

Walnut Farming for Profit

Planning Your Orchard

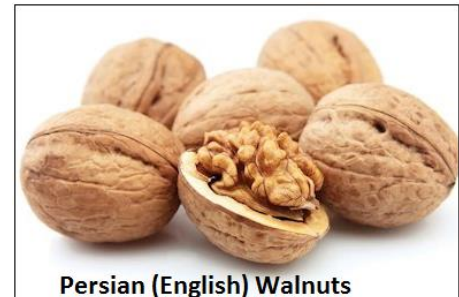
Regardless if you are looking for land to plant Persian walnut trees, *Juglans regia* or you already own land, you need to be aware of the climate, soil and the conditions and where walnut trees will flourish. You must focus on the hardiness and suitability requirements of your climatic region. Persian walnut trees are originally from Iran and Iraq in the mid-east, a relatively dry moderate climate, so they will do best in a similar North American climatic region. Some do best in a Mediterranean climate like California where winters are mild and springs have little rain and are frost free. The walnut, however, over thousands of years has adapted to greater extremes of moisture and climatic conditions in parts of the world where they were introduced.

The “silk road” that Marco Polo travelled, conducted trade from Roman times. The caravans carried silk and spices from the east to Europe in the west. There was no healthier, non-perishable food than walnuts for the traders who worked the route. Mid-east walnuts ended their journey as trade items at both ends of the journey, where they became adapted over the centuries to similar conditions at first, and then colder moister climates. Eventually walnuts were growing in more extreme climates in Asia and Europe.

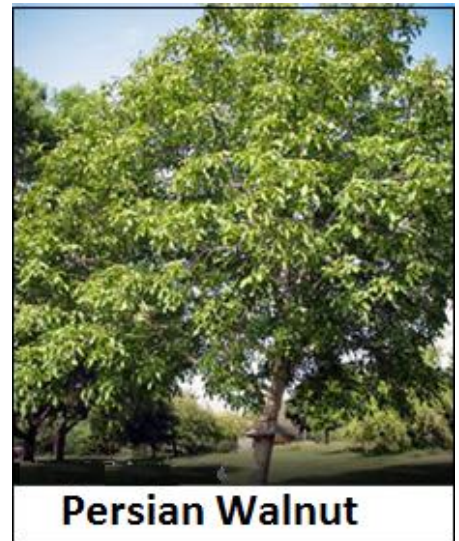
When they were brought to North America by settlers from Germany and Poland, some did well in the climates of eastern US and mild regions of Canada where tender fruit was grown commercially, like the Niagara Peninsula and the Okanogan Valley in BC.

Paul Crath, an immigrant from Poland noticed that the climate of Ontario was similar to the conditions from his native region of the Carpathian Mountains. He went to his homeland and brought back several tons of walnuts which were distributed across Eastern Canada and the United States. These walnuts became known as “Carpathian” walnuts, a name that has spilled over to include any hardy source, whether it was Poland, Germany or Southern Russia. We call them all by the name given as the land of origin of the species, “Persian” walnuts. Contacts in Russia, Denmark and Sweden speak of hardy strains that grow in their countries, in colder climates yet. The search for the hardiest walnuts has not ended, even today.

At the Grimo Nut Nursery, we have planted seedling and grafted walnuts from all over the world, including China, the Himalayas of India and much of Europe. We even planted ‘Chandler’, a cultivar from northern California. It was a surprise that it died back every year and after 4 years in the ground, it finally died completely below the graft. Such is the difference between walnut strains. We have gained a great deal of experience from our cultivars. Our best have shown that they are productive, relatively hardy, walnut blight resistant and drought tolerant. These are the trees we use for our seed and seedling trees as well as the ones we graft. Our seedlings often share the finer characteristics of the parents.



Persian (English) Walnuts



Persian Walnut

Even after the Carpathian walnuts were introduced by Paul Crath, and the hoopla died down, the walnut did not make the success that was expected. Conditions in Southern Ontario were not the same as Eastern Europe, even though they are in the same climate zone. Winter warm spells and late spring frosts are more common here. Walnut trees tend to lose hardiness faster in the spring than their better adapted cousin, the black walnut, making the flowers in the terminal buds susceptible to injury and tip dieback.

In California, conditions in spring are dry, so walnut blight, a bacterial disease that infects the walnuts, does not create problems for their walnut production. In Southern Ontario, spring rains are common and so walnut blight is able to move through the rain splash to infect the nuts and turn them black, spoiling them. Copper sprays are necessary to control this disease. Blight resistant trees can make the difference between a good crop and a poor one.

Several years ago before irrigation was installed at the Grimo Nut Nursery, a long summer and autumn drought caused the leaves of some of the walnut trees to drop in mid-August. These weakened trees died back to the trunk after the next winter. They have taken years to recover and are still not strong. It was easy to see that it was a cultivar effect. Other cultivars showed no sign of distress throughout the drought period or the subsequent winter. These super trees are the ones that we have included in our cultivar list as the best adapted. For commercial purposes, we still consider them best for zones 6b-7 and near enough to a large body of water, where moderated winter conditions and a degree of spring frost protection exist.

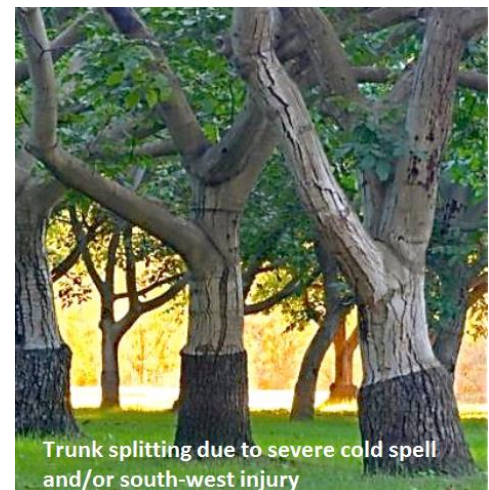
Wind machines that are used in the wine growing regions are an alternative that can allow growers to utilize cheaper land outside of the frost protected climatic areas. Each machine can protect the tender flower buds over a 5 acre area for several degrees of frost. The cold frosty air is moved out allowing warmer air from an above inversion to drop down and take its place, removing the frost threat to the flower buds.



Machines For Frost Protection

Over the millennia the Persian walnut's cousin, the native black walnut has adapted to the North American climate extremes. The walnut in its somewhat more even Eastern European climate has never needed to adapt with a thick corky outer bark to resist unusual cold and south-west injury.

The Persian walnut has a shorter winter dormancy period than the black walnut. Warm winter spells can cause sap to flow up the warming south side of the trunk on a sunny day. As dusk settles in, and the air temperature drops below freezing, sap that remains in the trunk cannot return to the protection of the roots quickly enough. The sap is frozen in the bark, splitting it. This condition is called south-west injury. It can take years for this open wound to heal and it shortens the life of the tree. Glossy white latex paint smeared on the trunk before winter, reflects the heat from the trunk and so protects it from splitting. A car wash mitt does quick work of spreading the paint.



Trunk splitting due to severe cold spell and/or south-west injury

Persian walnut trees suited to Southern Ontario are capable of

enduring short periods of -30°C (-20°F) or more but only when fully dormant and in good health, otherwise they are subject to dieback or bark splitting. Early winter or late winter cold spells could also cause these problems.

All walnut species bear their female flowers in the terminal buds. Some rare walnut trees are lateral bearing, that is, a few buds behind the terminal on the new growth have female flowers too. The terminal buds leaf out first in the spring ahead of the lateral buds, exposing them to injury from late spring frosts. The later leafing lateral buds can still produce a crop. This characteristic is secondary to other more important ones that we list.

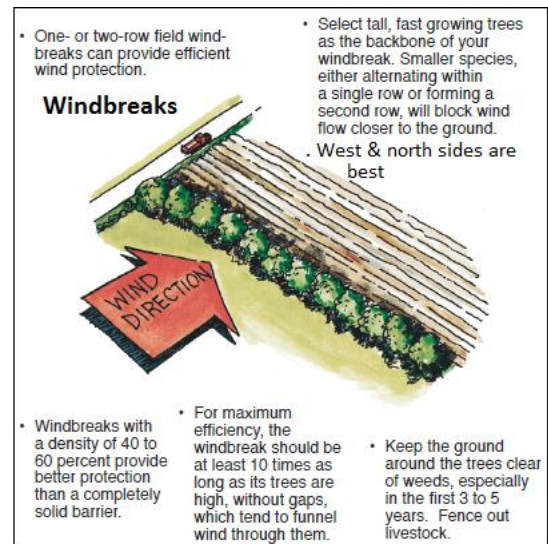
Black walnut has survived because it has evolved the practise of leafing out 2-3 weeks later than most other wild trees, including the Persian walnut, and so avoiding damage to flower buds.

Your Bucket List

Choose land that is gently sloping without low spots where water can collect and pool. Persian walnut trees grow best in well-drained, deep, fertile, moist loam to sandy loam soil with good aeration and a soil pH of 6 to 7. Do not plant in heavy clay soils and soils with a pH below 6. If the pH is too low, it should be raised with an application of agricultural lime. Soil test should be done annually to address the fertilizer and pH needs. The land should be in an appropriate climatic zone, preferably where commercial tender fruit growing and some protection from late spring frost exist.

Once the land selection is in place, the first things on your list are to;

- 1 Plant a windbreak on the north and west sides,
- 2 Plan the row layout,
- 3 Consider the location of field tile lines,
- 4 Identify the water source for irrigation and
- 5 Learn about the soil by testing it to determine soil fertility and pH, so proper amendments are made before planting.
- 6 Determine what was planted on the land the previous year. What herbicides were used and do they persist in the soil? If so, they may affect newly planted orchard trees in negative ways. Atrazine, for example, can persist for more than one year.



Cover crops, planted a year in advance also called green manures, are a great way to add nitrogen and humus, improve soil aeration and texture, and encourage microorganisms as well as earthworms. Earthworm tunnels are nature's soil aerator allowing tree roots to obtain the water vapour and nutrients they need. The cover crop can be turned under prior to planting to improve soil quality and health.

Tile Drainage & Irrigation

Most soils will benefit from the installation of a tile drainage system and it should be in place before planting. Aside from the benefits to the trees, tiling will make the soil conditions better for all orchard work by preventing tractor ruts or tracks, and wet spots. It is important to maintain relatively smooth, level ground for orchard work and harvesting. Tile drainage spaced between the rows, and not under where the trees will be planted, will drain excess water from the orchard. Tile contractors can be a year behind in getting to your job, so planning ahead is essential. It also helps to order trees a year or more in advance for large plantings.



Laying the Field Tiles Between Rows for Trees

The spring and summer of 2016 will long be remembered by some as the year to have irrigation in place at planting time. The 3 months of drought from May to mid-August left some newly planted orchards in distress or dead. Plans need to be made for providing water. If a good well or other water source is not available then a pond will need to be dug. This is best done when the tiling is installed. Place the pond at the low end of the slope and have the tiles feed into it, and then out again into the outlet for the tile system. An outlet is needed to prevent the water from backlogging the tiles or overflowing the land when the pond is full. Water that is used during the dry periods would be replaced by the tile drainage system above the pond the following winter.



Above Ground Drip Irrigation

If a pond is your only source of irrigation water, be sure to make it large enough. If land is at a premium, go deeper. To put one inch of water on one acre of land in one application will take 27,000 US gallons of water. In a dry year, you may need to apply water at crucial times, possibly 3-6 times or more. If only the tree row is watered with a drip system, about 10 times less water is needed to sustain the same acre. Irrigation specialists should be consulted before pond construction begins to determine your pond requirements. Also consult a pond specialist for natural ways to control algae that will invariably form. Of course, fish can be added too. There is a grant for farmers to install ponds. Apply to: Ontario Soil and Crop Improvement Association, Telephone: 1-800-265-9751, Fax: 519-826-4224, www.ontariosoilcrop.org.

Once the pond or water source is chosen, arrange with an irrigation contractor to install your system. It would best done before or as soon as the trees are planted. We favour underground drip irrigation as a system that is most efficient for water use. Surface drip is also good. If there is no shortage of water then underground pop-up sprinkler systems are next best. A temporary system is one that uses overhead irrigation. Once the trees are too tall for an overhead system then it needs to be replaced.

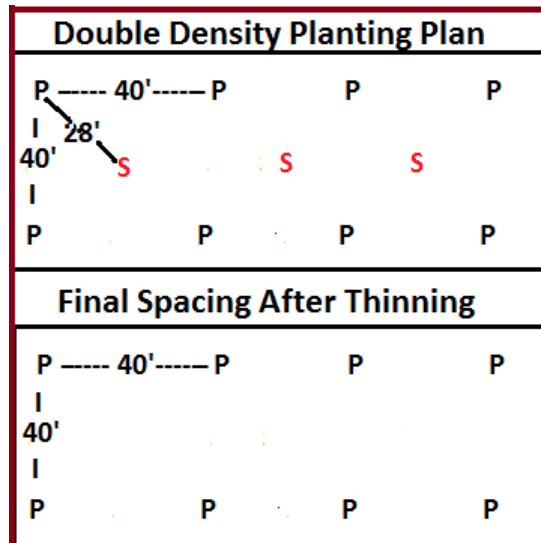
Spacing Walnut Trees

Persian walnut trees are medium size trees. They reach a height of 11m-17 m (35'-55'). In Ontario we recommend a final planting space of 12 m x 12 m (40' x 40') or 27 trees per acre. An option is "double-density". This means planting double the number of trees in each row. For double density, a tree is planted in the centre of the 40'x40' square (S trees), requires 54 trees per acre. As the trees begin to crowd by 15 or more years, intermediate trees can be removed. By planting double density, the costs are higher upfront, but the return is

also earlier since the trees should be starting to produce commercial crops in 6 years, and thinning crowding trees out could take up to 15 years. Another option is to plant an intercrop while the trees are small. Suitable temporary crops could be strawberries and other berry crops or even soybeans and vegetables in the early years.

It is possible to plant only seedling trees or a mix of grafted trees and seedlings. If grafted trees are used, they should be the (P) trees. Walnut trees are partially self-pollinizing. For best results, we recommend 2 main crop cultivars and 2 matching pollinizer varieties. We suggest 2 rows of a main cultivar like 'Young's B1' or 'Combe' followed by a pollinizer match like 'Broadview' or 'Sejnovno', our only two pollinizers for all of our other cultivars.

We can't match seedling trees because they will only show their pollinizing state when they mature.



What Trees Should You Plant? Seedlings? or Grafted?

Grafted trees have a track record from previous performance so they are always a good choice since they are selected for important characteristics including the following:

- **Nut & Kernel Quality:** The nut should be medium to large size and well-sealed. The meat should be well filled, without shrivel and with a light golden color. 50-55% nut meat is ideal. The shell should be easy to crack but harvested and handled without breaking too easily.
- **Production:** A good selection should be early ripening (mid- September to early October), and heavy annual bearing. Lateral bearing character would help to increase production.
- **Hardiness:** Good selections need to be late enough leafing to avoid flower damaging frosts and survive exceptional winter conditions with minimal damage.
- **Walnut Blight Resistance:** Cultivars or seedlings, even in blight prone years, that get much less blight damage on the nuts are preferred. This can be the difference between a good year and a bad one.
- **Drought Tolerance:** A prolonged dry spell can test walnut trees for endurance. A heavy crop and 2-3 months with little or no rain can cause severe stress on walnut trees that are not irrigated. Some trees will drop leaves mid-summer to compensate. These same trees often will finish the crop and have severe dieback the following spring, losing major limbs. Drought tolerant trees will hold the majority of the leaves and survive the winter unharmed.
- **Delayed Leaf Drop:** Some walnut trees drop most of their leaves before the nuts have all dropped. The leaf litter that covers the nuts can make the rest of the harvest difficult. When these trees are known, it is wise to shake these trees before leaf drop and so complete the harvest. Damage can be caused to the trunk if a tree shaker is used too early, before the bark firms and tightens to the trunk. It is usually safe to shake the trees after the middle of October. However, the favoured trees are those that hold most of the leaves on the tree until the nuts are all down or until a severe frost hits.

The cultivars in the website are described with these characteristics in mind. We recommend using these grafted selections as the trees in the (P) sites of the planting plan. The (S) sites can be seedling trees.

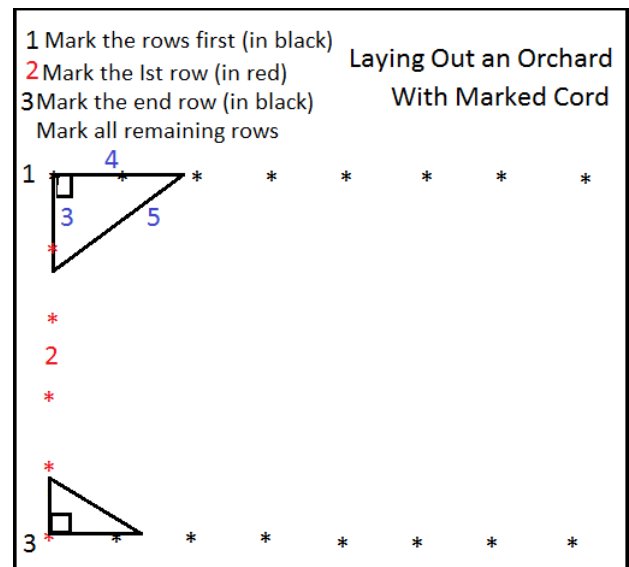
However, it is possible to plant all seedling trees, provided that the seedlings are from cultivars that are superior for producing good off-spring. The chances of getting good trees on the (P) sites are far greater when improved parent genes are utilized. It is always possible to replace a poor (P) seedling with a grafted one in the early years or later when bearing, poor trees can be replaced by tree spading in a good (S) tree.

If you are planning a large orchard, we need to know at least a year in advance, possibly two, so we can have enough trees for your planting. We can then offer you grafted trees in the numbers and cultivars needed.

Plan Your Field Layout

After grading the land if necessary, cultivating the field and preparing the soil for planting, you will need to mark the tree spaces in advance. This is an important step in establishing the orchard. Establish how far in from the edge of the field the tree rows will be first, and then mark the four outside corners of the planting, allowing for tractor turning and other management activities. The most accurate way to lay out an orchard is with a surveyor's transit and compass or a laser guidance system.

For do-it-yourselfers, the next best way is to prepare a cord or rope with markers (e.g. colored tape) for each distance the rows will be apart (i.e. 20 feet). If a single density planting of 40' x 40' is used, then the markings need to be at 40 feet. DO NOT USE NYLON CORD - it has too much "give." Binoculars would be useful to ensure straight lines.



- 1 Lay out the base line first, marking where each row will go with flags or stakes.
- 2 Then lay out the first tree row at right angles to the base line ensuring that it is straight and true. The "3,4,5" triangle or multiples of this form can be used to create a 90° angle for your tree row.
- 3 Go to the end of the field or your rope length and repeat the row spacing with markers, completing a square. Use the 3,4,5 triangle as needed.
- 4 Move row by row across the field marking all of the tree locations with coloured flags or stakes. Place a different second stake or use an up-side-down paint mark near the planting site. Once the hole is augured, the stake may be lost, so the necessity of second marker. The colour coded paint mark near the stake will ensure that mix-ups can't occur. Be sure that the planters are all familiar with this.
- 5 Repeat the 1-4 routine as needed to complete the whole field.

Planting

Once the trees arrive, be sure to keep the tree roots wet at all times. Cover the roots with wet blankets and store in a in a cool dark but above freezing place until planted. If necessary, they can be "heeled in" on the north side of a building or in a shady location. Dig a shallow trench, lay the tree bundles in and cover all exposed roots with soil. Roots need protection from freezing conditions, so be aware for storage situations.

When everything is marked it is time to plant. Bare root trees are labelled and bundled and ready in April to be planted. All grafted trees will have an identification tag.

Our growers have implemented various planting methods. You can use a 20 inch auger, but be sure to weld a piece of metal or something similar that will scratch the side of the hole to avoid leaving a glazed edge on the hole that prevents water and roots from penetrating. Auger the hole only as deep as the tree needs. Going too deep will cause the tree to sink as the ground settles, leaving it in a "sink hole". Hand digging is a good option but this requires lots of shovels and hand labour. The fastest way is with a tractor mounted tree planter equipped with a planting distance marker. Planting contractors can be hired to perform this task.



When planting, you can add ½ cup bone meal or superphosphate to the soil that is backfilled into the hole. This helps to stimulate root growth and won't burn roots like a fertilizer with nitrogen will do. Once the hole is backfilled, the roots should be well covered and you can gently tamp the ground around it, but do not stomp or you can damage the roots. Plant the tree so that the root collar is covered. Top side roots should be about 5 cm (2") below ground.

It is important that the bare root trees are not left in the sun or wind. Both elements can dry out the roots and begin to kill the trees before you have even planted them. Wet the roots of the trees before taking them to the planting area and only take as many trees as can be planted within a half hour. When planting, keep the trees covered in a wheelbarrow or enclosed trailer or a trailer covered with a large wet blanket. Only pull the trees out from this protection when ready to place in the hole.

Be sure to have enough help. A planting method such as this works well:

- Person 1: augers the holes.
- Person 2: Plants the trees. Several planters will be necessary.
- Person 3: waters the tree.
- Person 4: puts on a layer of mulch about 2-3" thick and 2- 3 feet in diameter. Two or more workers will be needed.
- Person 5: puts on a tree shelter or stakes the tree if necessary.

There are companies that offer a fertilizer to help reduce tree shock. You can add this to your first watering if you would like. Check with your local farmer's co-op for what is available.

Mulches can vary but are essential to keep weed and grass competition away from the roots. Mulch also keeps the water from evaporating so the roots can absorb more from rain or irrigation. It will also help reduce or eliminate hand weeding during the summer months, a normal necessity. A wood chip covering of 8 cm (3") works well. Biodegradable or plastic squares held down with 6 inch sod staples can be used to prevent any emerging weeds for season long control. Earthworm activity is enhanced under any form of mulch, enriching and aerating the soil, an added benefit.



Tree shelters are optional, but many growers find;

- that leafhoppers are less problematic,
- they protect from wind,
- they help keep rodents away in the winter,
- they keep herbicides off the tree when spraying.

A tree shelter that is one foot or so over the height of the tree promotes upright growth and suppresses side branches that may occur low on the graft. It is important in the first and second year to check for sprouts that may come up from the rootstock early in

the season. These need to be removed if they occur to prevent the rootstock from overtaking the graft. Growers also report that the trees have a better start each spring compared to those without tree shelters.



Irrigation

It is important to ensure the trees are properly irrigated in the first summer. The trees are not established and will quickly die or be stunted in a drought. Hand watering is labour-intensive and sometimes ineffective. It is a wise choice to install drip lines as soon as the trees are in the ground. An emergency temporary surface system using thin walled 3/4 inch black poly pipe can be laid out along the rows near the trees. A special punch can be used to insert several emitters at each tree location. A simple garden hose at 40-50 pounds pressure can be connected to water a whole row at a time. Be sure to have a filter in the water line. This system is relatively inexpensive and parts are available at *Zwart Systems in Beamsville, Ontario also at *Vandenbussche Irrigation in Delhi, Ontario or *Heartnut Grove Ltd in Mount Brydges, Ontario. They can assist you in setting up a complete system.

Watering twice a week should be enough but this can be modified if there is a rain of 10 cm or more. Be sure that enough water is reaching the roots by digging down near a tree and observing if the water is wetting the earth in the root zone. This can help you decide how long to water each time. A fertilizer injector can be used to fertilize while watering.

Follow Up

Once the trees are planted and all of the tree needs are established, the orchard floor needs your attention. Plant material is needed. We prefer a grass that can stand some traffic along with clover or other nitrogen fixer. We also like a grass that is not deep rooted so it doesn't compete with the tree roots. Dwarf perennial rye grass has been suggested as a suitable ground cover. A grass surface is ideal for a harvester that sweeps the nuts from the ground and it keeps the dust that the harvester creates, down. We use a modified Savage pecan harvester for our harvesting.

In preparation for planting a grass cover, the orchard needs to be disked and harrowed to get it smooth and free of pot holes and tractor tracks. Rocks that would damage a mower should be removed. The cover crop of grass seed is then ready to be spread. Once the grass is growing well, the surface where the driplines are placed need to be kept weed free. A non-selective weed killer and a longer term weed control product can be used to control the growth in the tree rows. Avoid spraying close to the trees the first year, presuming no mulch or tree shelter was added.

The rest of the first year requires scouting for problems, irrigating, mowing, and row weed spraying. Look for insect and animal damage, poor tree colour and any other unforeseen problem. Tree spraying may be necessary to control aphids, leafhoppers, caterpillars and invasive species like the Japanese beetle that has become a serious pest in Ontario. Orchard grass should be kept short to remove foliage cover allowing predators like hawks and owls to reduce populations of moles and mice and rabbits that can be tree pests. Put up raptors nesting sites to encourage them to nest and raise young.

Future Follow Up

Once the tree shelters are removed, we recommend coating the trunk with white high gloss latex paint in the fall. This will prevent bark splitting that is caused by “south-west injury”. You can put it on with a brush but the fastest way is to use a car wash mitt and put it on with a rubber glove under the mitt to keep your hand clean.

In March on a sunny day, when there is still snow on the ground and the temperature goes above freezing, conditions are set up for south-west injury. The warming southern side of the trunk is stimulated by the sun’s rays reflecting from the snow. Sap begins to rise up the tree. As the day progresses and the sun sets, the air temperature drops below freezing again. The sap has not had enough time to return to the roots and freezes in the trunk, splitting it.

The white paint reflects the sun’s heat from the tree so it doesn’t heat up and the sap remains in the roots.



White Paint Protection

It is advisable to get a farmer’s spray license if you don’t have one now. Go to <https://www.opec.ca/> and find all of the information you need to know. The spray materials that you can use on Persian walnut trees are listed in *Publication 360-Chapter7, Tree Nuts Walnut Calendar*.

<http://www.omafra.gov.on.ca/english/crops/pub360/p360toc.htm>

If oblique banded leafroller is a common insect problem in your area, you should scout your orchard from the time new growth appears until September. This insect will lay eggs on new growth in the spring. The eggs hatch and feed as they tunnel into pith of the new growth. The support for the new branch fails and the limp new growth dies. Sprays should be applied if the problem becomes serious. Other pests are mentioned in the spray calendar as well as their controls. If problems arise, consult the Ontario fruit spray calendar.



Oblique banded leafroller

Walnut blight *Xanthomonas arboricola pv juglandis* is a bacterial disease that makes the walnuts fall prematurely. Late season infections turn the nuts black and they fall with the main crop. Hand removal is necessary. The blackened hull sticks to the shell of the nut and makes the meat dark, shriveled and spoiled. Rain spreads this disease so sprays are needed ahead of expected rain for control. We select carefully for trees that are resistant to this disease, but some sprays are still recommended. Black walnut and its hybrids are often resistant as is the heartnut and butternut.



Walnut Blight infection

All walnut species trees are affected by the larvae of the husk fly, *Rhagoletis complete*, but the Persian walnut is the worst affected. On black walnut or heartnut, the nut meat is not damaged, so spraying is not necessary. On the



Walnut Husk fly
Note the wing bands

Persian walnut, the early infestations cause the nut meats to be blackened and destroyed. Later infected nuts reach maturity with blackened husks and dark shells. The nuts are usually useless. Whole crops can be destroyed if controls are not used. To monitor the pest, green balls covered with Tanglefoot™ will catch the insect. When it is detected, it is time to spray. It is not necessary to spray the whole tree if an attractant like black strap molasses is used. Spraying the lower limbs is enough. The flies feed on the sugar and ingest the poison. Egg laying begins when the surface of the husk begins to soften. Spraying should begin about mid- July with 3-4 sprays about 7-10 days apart for good control.



Husk Fly Damage, Soft Watery Husk

Some effort will be needed especially in the winter and spring to reduce deer damage if the population is high. Encourage hunting in deer season and get a gun acquisition licence and a license to hunt too. Put out the human scent in the form of strong deodorants or perfumes on small sponges or tie small bars of aromatic soaps like the ones used in motels and station them around and within the orchard tied to branches. Renew them as needed. Deer equate these aromas with the human scent. A dog trained in a dog fence perimeter can also be a deterrent and a more determined control is a deer fence around the perimeter of the planting.

Rabbits and mice can be a problem in winter when food is scarce. They will chew on branches, buds and bark. A tree shelter will help to keep them off. Mowed grass will expose them to predators. Put up raptors nests for hawks and owls to nest and raise their young. These will help to reduce the population of squirrels, rabbits and mice as well as other pests. Jack Russell terriers are known to be good squirrel dogs. A dog in a fenced orchard can eliminate problems for you.

It is always good to scout your orchard from time to time for any problem that may exist. Set out a trap line in the orchard for squirrels. Trapping and shooting are some means of control. A 20 gauge shotgun is much safer than a rifle. Trap squirrels in the off-season when they are scrounging for food. View this video for trap placement and suggestions: <http://www.youtube.com/watch?v=58jg5YwHSEk>



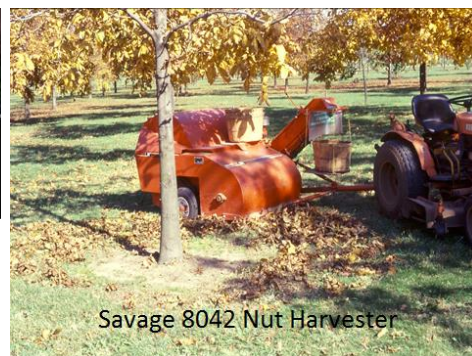
Weed Control spraying will be necessary in the tree rows. Do not spray close to the trees. Weed mats, mulches and tree shelters will lessen the need to spray close to the trees. Herbicides for walnut are listed in *Publication 75 – Weed Control*: www.omafra.gov.on.ca/english/crops/.../pub75toc.htm .

Harvesting Walnuts

Walnuts are an easy crop to grow and harvest. The nuts drop to the ground when they are ripe. However, hand harvesting is tedious and not profitable. Hand harvesting is only for pick your own and harvesting in awkward places where machines don't work, like close to the trunk. This kind of hand harvesting can be done with a Wizard tool that is truly remarkable for avoiding stoop work.



Wizard Nut Picker



Savage 8042 Nut Harvester

An investment in a harvester and cleaner are necessary. These two items are needed to gather and remove the trash and hulls from the nuts. A sweeper



Sweeps nuts from wheels



Savage Nut Cleaner

attached in front of the wheels of the tractor and harvester will prevent nut breakage during harvest.

Once the nuts are cleaned, they are washed, sanitized and dried. Dipping the nuts including a perforated container in bleach at 200 ppm for one minute would make a suitable sanitizing solution.

There are several options for drying the nuts. They can vary from small home made dryers run with furnace fans to larger corn and tobacco dryers. Heat is not necessary but raising the temperature to 120°F will speed up drying and not damage the meat. Moving air is all that is necessary to remove moisture. We always keep some nuts that are freshly harvested and not dry for customers that prefer the taste at that stage.

The *Savage 8042 harvester has been our machine of choice and is suitable for plantings of 1-10 acres or more. The drawback with this machine is the limited nut storage and the need for hand labour for handling the bins, bushels or sacks. We added a platform to allow 9 bushel containers to be carried on the machine, making better use of harvest time.



Walnut dryer

For larger plantings, hand labour is much reduced, when using the *Savage 8261 harvester or the *Flory 8548 harvester, where much more storage exists. With dumping bins or trailer on these machines, hand labour is minimal. A sweeper/blower may be needed to move the nuts to the centre of the aisles for these taller harvesters to manoeuvre in the orchard and so avoid hitting low limbs. Care needs to be taken to avoid running over nuts since walnuts are thin shelled and will break under wheels. Sweepers in front of leading wheels helps to reduce this damage.



Flory 480 Row Harvester

Marketing Walnuts

Our Ontario walnuts have an exceptional flavour with little or no bitterness. For the farmer it is a win win situation. A well maintained orchard can produce 1 tonnes per Ha (1 tons /A) at 10-15 years of age. At \$4 per pound, the return can be over \$4,000 per acre.



Savage 8261 Bin Dump Harvester

At the Grimo Nut Nursery, there is so much demand for fresh walnuts, especially before they are dried, that our three acre planting can't keep up to the demand from fresh walnut lovers from as far away as Toronto, a hundred miles away. They are disappointed when we tell them that they can only have 5 pounds at a visit, otherwise there would be many customers that would not get any. We try to buy more nuts from other growers, but so far we have had little success. We need more walnut growers.

The first approach to selling walnuts is to do a pick your own business. Many customers who visit farms are interested in the fun of collecting for themselves. They would still be willing to pay the going price for the privilege. Let them use a 'Wizard' tool and they will collect for you too. A great deal can be done to encourage families by providing play areas for children, picnic areas and music to make the visit a more festive affair.

The nuts that are not sold from the farm gate can be sold at the Toronto Food Terminal or to local grocery stores and farmers markets. Surplus, off colour nuts or slightly damaged ones from blight can be cracked and sold as kernels. By setting up a farm store value added products are possible.

Value Added Products & Farm Entrepreneurship

If we take a lesson from the *"Big Apple" on highway 401 near Colborne, Ontario,*"Kernel Peanut" south of Simcoe, Ontario or *"Picard's" in a number of locations in Ontario, a great deal can be done to draw customers to you and to make your store and their visit an attractive and alluring experience. Visit their websites to learn what they do. www.thebigapple.ca/ , <http://www.kernalpeanuts.com/> , <https://www.picardspeanuts.com>

*Please note, we do not endorse any supplier, product or contractor or video that were mentioned in this information. It is simply a way of supplying potential contacts to growers who need assistance.

Grimo Nut Nursery - Walnut Trees for Sale

Advertisement

Farmers who order from Grimo Nut Nursery will benefit from our more than 46 years of experience and our dedication to you as a grower. We are proud of our reputation that is based on honest information to growers from our own experiences. At Grimo Nut Nursery we offer our customers sound advice and stock that is guaranteed true to name. Our bare root stock is exceptional bar none.

We grow our trees naturally in nursery rows where they have room to expand their root systems in natural soil, unrestricted. They have become adjusted to natural outdoor wind and rain conditions and when they are freshly dug and planted in bare root format, they quickly adapt in your field. It has been found that our bare root trees grow well, handle stress well and bear early.

In appreciation of your order we offer a 5% discount over the list price to farmers who order \$1000 worth of trees. Additionally, trees to be shipped have a 5% reduced shipping cost from 15% to 10% as the order value goes over \$1000. Orders over \$2000 receive an additional 5%. Then for each \$1000 amount added beyond \$2000, there is an additional 1% discount until another 5% is reached. Farmers can achieve a savings of 15% on grafted trees and up to 30% over the single tree cost on seedling trees.