

CROSS POLLINATION

Halton Master Gardeners Monthly Newsletter
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**Halton Region
Master Gardeners**



Image: [Missouri Botanical Garden](#)

Ninebark – *Physocarpus opulifolius*

By Tinamarie Jones, Halton Master Gardeners

If your garden has a spot that asks a lot from a plant—perhaps clay soil, a slope, a rain-garden edge, or a corner that needs a little privacy—ninebark may be just the cheerful problem-solver you have been looking for. *Physocarpus opulifolius*, commonly called common ninebark, eastern ninebark, or Atlantic ninebark, is a hardy deciduous shrub native to central and eastern North America. It is practical, pretty, and wonderfully unfussy, with something to offer in every season.

In appearance, ninebark really earns its place in the garden. Ninebark shrubs are multi-stemmed and can grow to be approximately 5-8 feet tall and 4-6 feet wide, with a rounded, arching habit. Gardeners should be aware that there are a tremendous number of ninebark cultivars with different coloured leaves as well as different height and spread tendencies, so it is very important to do a bit of research before heading out to your local garden center or nursery.

Ninebark is extremely charming, even when not in bloom. The leaves are simple, alternate and ovate, with lobed margins. They can be between 1-3 inches long and are a dullish green colour, which turns yellowish in fall. New and immature stems are dark brown in colour. Mature stems exhibit an exfoliating or peeling tendency, where the papery bark curls away in layers, revealing coloured layers of reddish brown, tan, and lighter brown underneath. This coloured bark layers is what gives 'ninebark' its name.

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NINEBARK – *PHYSOCARPUS OPULIFOLIUS* (CONT'D)

In late spring to early summer, its arching stems become dotted with rounded clusters or corymbs of small white to pinkish flowers. The visual effect is very appealing, as if the shrub were covered in tiny bouquets, reminiscent of spirea shrubs. The flowers in each corymb each sport 4-5 tiny petals and the flower clusters each measure between 1-3 inches across. Ninebark shrubs display these cheerful flower clusters between June and July.



Image: [Flowerheads](#)

After the flowers fade, reddish seed capsules develop and these gently drooping seed clusters add a warm pop of colour and texture through summer and into fall. This shrub's genus name, *physocarpus*, comes from the Greek words *phusa* or bladder and *carpos* or fruit, referring to the gently inflated appearance of the seed capsules.

In autumn, the foliage often shifts toward yellow, bronze, or coppery tones, depending on the cultivar and growing conditions. Then, when the leaves drop, the feature that inspired its name, the peeling of its bark, becomes most visible. It is a lovely winter detail and adds greatly to the desirability of ninebark in the garden, especially when viewed against snow or evergreen neighbours.

One of ninebark's greatest assets is its adaptability. For best flowering and strongest foliage colour, choose a sunny location; in very hot spots, a little afternoon shade can help reduce stress. It grows well in full sun to part shade and is happiest in average, well-drained soil, but it is far more forgiving than many ornamental shrubs. Established plants can handle clay, rocky soil, dry periods, and moderately moist conditions. This versatility makes ninebark a strong choice for rain gardens, banks, informal hedges, mixed shrub borders, and naturalized areas.

Gardeners are not the only ones who appreciate ninebark. Its spring flowers are pollen and nectar rich and attract bees, butterflies, syrphid flies, beetles and other beneficial insects. Ninebark is commonly host to over 30 different species of Lepidoptera, the most notable being the Io moth (*Automeris io*), ninebark pygmy moth (*Nepticula opulifoliella*), and *Dimorphic eulithis* (*Eulithis molliculata*). In addition, ninebark is the exclusive food for the ninebark calligraphy beetle (*Calligrapha spiraeae*).



Image: [©2016 Brenna Anstett / LEAF and seed cluster](#)

In addition, the dense branching provides shelter and cover for birds. The seed clusters add late-season interest and can contribute to the food and habitat value of a wildlife-friendly garden.

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NINEBARK – PHYSOCARPUS OPULIFOLIUS (CONT'D)

Because ninebark is native across much of eastern North America, it fits beautifully into plantings designed to support local biodiversity. Try combining ninebark with other native shrubs and perennials that offer staggered bloom times, berries, seeds, and shelter. It works especially well as a background shrub, where its arching stems can create a relaxed frame for smaller flowering plants in front.

Root cutting, planting seeds or stem cuttings are all viable methods of propagating ninebark. Water young plants regularly while they establish, especially during dry spells. Once settled in, ninebark is generally low maintenance. If shaping is needed, prune shortly after flowering to avoid removing next year's flower buds, as the buds form on the older wood. Older, overgrown shrubs can be rejuvenated more heavily in late winter or early spring. Ninebark is usually trouble-free, though good air circulation helps reduce the chance of powdery mildew, fireblight, or leaf-spot issues.

Ninebark is not fussy, fragile, or one-season-only. It flowers generously, feeds and shelters wildlife, handles imperfect garden conditions, and keeps showing off after the leaves have fallen. In a home landscape, that combination is hard to beat. If you have a sunny or partly shaded place that could use a sturdy native shrub with charm, consider planting ninebark. It may begin as a practical choice for a difficult spot, but before long, it just might become one of the most dependable—and delightful—plants in your garden.

NINEBARK - DETAILS AT A GLANCE

LIGHT SHADE

DAPPLED SUN

FULL SUN



MOIST

MEDIUM

Plant Type, Family: Shrub, Rosaceae Family
Height/Width: (H) 150-240 cm (5'-8')
 (W) 121-182 cm (4'-6')

Features: Four-season interest, minimal maintenance, striking bark and urban adaptability.

Faunal value: Pollinator magnet and host plant for Large Maple Spanworm, Unicorn Caterpillar Moth, Gray Hairstreak Butterfly and others.

Companion Plants: Heuchera, Ironweed, Coneflowers and Milkweed.

Landscape Uses: Erosion control, rain gardens, bold colorful backdrop for colorful perennials.

Native Range: Nova Scotia, New Brunswick, Quebec and Ontario

Supports
[VASCAN](https://vascan.ca)
**Read More!**

- [North Carolina Extension Gardener Plant Toolbox](#)
- [Lady Bird Johnson Wildflower Center](#)
- [Royal Horticultural Society RHS](#)
- [University of Minnesota](#)
- [Missouri Botanical Garden](#)



We held our first Fundraiser Native Plant Sale on Saturday, June 6th.
A HUGE THANK YOU to all of you who came to buy plants and support us.

The sale was a great success!

The proceeds support two upcoming events:

[The Monarch Awards](#) and
[Garden Journey Open Days!](#)

Please visit our website to participate!

[Halton Region Master Gardeners](#)



Before You Reach for the Saw: A Science-Based Look at Pruning Trees

Cathy Kavassalis, Halton Master Gardener

We've received several inquiries this spring about pruning trees: Should I "limb up" my tree to make it healthier? Should the dead branches be cleaned out of the park trees to improve their health? Should I remove branches to improve the balance of my tree? These questions come from a good place. We want our trees to be healthy and like things to look neat, ordered, and cared-for. But a tidy tree, or a straight one, is not necessarily a healthy tree.

In the words of arboriculturist, Dr. Duncan Slater, "Tree pruning cuts are irreversible: no-one is sticking back on the branches from a pruned tree with 'Tree Glue' at the end of the day. ... You will not often be doing any favours for the tree when pruning it – one exception being the prevention of natural bracing [entwining stems and fused branches] at an early stage of its development, as this can substantially improve the tree's structure and lower its risks of failure later on in its life (Slater, 2018)."

Here is some of what current arboricultural and ecological research tells us.

Pruning creates a wound

A pruning cut is an injury. A tree's response to that injury is complex, species and age dependent. Unless the cut is superficial (in meristemic tissue), the tree typically attempts to seal over the injury and grow new wood around and over the wound. The tissue we see rolling over a pruning cut is called woundwood. It is lignified growth laid down over the damaged area. (It is often loosely called "callus tissue" but strictly the callus is the soft, undifferentiated tissue that forms first, and the woundwood is the organized, lignified tissue that follows.) The tree simultaneously releases many compounds to try to prevent the entry of damaging organisms. The responses are wide and vary by species and time of year.



[A pruning wound showing callus growth](#)
(Image: N. Kleczewski).

For all trees, it requires resources to produce woundwood and defend against potentially damaging organisms. When leaves are removed along with branches, a tree loses its photosynthetic capacity. If pruning is excessive, it may not be able to produce enough food for recovery and continued healthy growth.

So pruning should only be done for good reason, at the right time and in the right way. But myths abound.

Myth: "limbing up" a tree makes it healthier

I recently declined a post asking us to explain to the poster's neighbour why limbing up their tree would make it healthier. It would not. Removing the lower limbs ("crown raising") is something we do for people. We do it for clearance over a path, sightlines, mower access. Those are legitimate reasons. But it is a human convenience, not a health benefit to the tree, and done carelessly it can cause real harm.

The lower and interior branches of a tree are doing real work. They add girth to the lower trunk where they attach, stabilizing the tree. Tapered trunks distribute wind load better and are more wind-firm. Strip the lower branches and you reduce that taper, raise the tree's centre of gravity, and remove a meaningful share of the leaf surface the tree uses to photosynthesize and feed itself. Over-lifting or "lion's-tailing" produces tall, top-heavy, poorly tapered trees and is bad practice; it can also push out a flush of weak epicormic sprouts where light suddenly reaches the bare trunk.

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BEFORE YOU REACH FOR THE SAW (CONT'D)

For trees in places where low branches may pose future problems (obstructing sidewalks or sightlines), Edward Gilman and colleagues recommend starting when the tree is young. The aim is to make small wounds and preserve the tree's natural form, which can vary considerably by species.

So: limb up for clearance if circumstances require, but do so gently and gradually. Recognize that this harms the tree.

Myth: a leaning tree can be "rebalanced" by removing branches



[My Tree Has a Lean - Trees Charlotte](#)

Before cutting, understand the cause of a leaning tree. A tree may lean toward the light or in response to prevailing winds. Removing limbs in the first situation removes the tree's ability to gather light, which was why it was leaning in the first place. If a tree is leaning in response to wind force, it has likely balanced that growth with root mass. Taking weight off the "heavy" side can provoke reactive sprouting and cause unnecessary stress.

Before lopping off branches, look at other options. Correct lighting or site conditions, or consider bracing, guying, propping or cabling techniques appropriate for the setting, tree age and species.

Watch out for sudden leaning: if you see soil cracking or heaving, or roots lifting on the side opposite the lean, the root plate may be failing. A tree in that condition needs assessment by a qualified arborist. Crown reduction may be necessary to lower the wind load for risk-management reasons, but that is a hazard decision made after assessment.

Myth: dead branches should be cleaned out

Aesthetics often govern our gardening decisions. However, cutting dead branches below their natural shedding point (abscission point) can breach a boundary the tree had already closed, opening living tissue to a fresh wound where none previously existed.

In addition, there is an ecological cost to removal of dead branches. Dead wood, standing or fallen, is among the most biodiverse habitats a tree provides. It supports cavity-nesting birds, bats, and a vast guild of saproxylic (dead-wood-dependent) insects and fungi. Systematic reviews find that adding dead wood reliably increases the abundance and richness of these organisms. A "cleaned-out" tree looks managed, but it is ecologically poorer.

(There is also interesting research on intentionally wounding younger trees called "veteranisation" in order to mimic natural disturbance and create the deadwood features that are otherwise found only on very old trees (Bengtsson et al. 2012). This is done to create habitat, not to improve the health of an individual tree.)

It can also be important to remove dead wood that is spreading disease, but that is a more nuanced case and I'll speak to it below.

While pruning dead wood because it "looks messy" is not a great reason to prune, pruning to reduce a potential hazard is essential. It is important to remove dead limbs of a size and position that could hurt someone or damage property if it falls over a path, a bench, a parking area.

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BEFORE YOU REACH FOR THE SAW (CONT'D)***The disease nuance: right pathogen, right season, right cut***

Much disease- and decay-management advice assumes our goal should be to prevent or eliminate the organisms that cause disease or decay in trees. It seems reasonable at first pass, but suppressing some naturally occurring organisms can negatively impact ecosystems. Heart-rot causing fungi that decay branches and trunks, for instance, are exactly what woodpeckers, owls, chickadees, and nuthatches rely on for creating feeding and nesting areas. Powdery mildew feeds an entire tribe of fungus-eating lady beetles (the Halyziini, including our native twenty-spotted lady beetle, *Psyllobora vigintimaculata*, which eat nothing else, Sutherland & Parrella 2009). So advice to "open up the canopy to stop the mildew" or "clean out the decay" can quietly remove species that were depending on it. For this reason, we need to be more circumspect when pruning branches to prevent disease and insect pests.

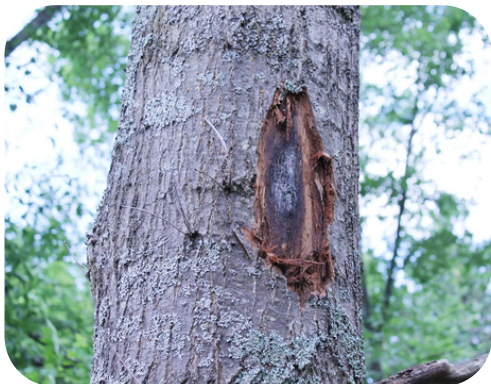


Image: [Oak Wilt on Oak Tree in Niagara-On-the-Lake](#)
Invasive Species Centre

That said, in most garden settings it is reasonable to try and limit the spread of naturally occurring disease that may lead to hazardous conditions and to actively prevent the spread of introduced pathogens like Oak Wilt.

Knowledge of the pathogen is critical. The wrong cut at the wrong time can spread the very pathogen you're trying to remove, because a fresh wound is an open invitation.



Image: [Oak Wilt on Leaves of an Oak Tree in Niagara-On-the-Lake](#)
Invasive Species Centre

Oak wilt is the cautionary example, and it is no longer hypothetical in Ontario. Caused by the fungus *Bretziella fagacearum*, it was confirmed in Canada for the first time in 2023 (Niagara Falls, Niagara-on-the-Lake, and Springwater) and is regulated by the CFIA (CFIA: Invasive Species Centre). Sap-feeding (nitidulid) beetles are drawn to fresh wounds and carry fungal spores from tree to tree; the fungus also moves between neighbouring oaks through grafted roots. Pruning an oak during the growing season can therefore introduce the disease. This is why municipalities such as Toronto restrict oak pruning from April through October (City of Toronto), and the standard guidance is to prune oaks only in the dormant season. Oak wilt is also the one well-documented exception to the rule on wound dressings (below): if an oak must be cut during the risk window, say after storm damage, the wound should be painted immediately to deny beetles the scent of fresh sapwood.

Fire blight (*Erwinia amylovora*) on apples, pears, and their relatives follows the same logic from a different angle: prune in dry, dormant conditions, cut well below the visible infection into healthy wood, and disinfect tools between cuts to avoid moving the bacteria yourself.

More research is needed on the long term impacts of pruning on disease prevalence and on how selectively reducing one species impacts others. We need to pause before pruning a diseased branch to consider the tree species, the pathogen, the season, and the technique attached as well as the broader impact on other organisms and ecosystems.

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BEFORE YOU REACH FOR THE SAW: (CONT'D)***And wound paints? Generally no.***

The old practice of sealing cuts with tar, pruning paint, or wound dressing has been studied repeatedly and generally does not prevent decay; it can trap moisture and interfere with the tree's own boundary-setting process. The notable exception is oak wilt prevention. Certain compounds may also have a role in fruit production where yield, not tree longevity, is the goal. For nearly everything else, the current best dressing is no dressing.

When pruning helps

There are sound, evidence-based reasons to make cuts:

- Hazard reduction as mentioned above is essential. So remove dead, broken, hanging, or structurally dangerous limbs that overhang places where people and or property actually are impacted. This is the clearest reason to prune.
- Structural pruning of young trees is supported by science. Early, targeted, small cuts to prevent natural bracing that can cause bark inclusions and later structural failures (Gilman & Lilly 2008; Slater & Harbinson 2010; Slater & Ennos 2015; Slater 2018; Smiley 2003).
- Mimicking browsing-type pruning. Many woody species co-evolved with browsing animals and resprout vigorously after such damage. Removal and renewal of stems is often well tolerated in these species. A subset of species practices like coppicing and pollarding have been shown to extend their functional lifespan and contribute to the formation of valuable wildlife habitat (Sebek et al. 2013). This is an understudied area.

- Disease management. For certain diseases pruning can be important, but there are caveats as mentioned above.

- Aesthetics are a legitimate reason to prune. But we should be honest and understand that it causes injury, and weigh the risks accordingly.

If you do cut, cut in the right place

When a cut is warranted, where you cut matters as much as whether you cut:

- Cut small. The smaller the branch removed, the easier it is for the tree to seal off the wound.
- Cut just outside the branch collar (the swollen base where the branch meets the trunk) and outside the branch bark ridge. The collar contains the tree's branch protection zone; leave it intact.
- Don't make flush cuts. Cutting flush to the trunk removes the protection zone and enlarges the column of decay the tree must wall off.
- Don't leave long stubs, which die back and delay closure.
- For any branch heavy enough to tear bark as it falls, use the three-cut method (undercut, top cut to remove the weight, then the final cut at the collar).

To prune or not to prune ...

Prune for genuine safety. Prune young trees for good structure. Be cautious and species-aware about disease. And when the only reason is that "it looks tidier," recognize that is a preference of ours, not a need of the tree's.



Parsley and Bay Laurel

Jennifer Blake, Halton Master Gardeners

A small Bay Laurel (*Laurus nobilis*) and an ever-changing pot of parsley are fixtures in my kitchen window behind the sink. It is one of my few sunny windows and, together with the convenience of the sink, has led to an increasing collection of plants: herbs, gifted orchids, and a very old aloe vera, which has soothed many a minor kitchen burn and been rejuvenated several times over the past twenty years. But, it is the parsley (*Petroselinum crispum* var. *neapolitanum*) and the bay (*Laurus nobilis*) that occupy pride of place.

Parsley and bay both are harvested regularly for the kitchen; both have been valued for centuries for their medicinal benefits; but, both have very long histories, and much significance has been attached to them over the millennia. I might never have delved into it had I not needed to turn some healing attention to my resolute little bay laurel.

The bay has spent the past two winters overwintering in the kitchen. It is past due to go back outside, but this spring it endured a scale infestation. During those weeks of careful tending, I developed a real respect for this unassuming and patient little tree, barely nine inches tall. It held its leaves outstretched and endured regular dousing with soap, alcohol, and manual scraping. I noted swollen leaf buds and wondered if they would emerge. I am taking pleasure in watching its recovery and the very slow but steady emergence of new growth. I will move it back to the garden soon.

This bay laurel came from a nursery. They are hard to grow from seed. Bay needs to be sown immediately from fresh seed; it germinates erratically and can take anywhere from one to six months to germinate. Our climate does not offer six months from the setting of berries to first frost. Bay plants are dioecious, either male or female; they do not arrive with labels, and they are hard to tell apart.



Image: Bay Laurel - Jennifer Blake

Both male and female plants flower in the spring on old wood. Even the flowers look alike, except that the female flower has a noticeable ovary that will develop into a berry if pollinated. A bay tree does not reach maturity until it is 5-10 years old, then requires a nearby tree of the opposite sex, and insect pollination.

It may not be entirely surprising that bay is more easily propagated, so I read, from cuttings, but those are not exactly easy; they require patience and luck, taking months to root, with, be warned, a high failure rate. The advice is to take handfuls of cuttings in the hope that some will succeed. Two six-inch cuttings would take just about my whole plant. It will be years before this little tree reaches a size that could support such an exercise. By now you may be wondering how the early settlers managed to make bayberry candles. The answer is that they were made from a different shrub entirely: Northern Bayberry, *Morella pensylvanica*.

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PARSLEY AND BAY LAUREL (CONT'D)

The parsley, compared to the aloe and the bay laurel, is a transient. The pots from the local grocery store do not last long. In the garden it is a biennial and self-seeds. These happy little plants shift their spot around in the herb garden. Sowing the seeds takes patience while you wait for them to germinate ("to the devil and back seven times before they germinate," according to folklore), but you can help that along by "pre-germinating", soaking the seeds in water for 12 hours prior to planting. Once sprouted they quickly flourish, producing thick, dark green leaves, flat or curly, before flowering, setting seed, and disappearing, only to return the next season. During their halcyon days they generously provide cuttings for the kitchen, before fading away. With a little patience and some grow lights, parsley can be reliably started from seed, and by starting successive pots the winter kitchen window can be kept well stocked. Hydroponic gardens also work - though I was not a fan of the overgrown blousy result.

Both herbs have ancient histories. In the Greece of antiquity, both were used to crown victorious athletes.

The origin story of bay laurel is that the god Apollo mocked Cupid who retaliated by shooting Apollo with an arrow that caused overwhelming love for Daphne. Cupid then shot Daphne with an arrow that caused aversion to Apollo. Apollo pursued Daphne relentlessly until she begged her father to save her, which he did by turning her into a laurel tree. Heartbroken, Apollo declared the tree sacred. He wore a wreath of its leaves to commemorate her. Victorious athletes, scholars, and poets would be honoured with it. Laurel became a symbol of excellence, immortality, and great achievement. Bay was believed to protect against lightning and planting it near a house was thought to offer divine protection. It came to be the mark of wisdom, endurance, and honour earned over a lifetime.

Parsley has an even more ancient history. It represented death, memory, and rebirth. Its story is of an infant prince who had been laid upon a bed of wild parsley (we cannot be sure if it was the same parsley) while his nurse guided warriors seeking water. According to one myth, a serpent killed the sleeping child. The grieving warriors founded the Nemean Games in his honour and crowned victors with wreaths of parsley. Parsley was laid upon graves and became a symbol of mortality, but also, because of its ability to self-seed, of renewal and the cycle of life.



It is an unlikely plant that has an origin story linked to death and funerary rites, but that now is valued for its nutritional (anti-oxidants, Vitamins A, K, C and iron) and medicinal properties. The humble parsley is rich in volatile compounds, phenolics, and flavonoids. It has traditionally been used as a diuretic, liver and stomach tonic, and treatment for urolithiasis and indigestion. In laboratory studies it appears to have antioxidant and DNA-protective effects, antihypertensive activity, and anti-inflammatory properties.

Bay laurel leaves and berries contain diverse bioactive compounds, including volatile oils, alkaloids, triterpenes, and phenolics. Traditional uses include the treatment of gastrointestinal complaints such as bloating, flatulence, and indigestion, as well as headaches and infections. Bay laurel has some interesting anti-diabetic effects, and some insulin-like actions that have been linked to specific compounds in the leaf extract. It also has anti-inflammatory properties. In a small trial, ground bay leaf showed beneficial effects on cholesterol and blood sugar. These early results are tantalizing, and I hope will be followed by more robust studies.

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PARSLEY AND BAY LAUREL (CONT'D)

But both these herbs are best known and loved as stars of the kitchen: parsley for its fresh and delightful vibrancy, whether featured in a salad such as Tabbouleh or accenting a dish; and bay for the aromatic depth and complexity it contributes to soups, stews, bean dishes, and even desserts. You might have trouble describing its flavour, but you would notice if it had been omitted.

And so, both parsley and my bay laurel will continue to take their place in my kitchen window, companions that I treasure: the bright and fresh parsley, regularly replaced with new pots, and the patient and enduring bay laurel, my steadfast companion.

Rice Pudding

Adapted from the Book: Mastering Simplicity
by Christian Delouvrier.

Ingredients:

3/4 cup long-grain rice
1 large fresh bay leaf
6 cups whole milk, approximately
1 cup sugar
1/2 vanilla bean, split lengthwise
Large pinch of salt

Instructions:

1. Place rice in a small saucepan with bay leaf and 2 cups water, bring to a boil over high heat, then drain immediately. Transfer rice and bay leaf to a heavy 3-quart saucepan.
2. Add 4 cups milk, 1/2 cup sugar, vanilla bean and salt. Place over very low heat and cook, stirring occasionally, until milk has been absorbed by the rice, about 1 hour. Add 1 or 2 more cups of milk - the amount will depend upon the rice. Continue cooking over low heat 15 to 20 minutes longer. Rice should be tender and the mixture should be very creamy. It will thicken as it cools.
3. Remove from heat, and allow to cool to room temperature.
4. No more than 30 minutes before serving, add a little milk to the rice if it has become too thick, then remove bay leaf and vanilla and transfer pudding to a shallow serving bowl.

FUN FACT

**Parsley is a Host Plant for the
Black Swallowtail Butterfly, *Papilio polyxenes***

For further reading:

- Dalby, Andrew. Food in the Ancient World from A to Z. London: Routledge, 2003.

Parsley:

- [Petroselinum crispum \(Mill.\) Fuss \(Parsley\): An Updated Review of the Traditional Uses, Phytochemistry, and Pharmacology](#)
- [Growing Parsley: Tips and Techniques](#)

Bay Laurel:

- [The Health Benefits of Selected Culinary Herbs and Spices Found in the Traditional Mediterranean Diet](#)
- [How to Propagate Bay Laurel From Cuttings](#)

Recipes**Tabbouleh**

Adapted from [Eating Well - Parsley Tabbouleh](#)

This summer salad can be made with your own ratios of vegetables, herbs and bulgur. For a gluten free version, you can substitute cooked quinoa for the bulgur, and for a higher protein meal substitute in whole or in part with finely chopped walnuts.

Ingredients:

2 cups finely chopped flat-leaf parsley (about 2 bunches)
1 small cucumber, peeled, seeded and diced
4 scallions, thinly sliced
1/4 cup chopped fresh mint
2 tomatoes, diced
1/2 cup raw bulgur, cooked according to package directions, then chilled

Dressing:

1/4 cup lemon juice
2 tablespoons extra-virgin olive oil
1/2 teaspoon minced garlic
Freshly ground pepper, to taste

Instructions:

Combine all ingredients, toss together and serve either chilled or at room temperature.



Image: [Our Habitat Garden](#)



Image: [Northern Gardener](#)



What Happens to Vegetables During a Heat Wave?

By Nikolina Radulovich, Halton Master Gardener



As I was thinking about what to write for this month's Science Spotlight, the world news gave me a hint. Across Europe, record-breaking temperatures and widespread heat warnings dominated the headlines, while here in Canada meteorologists were warning of a hotter-than-normal summer ahead. As gardeners, we have always paid attention to frost dates, rainfall, and the first signs of spring. Increasingly, however, another weather event is demanding our attention: the heat wave.

This June, [much of Europe](#) experienced one of the most severe early-summer heatwaves ever recorded, with temperatures exceeding 40°C across parts of France, Spain, Italy, and Germany, and Paris reaching a record 40.9°C. The heat disrupted daily life and prompted health warnings across the continent. Scientists warn that events of this magnitude are becoming increasingly likely in our warming climate.

Closer to home, [Environment and Climate Change Canada](#) is forecasting above-normal temperatures across much of Canada this summer, with periods of intense heat and humidity expected throughout July and August. Gardeners across the country have already noticed earlier warm spells and longer stretches of hot weather becoming more common. Whether or not Canada experiences a prolonged heatwave this season, the long-term trend is clear: extreme heat events are becoming more frequent, more intense, and longer lasting.

For gardeners, heatwaves are much more than uncomfortable weather. They are biological stress events that affect every stage of plant growth, from seed germination to flowering, fruit production, and seed development. A recent review published in [Horticulture Research](#) examined how vegetable crops respond to heat stress and found that vegetables are often even more vulnerable to rising temperatures than major grain crops such as wheat and corn.



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WHAT HAPPENS TO VEGETABLES DURING A HEAT WAVE? (CONT'D)

The first surprise is that damage begins long before plants visibly wilt. Most vegetables perform best between 20°C and 25°C. Once temperatures rise above these optimal conditions, photosynthesis begins to slow while respiration increases. In simple terms, plants begin consuming energy faster than they can produce it, resulting in slower growth and lower yields.

Tomatoes provide one of the clearest examples of this process. Researchers found that prolonged exposure to temperatures of 32°C reduced tomato pollen viability by four-fold. Around 30°C, photosynthesis begins to decline, while temperatures of 35°C interfere with flowering and fruit development. Once temperatures exceed 40°C, widespread flower and fruit drop can occur. In controlled experiments, exposure to temperatures between 42°C and 45°C reduced yields of heat-sensitive tomato varieties by more than 95%.

Heat also affects quality as well as quantity. Lycopene, the pigment responsible for the red colour of tomatoes, begins to slow production above 30°C and becomes strongly inhibited above 35°C. Gardeners have likely observed this phenomenon during particularly hot summers, when tomatoes remain stubbornly orange or yellow despite appearing fully mature.

Other vegetables have their own thermal limits. Lettuce is remarkably sensitive, with germination responding to temperature differences of as little as 1°C. Broccoli exposed to temperatures around 30°C can develop uneven flower buds and poor head formation. Cucumber plants grown at 35°C may develop sunscald, malformed fruit, and reduced root growth, while cabbage exposed to 40°C can fail to form proper heads altogether.



At the cellular level, extreme heat damages chlorophyll, disrupts membranes, impairs water transport, and interferes with the plant's photosynthetic machinery. In potatoes, photosynthetic efficiency fell by an astonishing 88% after only 12 to 20 hours of severe heat stress. Plants do possess natural defenses, including the production of heat shock proteins that help stabilize and repair damaged proteins, but these protective systems can eventually become overwhelmed.



Scientists are not simply documenting the effects of heat stress—they are searching for solutions. Plant breeders are developing heat-tolerant vegetable varieties, while researchers are identifying genes and natural defense mechanisms that allow some plants to continue growing and producing under extreme temperatures. The hope is that future vegetable cultivars will be better equipped to maintain yield and quality as heat waves become more frequent.

As our summers continue to warm, understanding heat stress may become just as important as understanding soil fertility or pest management. By understanding how plants respond to extreme temperatures, gardeners can make informed decisions that help their gardens remain productive and resilient in a changing climate.





By Hariette Henry, Halton Master Gardener

[Community Gardens](#) are lands that have been cultivated by people individually or collectively over a period of time. In some cases, the land is divided into individual plots. Each gardener is responsible for their own plot, and the crop belongs to them. In collective gardens, the piece of land is not divided. A group of people cultivates it together, the harvest belongs to the participants and they are free to distribute it as they like. These gardens are usually administered by a municipality or local government, and they set the rules as well as providing the land, a water source, tools and storage.

Community gardens are not a new concept. Earlier waves of these gardens appeared during the Industrial Revolution at which time they were called “Workers’ Gardens”. Other waves occurred during WWI and WWII and at that time they were called “Victory Gardens”.

The benefits of community gardens are many, and some of the most significant follow:

- Gardening is a physical activity that involves digging, planting, weeding and harvesting, [all forms of exercise that improve cardiovascular health](#), increase strength and enhance flexibility. In addition, it serves as a natural stress reliever, reducing cortisol levels, which are associated with stress and depression. Community gardens also combat loneliness by providing a social setting where people can connect, share and support one another, thus reducing feelings of isolation and fostering a sense of belonging.
- Community gardens can also be social hubs that bring diverse groups of people together. [This cultural intermingling allows people of different backgrounds to share techniques, ideas, recipes and stories](#). Because participation in a community garden often involves collective decision-making, this cooperation and compromise can be challenging, requiring members to give-and-take.

“What are community gardens, and how do they benefit residents in our cities, towns and neighbourhoods?”



Community garden Blueberry Fields, managed by Halton MG Judith Desembrana and staff, delivered 1,600 lbs of fresh produce to Kerr St. Mission in Oakville in 2025.

- [On an environmental level community gardens are key to promoting sustainability](#). They convert vacant lots into green spaces that improve air quality, reduce urban heat islands and enhance biodiversity. They promote organic farming practices and reduce reliance on harmful pesticides and fertilizers, which in turn decrease pollution and protect local water sources. They help to manage stormwater runoff, reducing the burden on aging municipal drainage systems. Finally, by growing food these gardens reduce the carbon footprint associated with transporting food over a long distance, contributing to lower greenhouse gas emissions.
- Community gardens are living classrooms that provide hands-on learning opportunities for all ages. Schools often partner with them to teach children where food comes from. For adults, they can be venues for learning new skills, and for seniors they are opportunities to feel useful and engaged while they are passing-on knowledge to the next generation.
- Finally, the financial benefits that accrue as a result of community gardening are: grocery savings for participants; the lowering of public works budgets due to turning vacant lots over to volunteers; the easing of strain on aging municipal drainage systems; and finally reduced city transportation and landfill fees as neighborhood waste programs turn scrap into garden compost.

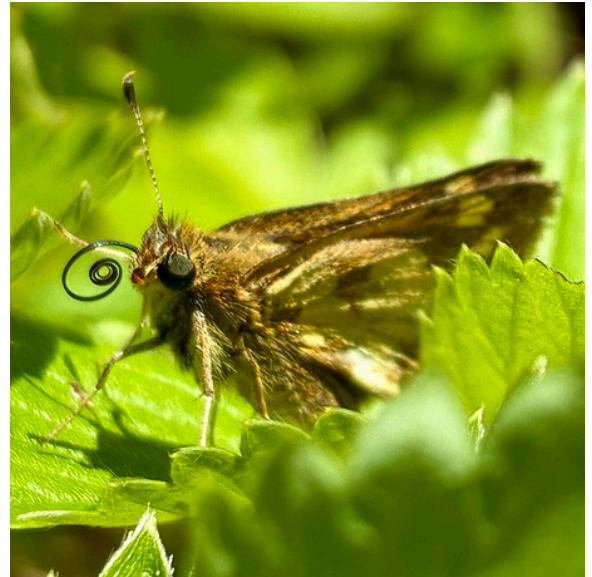
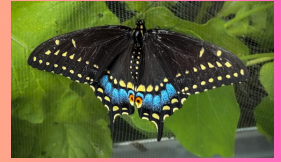


Garden Inspiration!

Unbeweevible!

Once you get the native gardening “bug”, you can’t help but look around to see how your plants are working for local fauna. Our Master Gardeners shared their photos of the insects and other cold-blooded creatures in their gardens. We got those, and then some!

All the MG photo submissions are [here on the HMG website.](#)



Peck's Skipper (*Polites peckius*) using its proboscis to taste something on the **wild strawberry** (*Fragaria virginiana*) leaves.
Photo: J. Mackey



Northern Green Frog (*Lithobates clamitans*), nicely camouflaged, in Delsey Creek, Dundas.
Photo: M. Johnston



Black Swallowtail Caterpillar (*Papilio polyxenes*) amongst the **dill weed** (*Anethum graveolens*), which is known to attract beneficial insects. Photo: A. Walsh



Fork-tailed Bush Katydid Nymph (*Scudderella furcata*) on a **Petunia** (*Ruellia humilis*).
Photo: I. Belanger



A black bear on a MG's property near Sudbury, which is, luckily for us, not within biting distance of Halton. Photo: P. King

All the MG photo submissions are [here on the HMG website.](#)

What's Growing On?

Halton Master Gardeners Present Two FREE Events

Garden Journeys



Monarch Awards

Featuring Gardens in the City of Hamilton (Ancaster, Dundas, Flamborough, Glanbrook, Stoney Creek & Waterdown)



Garden Journeys Open Days is an opportunity to visit beautiful gardens across the City of Hamilton. **Free** to the public, gardens will be open for visitors, with the gardeners available to discuss their own journey to eco-friendly gardening, from first steps to fully mature gardens. This event will again take place over two weekends:

August 8 - 9 & 14 - 16

Mark your calendars for these dates in August now! A list of over 50 garden addresses, open times, and descriptions will be available on our [website](#) later in July. It is a wonderful way to inspire members of the public and to meet other like-minded gardeners to exchange ideas.

- Are you curious about gardens that support biodiversity and our ecosystem?
- Are you taking steps to build your own nature-friendly garden?
- Want some garden inspiration and practical ideas for gardens that are both beautiful and sustainable?



Don't miss this exciting event!

Email us at:
gardenjourneysopendays@gmail.com



**MONARCH
AWARD**
Growing Communities
of Biodiversity

What's Happening in July with The Monarch Awards?

Thank you to everyone who applied to the Monarch Awards this year. Applications are now being reviewed, and Monarch Award Teams will begin visiting gardens on July 13.

Applicants do not need to be home during the visit. The team will assess the front yard garden using the Monarch Awards criteria, and will take a few photos as part of the review process. Updates and information will be shared with applicants by email throughout the summer.

We look forward to seeing the many ways Hamilton gardeners are supporting pollinators, wildlife, and biodiversity in their neighbourhoods.

Want to know more about the
Monarch Awards?

Click the link to the video below,

[Discover the Monarch Awards](#)



***Let's show our city how green — and wildly
alive our gardens can be.***

Media Contacts: Janet Mackey, Kate Sault,
Co-Chairs of the Halton Region Monarch Awards
Questions? Contact: monarchawards.hmg@gmail.com

What's Growing On?

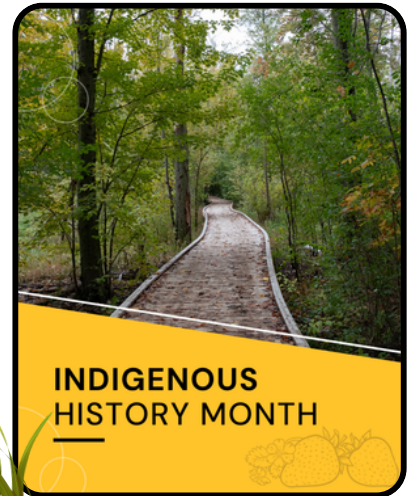
By Trish Moraghan, Halton Master Gardener



Gardens
Trails
Workshops
Guided Walks



[Learn more here](#)



Blooms for Africa *Back to Our Roots: Native Gardens 10*
Friday, July 10 & Saturday, July 11
6-9 PM (rain or shine)
Bring a covered weather warning
24 gardens to visit in Dundas & Kirkendall

Buy Your Passports Here: \$20 (cash only)

A Different Drummer Books 513 Locust Street, Burlington, L7S 2V3 905 639 0925	Karl's of Ancaster 368 Wilson St. E., Ancaster, L9G 3C2 905 304 5274
The Keeping Room 6 Cross Street Dundas, L9H 2H4 905 627 5880	Ellenore Hair, Body Bath 104 King St. W., Dundas, L9H 0H4 905 627 9370
Wildflower Spa 150 Locke St. S., Hamilton, L8P 4A9 905 524 3596	Jitterbug Café 35 Main St. N. Waterdown, L0N 4B3 905 690 7670

Call: 905 527 0470 (\$20.00 -transfer available)
OR: Contact any member of Blooms for Africa



Garden Tours



[Learn more here](#)

**Enjoy Ontario and Other Destinations
in Canada this Summer**

No need to sign up for the pass.

**Simply visit parks, gardens (e.g., RBG) and galleries
for free admission or discounts!**

June 19 to September 7, 2026

[Learn more here](#)



What's Growing On?



[Group Tours](#)



[In Bloom](#)



[Outdoor Exhibit](#)



[Enchanted Garden](#)

Check our [calendar](#) for events



HALTON REGION MASTER GARDENERS



Berries In the Home Garden

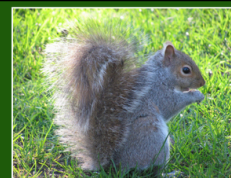
[Read the article here](#)



diseases, Garden Care, pests, plant care

Will spraying dish soap or detergent help me deal with the caterpillars and bugs in the garden?

[Read the article here](#)



pests, plant care

An Informed Approach to Animal 'Pests' in the Garden

[Read the article here](#)

About Our Newsletter

Cross Pollination is published monthly from February to December and is written and prepared by our dedicated volunteers. Halton Master Gardeners are experienced gardeners who have studied horticulture extensively and continue to upgrade their skills through technical training. We strive to provide science-based, sustainable gardening information to the general public. The information in our newsletter has been verified by our volunteers to the best of our abilities, but given the scope of horticulture and science some concepts may not reflect current knowledge. The content displayed in our newsletter is the intellectual property of Halton Region Master Gardeners and their authors. It can be shared in its entirety, but specific content should not be reused, republished or reprinted without the author's consent.

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Content Editor: Olga Marranca

Your [donations](#) support our work!