BUTTERNUT INFO-SHEET

COLLECTING, HANDLING AND PLANTING NUTS

Forecasting Nut Crops

- Look for seed crops every 2 to 3 years. More frequent crops may indicate hybrid trees.
- Forecast in the last week of June to first week of July.
- Look for small greenish bronze fruits half the size of mature fruit.
- Look for old male catkins that fall from the tree, 5 – 12 cm in length at peak pollen shed.
  Longer catkins may indicate a hybrid tree.
- Look for one or two nuts per terminal in most clusters, sometimes three to five, rarely more.
  Larger fruit clusters indicate possible hybrid trees.
- Look for early seed drop. These early seeds are usually wormy. If cut in two, often a weevil can be found inside, and the interior is black.

Collecting Nuts

- Collect from September to October depending on fall frosts.
- Fruits are oblong, 50 mm in length and consist of a thick pulpy husk surrounding a single, large nut (Round nuts are Black Walnut.)
- Fruits are yellowish green when ripe, but turn brown to black after fall frosts.
- Mature nuts are dark brown with hard woody shells enclosing cotyledons and a small, well developed embryo.
- The nut shells are deeply pitted with long, jagged ridges. The meeting point of the two shell halves is NOT prominent, as it can be in hybrids. (Walnuts have long rounded ridges. Heartnut and hybrids will often have smooth shells that are heart-shaped, or dull ridges, or flattened shells, or shells with a prominent ridge or flange where the two half shells come together.)
- Nuts will fall after the first heavy frost. They can also be knocked from the tree with a bamboo pole or picked from a stepladder. They can be gathered from squirrel caches.
- Crack a few nuts to check for embryo development. Good embryos indicate viable seed. Check for nuts that are wormy or black inside. Large numbers of wormy seed indicate a crop failure.

Handling Nuts After Collecting

Storage after Collecting: Do not store nuts in piles or tubs for an extended period of time, as they will heat up and damage the embryos. Temperatures from 50^0 C. (120^0 F.) to 61^0 C. (140^0 F.) are lethal to nuts. Piling also leads to lack of oxygen, and high carbon dioxide levels, which are also lethal.

Nut processing: Husks are easiest to remove when they are firm but slightly soft. If allowed to dry thoroughly, husks are almost impossible to remove. Some people have laid them in a driveway and driven over them with a small vehicle, to remove the husks. Tumbling in a cement mixer along with a few sharp fist-sized rocks will also do the trick. After cleaning, unsound seed can be separated by floating the nuts in water. Nuts that sink are sound, those that float are unfilled. This can be verified by cracking open a few nuts.

Seeds will germinate while still in the husk, but sometimes seed is treated with a fungicide to prevent damping off disease, and this is best done with husks removed.

Long Term Storage: Nuts should be stored at relative humidities of 80 to 90 percent and temperatures of 34^0 C. to 38^0 C. This is often done in an outdoor pit, buried 40 cm. deep in moist sand, and covered with a screen to prevent predation. As with most seeds, drying out will be lethal to the embryo.

Germinating Nuts

Nuts will germinate in the spring if sown in the fall soon after collection. They can also be stratified over winter and then planted in the spring, to reduce winter losses from predation. Stratification means that butternut has an embryo dormancy which can be broken by exposure to temperatures of 34^0 C. to 41^0 C. for 90 to 120 days. Burying in pits 40 cm. deep, over the winter will accomplish this. Alternately, nuts can be stratified in plastic bags, in which the nuts are placed in moist sand or moist peat. These can be placed in a refrigerator for the required period, but not in a freezer. It is important that in a refrigerator, the nuts are not allowed to dry out. Bags should also be opened to breath occasionally, to allow oxygen to replace carbon dioxide. Fungicide such as sulphur, captan or ferbam, are often applied to the nuts while stratification occurs, in order to prevent disease.

Planting Nuts

Nuts should be planted in moist loamy soil, 2.5 to 5 cm. deep. Often, predation by squirrels will prevent planting success. One landowner solved this problem by accumulating a number of tomato juice cans. He cut both ends out of the cans and burnt them in a leaf fire. He then placed them over the planted nuts, pushed them into the ground an inch or two, then squeezed the top closed. The nuts germinated and grew up through the squeezed top. Because the cans had been burnt, they rusted away in a few years, and did not interfere with the growth of the tree.

Grass and weed competition is a serious problem with trees. It is best to remove grass and weeds within 6 feet of the tree stem, with either herbicides (preferred) or cultivation. Mowing is of dubious benefit, except to discourage mice and voles. Grass and weeds compete for moisture and nutrients, and some can produce chemicals which affect the trees. These problems are not removed by mowing. Landowners have tried taking an old piece of carpet and placing it around the tree to smother weeds, and this has worked. "Brush mats" can also be purchased from commercial suppliers. Wood chips can be used if they are coarse enough to not harbour mice, and they are not piled up against the tree, which can cause disease in the stem.

Sources and additional information:

Creasey, K.R. A Seed Manual for Ontario: Guidelines for Tree Seed Crop Forecasting and Collecting, Revised, 1996. Ministry of Natural Resources, Ontario Tree Seed Plant.
Schopmeyer, C.S. Seeds of the Woody Plants in the United States. 1974. Agriculture Handbook No. 450, Forest Service, U.S. Department of Agriculture.
Von Althen, F.W. Hardwood Planting on Abandoned Farmland in Southern Ontario, Forestry Canada.

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