lobed leaves. Pale gray, scaly young bark; similar mature bark with a reddish cast. Site and soils: Best on deep, well-drained loams. Avoid dry or poorly drained conditions. Tolerates some shade when young. Rural uses: Reforestation, timber plantations, wildlife food source. Grows well with pines, hemlock and other broadleaf trees. Urban uses: Large, attractive ornamental.</p>
	<p>Burr Oak (<i>Quercus macrocarpa</i>) 2 year old bare root, 12-18" tall Appearance: Shiny, green, round lobed leaves; corky twigs and branches. Rough, furrowed young bark; deeply furrowed mature bark. Site and soils: Adapted to a range of soils - dry to moist, sand or clay. Tolerates some shade. Rural uses: Reforestation, timber plantations, wildlife food source. Grows well with pines, hemlock and other broadleaf trees. Urban uses: Tolerant of urban conditions. Large, attractive ornamental.</p>
	<p>Black Walnut (<i>Juglans nigra</i>) Appearance: Yellow-green compound leaves with 14-22 leaflets. Light brown, scaly young bark; dark, broad ridges on mature bark. Site and soils: Best on deep, well-drained, fertile sites. Avoid dry sites. Needs full sunlight. Rural uses: Reforestation, timber plantations, wildlife food source. Grows fast on good sites. Grows well with other broadleaf trees. Produces juglone, which can be toxic to some tree species (pines). Urban uses: Large, attractive ornamental; for larger green spaces.</p>
	<p>Black Cherry (<i>Prunus serotina</i>) 1 year old bare root, 12-18" tall Appearance: Simple, bright, shiny green leaves. Smooth, dark young bark with dash-like marks; dark, rough, scaly mature bark. Site and soils: Adapted to a wide range of soils. Needs full sunlight. Rural uses: Reforestation, timber plantations, wildlife food source. Grows well with other broadleaf trees. Urban uses: Attractive; white spring flowers and dark, scaly bark.</p>



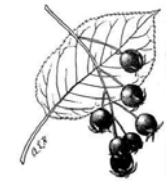
White (or Paper) Birch (*Betula papyrifera*) 1 year old bare root, 12-18" tall
Appearance: Simple, dull green, toothed leaves. Thin, smooth, dark red young bark; white, papery mature bark.
Site and soils: Adapted to a wide range of sites. Needs full sunlight.
Rural uses: Reforestation. Grows well with pines, spruce, poplar, balsam fir and sugar maple.
Urban uses: Common urban tree.



American Beech (*Fagus grandifolia*) 2 year old bare root, 12-18" tall
Appearance: Simple, dark bluish-green, toothed leaves. Smooth and skin-like light gray bark.
Site and soils: Occurs in moist, well-drained slopes and rich bottomlands. Slow growing and shade-tolerant.
Rural uses: Reforestation. Grows with sugar maples, birch and hemlock. Nuts provide forage for bird and mammals.
Urban uses: Common park tree.

Native Small Trees and Shrubs – All \$1.20/seedling or \$30.00 / 25 seedlings

Wildlife shrubs are an excellent source of food for birds and mammals. They also provide habitat and can be used to increase privacy on properties. Shrubs such as dogwood are also great for streambank stabilization and enhancement.



Shadblow Serviceberry (*Amelanchier canadensis*) 1 year old bare root, 12-18" tall
Appearance: Small tree; simple green leaves. Smooth, gray young bark marked by vertical lines; rough, scaly mature bark.
Site and soils: Adapted to a wide variety of sites. Best in moist to dry sites. Tolerates some shade. Best in full sunlight.
Rural uses: Reforestation, wildlife food source.
Urban uses: Showy, white flowers; small, shrubby or tree form.



Red (Scarlet) Elderberry (*Sambucus pubens*) 2 year old bare root, 6-12" tall
Appearance: Large shrub or shrubby tree; compound leaves with 5-7 leaflets; plump, red buds. Warty, gray-brown mature bark.
Site and soils: Adapted to a wide range of soils. Best in moist soils. Best in full sunlight.
Rural uses: Reforestation, wildlife food source.
Urban uses: White late spring flowers. Tolerant of air pollution.



Black (American) Elderberry (*Sambucus canadensis*) 1 year old bare root, 12-18" tall
Appearance: Large shrub or shrubby tree; compound leaves with 5-11 leaflets. Warty, gray-brown mature bark.
Site and soils: Adapted to moist to wet sites. Tolerates some shade. Best in full sunlight.
Rural uses: Reforestation, wildlife food source.
Urban uses: Fragrant; white early summer flowers; small shrubby tree form.



Nannyberry (*Viburnum lentago*) 2 year old bare root, 12-18" tall
Appearance: Large shrub or small tree; simple yellow-green leaves; blue-black autumn berries. Gray-brown, fine, scaly mature bark.
Site and soils: Adapted to a wide range of soils. Best in moist soils. Best in full sunlight. Tolerates some shade.
Rural uses: Restoration, wildlife food source.
Urban uses: White late spring flowers; shrub or small tree form.



Highbush Cranberry (*Viburnum trilobum*) 1 year old bare root, 12-18" tall
Appearance: Large shrub; lobed maple-like leaves. Smooth, wiry branches; rougher mature bark.
Site and soils: Adapted to moist sites. Best in full sunlight.
Rural uses: Restoration, wildlife food source.
Urban uses: White spring flowers; red berries; shrub form.



Red Osier Dogwood (*Cornus stolonifera*) 1 year old bare root, 12-18" tall
Appearance: Low shrub; simple leaf; bluish-white autumn berries. Smooth, red bark.
Site and soils: Damp lowland sites. Needs full sunlight.
Rural uses: Restoration, wildlife food source.
Urban uses: White spring flowers; small shrub; bright red winter stems.



Alternate Leaf Dogwood (*Cornus alternifolia*) 2 year old bare root, 12-18" tall
Appearance: Simple, smooth, margined leaf. Thin, reddish-brown young bark; shallow-ridged mature bark.
Site and soils: Best on moist loam soils. Tolerates shading.
Rural uses: Site restoration (roots readily to stabilize soils), wildlife food source.
Urban uses: White spring flowers; small tree form with flat layered branching.



Grey Dogwood (*Cornus racemosa*) 1 year old bare root, 12-18" tall
Appearance: Large shrub; simple, smooth, margined leaf; white August berries. Thin, reddish-brown young bark; shallow-ridged mature bark.
Site and soils: Best on moist loam soils. Tolerates shading. Best in full sunlight.
Rural uses: Reforestation, wildlife food source.
Urban uses: White spring flowers; small tree form with flat layered branching.

Tree Planting Tips

Careful planning, along with appropriate stock handling and follow up care of your newly planted tree seedlings, will help ensure that they survive and grow. Keep in mind where the tree seedlings are going to be planted and their proximity from structures, roads and utility lines. Below are a few planting tips courtesy of Trees Ontario on how to properly care for your trees.

Seedling density can be calculated as follows: Number of trees per acre = $43,560 \text{ (ft}^2\text{)} / \# \text{ of ft between rows} \times \# \text{ ft between trees in the row}$).

Handling and Storing Seedlings

- Do not allow the seedlings to dry out. Ample moisture is the key factor in seedling survival. Remember, "if they dry, they die."
- Transport seedlings carefully. Rough handling can damage root systems and predispose the seedlings to stress.
- Avoid temperature extremes. Fluctuations in temperature, especially excessive heat, during storage and transport can result in seedling trauma.
- Plant promptly. Once the seedlings are delivered, minimize storage time (especially early in the season).
- Do not open the bags until you are ready to plant, and reseal any partially used bags as quickly as possible.

Preparing the Site

- Tree seedlings require four basic elements to thrive: water, nutrients, sunlight, and room to grow. Grasses, weeds, and brush growing on the planting site threaten your new seedlings by competing for these basic requirements. Heavy vegetation also provides habitat for mice and other rodents that eat the bark of young seedlings.
- Good site preparation helps to reduce competition from unwanted vegetation, and also ensures suitable planting spots for your seedlings. Site preparation can also make tree planting easier.
- If possible remove or reduce existing grasses and competition through mowing, spraying or digging. Continual removal of vegetation will benefit the planted seedlings.

Proper Planting Technique

Planting can be done with a machine or by hand. No matter what seedling type, planting methods, or tools that are used, there are a few things that planters must do to plant a tree properly:

- For bare root stock, spread the roots out well and never roll them up in the soil.
- Place the seedling as upright as possible. Even on slopes, the tree should be no more than 10 degrees from vertical.
- Do not plant seedlings near water holes, stumps, or rocks.
- Plant the seedlings at the proper depth. For bare root seedlings, the root collars should be at ground level.
- Never leave roots exposed to the air, and never bury the branches.
- Do not trim or prune seedling roots. Seedlings need every single tiny root to absorb moisture and nutrients from the ground. The more root surface, the better the growth.
- Pack the soil well, but do not over pack it. Press gently but firmly to prevent shocking the roots. Air pockets can kill roots.
- Space the seedlings properly, considering existing trees and natural regeneration.
- Seedlings can be planted in a temporary nursery such as a vegetable garden so they can grow in size prior to being planed in their permanent location.

Ganaraska Region Conservation Authority Tree Seedling Program Order Form

How to Order

A completed tree seedling order form can be delivered to the Ganaraska Region Conservation Authority:

1. Dropped off at our office during regular business hours, Monday to Friday 8:30 a.m. to 4:30 p.m. at 2216 County Road 28, Port Hope
2. Mailed to P.O. Box 328, Port Hope, ON, L1A 3W4
3. Faxed to 905-885-9824
4. Scanned and emailed to plancaster@grca.on.ca

Orders must be received by Tuesday, March 01, 2012

Customer Information

Name: _____ Daytime Phone Number: _____

Property Mailing Address: _____ Postal Code _____

Email Address: _____

Municipality: _____ Total Property Size: _____

Watershed: _____

Order Information

Please refer to page 1 for order information and requirements. **Minimum order is 25 seedlings of 1 species with increments of 25 seedlings per species.** Please note that this is an order form, not an invoice.

Tree Species	Quantity	Cost/Seedling	Total Cost

Tree Species	Quantity	Cost/Seedling	Total Cost
Total trees and shrubs ordered			
Total cost of trees and shrubs ordered			
Shipping and Handling Fee			\$20.00
HST (13%)			
Total Cost			

Please check if you wish to receive a Clean Water – Healthy Land Financial Assistance application form (for orders over 500 seedlings)

Please submit this page and retain the rest of this package for your information