Planting native tree and shrub species

Most seeds need a period of dormancy, such as being frozen over winter, before they can germinate. Basswood and many shrubs need two winters in the ground before germinating. Planting immediately is preferable to storage – this mimics natural methods of growing seedings.

Prepare seed beds in advance of collecting time to avoid delays in planting. Beds should be well drained and as free of weeds as possible Proper planting depth is no more than three times the seed's diameter. Mulch seed beds over the winter with chopped straw, eelgrass or sawdust and remove early in the spring before germination takes place. Protect seeds, especially acorns and butternuts from rodents by using wire mesh screening over the beds.

Write or email the KAN Centre if you have suggestions or tips on growing specific trees and shrubs. Perhaps you have had good results using different techniques for storing acorns or maple keys. Please share your successes and failures. So that others can benefit from your experience.

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Trees and shrubs for seed is a publication of The Community Forest Restoration Nurseries, a project with the goal to restore the forests of the Wolastoq River Valley and Temperate upland forests of Western New Brunswick by planting and providing local tree and shrub seedlings

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Trees and shrubs from seed

Gathering, storing and planting

The Tree Project
Le projet arbre

Knowlesville Art & Nature Centre

Trees and shrubs from seed

Gathering seeds from New Brunswick's native trees and shrubs is one step in helping to restore a more natural environment. It can be as simple as collecting acorns from the ground or using a ladder to pluck cones from a nearby pine tree.

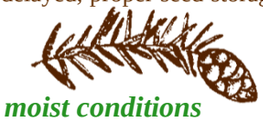
If you are interested in growing trees and shrubs for communities, farms or woodlots, gathering your own seeds is a good idea. Few native species are available from commercial nurseries. Planting these, especially rare and unusual ones, helps protect the natural diversity of our province.

You will need a good identification manual for trees and shrubs to make sure that, for instance, a Norway maple is not masquerading as a sugar maple. If you are unsure of any species, put a few leaves from the tree between sheets of newspaper and press with a stack of heavy books or collect twigs, fruit or flowers. Take these to anyone in your community with knowledge of trees.

When gathering seed, look for desirable characteristics – beech trees free of canker or butternuts with large seeds. Growth rate, frost hardiness, stem form, branch angle, and foliage colour can also be important but may depend on the geographic location of the parent. Try to gather seed from less than 100 miles (161 km) away and within 1,0000 feet (305 m) in elevation of final planting site. In cities, select older trees that are more likely to have originated from native stock. It is also important to harvest seeds from as many different parent trees as possible. In this way, you maintain diversity even within each species.

Seeds can be collected by any of the methods listed at the end of the accompanying chart, but avoid cutting off the ends of branches and other techniques that are harmful to the tree or shrub. Fallen fruits should be collected promptly to reduce losses to fungi, insects and animals. Fan rakes work well to knock down seed, or you can make something similar with a longer handle. Use pails, baskets or other containers to collect fruit or seeds. A sturdy ladder is often essential for harvesting seeds from taller trees.

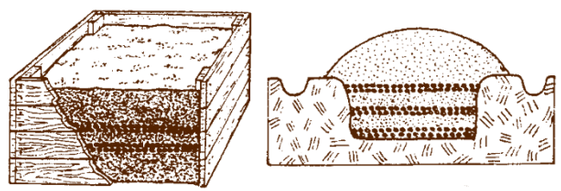
Keep good records of your collecting - area, type of tree or shrub, date of collection and condition of seed. Ideally, seeds should be planted soon after collection. When planting is delayed, proper seed storage is essential.



Storage under moist conditions

Some seeds need to be stored moist to ensure good germination. If seeds are dry, soak for 12-24 hours. Mix with a moisture-retaining medium (sand, peat moss, sphagnum moss, vermiculite, perlite, or composted sawdust). It should be well-moistened but not so that you can squeeze water out of it with your hands. Mix seeds in 1-3 times their volume of medium and place in an old apple bag or breathable plastic bag. These must be protected against rodents. Store at 32-50 degrees F (1-10 degrees C) and check regularly in the spring. When germination begins, sow seeds in beds, flats or containers. Do not allow seeds to dry out.

When large-seeded species such as oak are to be planted in containers in the spring, overwinter seeds in wooden boxes with 10 in. (25 cm) sides. Over a 3 in. (7.6 cm) layer of sand and peat moss, spread one layer of acorns. Cover with cardboard or burlap and top with another layer of sand and peat moss. Attach wire mesh to the top of the frame. Check regularly in the spring and plant when the acorns have just begun to sprout.



Large quantities of seed can be stored in a wooden box or a stratification pit. Double layers of butternuts or acorns can be covered with 1 in. (2.5 cm) of sand or sawdust. This can be repeated three or four times. Cover layers with 12 in. (30 cm) of sand or sawdust and protected from rodents with wire mesh. Plant these seeds early in the spring, before germination begins.

Storage under dry conditions

Other seeds, such as ash, maples and the conifers, can be stored dry. Place clean, dry seeds in a paper bag and store in cool area of the house with low humidity. A well-ventilated root cellar or cool room in your house will work fine.

	Species	Harvest	Collection	Seed Care	Extraction	Storage	Remarks
DECIDUOS TREES	Ash, black	Aug-Oct	2,3,4	2	1	dry	Moist will germinate in second spring
	Red or white	Sept-Oct	2,3,4	2	1	dry	Seed in samara should be firm, white and fully elongated
	Aspen, large-toothed	June	2	4	4	dry	Collect when capsules are green; plant seeds immediately
	trembling	June	2	4	4	dry	On bare, moist ground; seeds will quickly germinate.
	Basswood	Sept-Oct	2,3	3	1	--	Plant immediately – seed will germinate second spring
	Beech	Oct-Nov	1,2,3	2,3	5	Moist	Save seed from trees without beech canker
	Birch, White or yellow	Sept-Oct	2	4	4	dry	Collect when cone-like stobiles green to greenish-brown
	Butternut	Oct-Nov	1,2,3	2	5	dry	Remove husks if possible to aid drying
	Cherry, black	Sept-Oct	2,3	1	2	dry	Harvest when fruit is fully ripe; do not plant near orchards
	Choke	Late Aug	2,3	1	2	dry	As these species are host to black knot fungus that can
	Pin	Aug	2,3	1	2	dry	Infect other cherries and plums
	Elm, American	June	4	3	1	dry	Ripe fruit is greenish-brown; plant immediately
	Hop Hornbeam (Ironwood)	Sept	2,3	2	1	moist	Harvest before seedcoats completely harden
	Maple, red	Mid July	3,4	3	--	moist	Do not allow seeds to dry out; plant immediately
	Silver	Mid June	3,4	3	--	moist	Do not allow seeds to dry out; plant immediately
	Sugar	Sept-Oct	3,4	2	--	dry	Ripe seeds are yellow-orange
	Mountain and striped	Sept-Oct	3,4	2	--	dry	Shrubs to small trees
	Oak, bur	Aug-Sept	1,3,4	3	3	moist	Collect soon after acorns fall to the ground
	Red	Sept-Oct	1,3,4	3	3	moist	Collect undamaged green to light brown acorns, see box on planting
	Poplar, balsam	June	2	4	4	dry	See Aspen
	Willow, black	--	--	--	--	--	And all shrubs in early spring, plant 3.3ft. (1m) cuttings from healthy branches in moist soil
SMALL TREES	Cranberry, high bush	Sept	2	1	2	--	Plant immediately – seeds will germinate second spring
	Dogwood, alt. leaf	Sept	2	--	--	--	Sow immediately without removing pulp;
	Red-osier	Aug-Sept	2	--	--	--	Or can be easily propagated from cuttings.
	Elder, common	Sept	2	1	2	--	Plant immediately – most seeds will germinate in
	Red-berried	Aug	2	1	2	--	Second spring. Easily propagated by cuttings
	Hawthorn	Aug-Sept	2	1	3	--	Plant immediately – seeds will germinate in second spring
	Hazelnut, beaked	Sept	2	6	5	moist	Plant in November for best results. Wear gloves.
	Hobblebush	Oct	--	--	--	--	See Cranberry
	Honeysuckle	Aug-Sept	2	1	2	dry	Germination in second spring; also by cutting
	Mountain Ash	Sept on	2	1	2	dry	Plant directly without removing pulp
	Plum, Canada	Sept	3,2	1	2	dry	See Cherry
	Serviceberry	July-Aug	2	1	2	dry	May not germinate until second spring
	Staghorm sumac	--	--	--	--	--	Dig up suckers in early spring – sumac can be invasive, so plant where it will not cause problems in future.
	Wild Raisin	Sept	--	--	--	--	See Cranberry
	Witch Hazel	Sept-Oct	2	--	--	--	Store ripe fruits in paper bag until seeds are ejected. Sow by October

CONIFERS		
	Cedar, eastern white	Sept-Oct
	Fir, balsam	Late Aug
	Hemlock, eastern	Oct
	Larch, eastern (Tamarack)	Sept
	Pine, jack or white	Aug-Sept
	Red	Oct
	Spruce, black or red	Oct
	White	Oct-Nov

All conifer seeds are best collected from standing trees using a ladder and picking basket. Wire hooks are handy to pull limbs closer. Check a few cones for ripeness before picking more from the tree. Using a sharp knife, cut lengthwise through the centre of the cones. Seeds should be fully developed – white to yellow, with a enlarged embryo. Collect mature cones just before they open. Sun dry cones in tightly woven sacks or other container that can be protected from rodents. When cones open, shake out seeds and plant in beds, or store dry for spring planting.

Harvest

The harvest period differs fron year to year and from area to area even in the same year. Ideal growning conditions will speed up seed formation. Many trees do not yield heavy crops annually.

Collection

1. Pick from ground after natural seed fall. Shake branches or whole tree to remove fruit.
2. Hand pick or strip seeds from standing trees into container.
3. Flail, strip or shake onto old sheet, tarp, or collection net with fine mesh.
4. Rake or sweep from lawns, streets or parking lots after natural seedfall.

Seed Care

1. Extract seed from fruit immediately.
2. Spread out to dry in a single layer. Do not allow seed to heat, mold or ferment.
3. Keep in cool moist storage until seed can be sown or extracted.
4. Dry seeds at room temperature for 1-3 days in well-ventilated area.
5. Dry strobiles at room temperatyre for 10-14 days in well-ventilated area.
6. Gather when husks are slightly brown. Dry in the sun for a few days, protecting sed from rodents.

Extraction

1. Rub dry between hands or over screen, then fan or screen out debris.
2. Crush fruit by hand; mix with water; float off or screen out pulp. Seed can also be cleaned by crushing pulp and using a hose to wash mass over a screen. The screen, with a mesh smaller than the seed, allows some of the pulp to pass through. Surface dry and screen to remove remaining debris.
3. Float seeds in tub of water. Discard any that float – they are infertile or damaged by insects.
4. One day after collection, screen over ¼ in. (.6cm) wire mesh separate seeds from debris.
5. Remove husks by hand.