

THE EDIBLE GARDEN

May 2019

Plastic in the garden – second thoughts

*Susan Bicket
Master Gardener of Ottawa Carleton*

One of the current environmental concerns is the amount of plastic that is finding its way into the food chain as waste plastics are ground down into finer and finer particles-micro plastics- that don't break down further. Particles from synthetic man-made fibres such as polyester are turning up in our food and water too. We need to find more earth friendly materials and prolong the useful life of existing plastics.

Many plastics can leach harmful chemicals into our soils. The safest of these will be labelled with the number 2,4 or 5 in the recycling triangle. Those labelled 1 are ok but try to avoid plastics labelled 3 and 6. Seven (7) is the number used to catch all plastics not covered by 1 to 6, some of these plastics are safer than others, for example polycarbonate (PC) is considered unsafe, but polylactic acid (PLA) plastics are considered safe; both are labelled 7.

Some worthwhile goals are:

- Refrain from introducing new plastic items into the garden.
- Find and use biodegradable alternatives to single use plastics. E.g. to tie up plants use a natural fibre string instead of nylon.
- Choose plastics that can be recycled or have been recycled when there is no alternative.
- Extend the useful life of existing plastics by correct care – e.g. limit exposure to light, temperature extremes, and knocks. Find new uses for old items.
- Dispose of correctly: The City of Ottawa will accept plastics labelled 1,2,3,4,5, and 7 for recycling. It will accept rigid plastics labelled 6 such as yoghurt containers and clear plastics but not expanded polystyrene such as meat trays. For a current complete list: <https://ottawa.ca/en/residents/garbage-and-recycling/recycling> .
- Replacing a plastic article, look for non-plastic earth friendly alternatives. Made with materials such as, clay, wood or plant fibres,

The first step towards reducing use is to become aware of where we use plastics. In the garden the use of plastics is insidious but....

- **Plant pots** – These can be cleaned and reused. Many garden centres take back their own clean empty pots, ask! As a last resort Ottawa accepts them in the recycling bins. As an alternative we could use earthenware pots. For starting seeds, paper egg boxes, toilet paper rolls, and paper cups all make good temporary pots. Some companies are now producing biodegradable pots and I've even seen a few plants for sale in hairy coir pots.
- **Seed trays & Propagator lids** – Many tend to be quite flimsy. When replacing, look for more rigid versions that last longer. To prolong life wash them out and store them away from light and extreme temperatures. Look for alternative containers that can be washed and reused, for example: yoghurt pots, meat trays, clamshell boxes. My grandfather used shallow wooden boxes and sheets of glass. I use a soil blocker to make soil blocks for seeds. Or sow the seeds directly into the soil.
- **Labels** –Can be scrubbed and reused. Saved wooden popsicle sticks make excellent labels and can be composted.
- **Plant supports** - Chose uncoated wire or build your own from pruned branches and twigs.
- **Bags and boxes containing mulch, compost, manure, or fertilizer** – Cardboard or nat-



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Bee Line World Honeybee Day (2019—17th August)

*Julianne Labreche
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During the past few years, I've participated with a few other Master Gardeners in World Honeybee Day held at the Canada Agriculture and Food Museum at the Central Experimental Farm. Held in mid-summer, the weather is usually delightfully hot, the bees are buzzing and there are lots of fun activities such as making honey ice cream, meeting local beekeepers and baking with honey.



A child dressed as a bee for World
Honeybee Day

Julianne Labreche

ural sack containers are more biodegradable. Buy large quantities of mulch, compost, and manure in bulk and have them delivered loose on the back of a truck.

- **Tools** – Look after your tools to prolong their life. When you need to purchase or replace, search out ones made of wood or metal.
- **Twine for tying up** - Look for natural fibres such as cotton, jute or hemp.
- **Netting** – This is harder to replace, but string made of natural fibres such as cotton, jute, or hemp can be used for climbing plants as can wire, wire fencing, metal climbing frames, or bamboo poles. Cages made of chicken wire can protect fruit from birds. Or we could learn how to net and make our own from natural materials.
- **Edging materials** – Bricks, concrete, or wood can all be used instead of plastics. Using an edging tool to delineate garden beds eliminates the need for edging material.
- **Landscape fabrics** –Use a thick layer of organic mulch directly on the soil for garden beds instead. It is good for the soil.
- **Plastic mulches**- Their life span is limited. Biodegradable plastics are available but still have some unresolved issues: litter and lingering residues. Newspaper and cardboard topped with an organic mulch offer a more earth friend solution. Black plastic is often used in the process of solarizing to kill weeds when clearing beds. More traditional methods of clearing weeds such as using a spade or fork to turn the soil, although more labour intensive, cause less pollution.
- **Hoses, inground watering systems** – Nearly all hoses and tubing are made of plastic. Choose the sturdiest you can find.
- **Watering cans** – Look for metal.
- **Water barrels** – At the moment there is no obvious alternative, but many are made from repurposed bulk food containers.
- **Wheelbarrows** – Most now have plastic trays, older barrows were made with wood or metal trays. Look for a ‘no-flat’ tire to avoid punctures and replacement inner tubes.
- **Buckets & other miscellaneous containers** – Look for metal, canvas or woven twig (baskets). Repurpose containers, I use old 5-gallon paint buckets for collecting weeds.
- **Gloves** – Look for leather or suede these are usually sturdier and last longer. If you handle garden chemicals, it is still advisable to wear rubber gloves.
- **Compost bins** – Can be built with wood, wire fencing, cement blocks or straw bales
- **Garden ornaments** – Stone and wood are a couple of alternates.

It will not be easy to remove plastics from our lives, but if we take care of what we already have, it will last longer, reducing the need for new plastics. As items wear out or break, replace them with non-plastic less polluting alternatives. Choosing not to use plastics items may initially be costlier as plastic is still a relatively cheap material, adaptable to many forms and uses, that lends itself to mass production. By asking retailers for non-plastic options, maybe they will become more available.

We can start making changes to the way we garden. By following the maxim **Reduce, Re-use, Recycle**, foregoing some modern conveniences, and looking to the past, we can reduce the demand for plastics and the potential for harm associated with plastic wastes. Plastic isn't very digestible or nutritious!

Planting potatoes

*Dale Odorizzi
Master Gardener of Lanark County*

For many of our early settlers, potatoes were an essential crop. Most families ate potatoes with almost every meal and growing enough for their large families was essential. If they had nothing else to eat, they had potatoes. Potato plants are generous and they produce an abundant harvest—4.5 kg (10 pounds) of potatoes will produce 32 kg (70 lb) or more.

Start with seed potatoes from a catalogue or a farm store. Supermarket potatoes have been treated with a sprout retardant and are not suitable for planting. If buying from a farm store, select potatoes that have started to sprout. If they have not started, pre-sprout them by laying them out in a light place. The kitchen counter is fine. In a few days, you will see

Master Gardeners are there to share knowledge about pollinator-friendly plants and ways for kids to make a bee house. Beyond the enjoyable festivities to celebrate bees, however, there's a growing sense of urgency around protecting our bees, including solitary native bees. Bee health has become a hot international topic of discussion of late, with scientists trying to understand why insect populations globally are in significant decline. A recent article in the international journal Biological Conservation reports that forty percent of global insect species are threatened with extinction.



Queen Bee

Julianne Labreche

Closer to home, research evidence is mounting that neonicotinoids – a family of insecticides used by some farmers and commercial growers – are affecting bee health. Not only do these chemicals kill insects on target crops; they seep into the roots of nearby plants, soil and waterways too. These insecticides affect not only the health of bees but birds, fish and other mammals, especially insect-eaters. Bees however are particularly vulnerable, according to a study by biologists at York University. One researcher, Nadia Tsvetkov, shared the results of her team's work in a live webinar with participants through Bee City Canada in February this year.

"We need to push for these companies to do better," she said. "If we keep pushing, they'll have to come up with better solutions."

sprouts starting. This process is known as chitting and it will speed up the potato harvest.

Only potatoes the size of a golf ball should be planted whole. Cut larger tubers into pieces so that each segment has two or three eyes—the little bumps where the sprouts emerge. If you plant a large potato with lots of eyes, it will create a crowded multi stemmed plant that competes with itself for water and food and ends up producing only small potatoes. If you do cut your potato into pieces, you must cure the pieces to form a callous. To do this, set the cut potatoes on the counter in a warm moderately lit room for 3 to 5 days. This will create a callous over the cut side that helps keep the seed potatoes from rotting.

A rule of thumb when it comes to planting potatoes is to plant them a few weeks before your average last frost date. In Eastern Ontario, that is about the last week in April or first week in May. The soil temperature should be around 10°C. Dig a trench or hole about 20 cm deep. If digging a hole, each hole should be about 20 cm apart in rows about 90 cm apart. Place your potatoes cut side down with the eyes facing upwards (20 cm apart in your trench or) at the bottom of your hole. Cover the seed potato with about 8 cm of the soil you dug up. If you are growing only fingerling potatoes, you can grow your rows closer together. Potatoes need lots of water to grow successfully but do not like to be in waterlogged soil or they might rot. One year, my garden was extremely wet and when I dug my potato holes, water pooled in the bottom. I planted anyway and fortunately and much to my surprise, they grew successfully. Some gardeners find that by planting potatoes towards the end of June, they miss the dreaded Potato Bugs.

While potatoes grow best in full sun, potato tubers do not like sunlight. Like vampires, they must be kept in the dark or they will turn green. Hill up soil around your potato stems. It is best to do the hilling in the morning when the plants are at their tallest. As the plants grow taller continue to hill them up, using the soil from your trench or hole. The last hilling should be done before the plants bloom. Hilling keeps the potatoes from getting sunburned which can cause them to turn green and produce a chemical called solanine. Solanine gives off a bitter taste and is toxic. Hilling your potatoes with non treated grass clippings, straw or compost will also protect and feed the tubers and make the hunt for new potatoes that much easier.

Maintain an even moisture, especially from the time the sprouts appear until several weeks after they blossom. The plants need 2-5 cm of water each week.

Potatoes like to grow in acidic soil: the higher your soil pH is above 5.2, the more likely your potatoes will become scabby. Although they will not look their best, they can be peeled or when they are new scrubbed, to remove the scabs. Some people recommend piling pine straw on top of the potatoes when planting to help the soil be more acidic; however, this has only a minimal impact on an alkaline soil.

Colorado Potato Beetles (also known as ‘potato bugs’) are another problem. They need to be hand picked and squished or dumped into a bucket of soapy water. They are easiest to catch in their nymph state. Crop rotation helps keep the potato beetles from your patch. Being from the same family, potatoes can suffer from the same problems as tomatoes and peppers, so it is best to not plant potatoes where these plants have grown in recent years, or next to these plants. However, if you are like me, crop rotation is difficult because most of my garden is taken up with potatoes, tomatoes and peppers. I have also had success planting an onion between each potato plant -- it seems to help keep the potato bugs away.

Next month we will discuss harvesting and storing potatoes.

Watch for *Trowel Talk* the Master Gardeners of Ottawa Carleton electronic monthly gardening newsletter available on the 15th at <http://mgottawa.ca/>

Visit the Almonte online community newspaper ‘The Millstone’ - <http://millstonenews.com/> -for a column by David Hinks of the Lanark County Master Gardeners; under the Gardening tab.

The Edible Garden logo was created by Jon Last (jonlast13@rogers.com).

Beyond the use of neonicotinoids in agriculture, some ornamental plants shipped into the province from elsewhere contain these chemicals and are being sold to urban gardeners. It’s scary stuff, although consumers have protested, and more stores are changing their buying practices. The good news is that gardeners can be part of the solution. Here are some ways as an urban home gardener that I’ll assure my own garden, at least, will be bee-friendly this summer:

- I’ll grow more plants from seeds purchased through reputable local vendors and traders, including seed swaps through my horticultural club and Ottawa’s annual Seedy Saturday.
- When I do buy garden plants, I plan to purchase them at local nurseries where there is knowledgeable staff to answer questions around chemical substances in the plants or soil.
- I’ll shop places with labels that clearly state flower and vegetable plants for sale are bee or pollinator friendly.
- I’ll learn more about native plants and will head out again this year to the big [native plant sale](#) at the Fletcher Wildlife Gardens—June 1st 2019, 9:30 am—12:30 pm.
- Finally, I’ll grow pollinator plants not only on my own property but by helping out with community projects, including a new butterfly garden that’s scheduled in a community park just a block away. The bees will like it too.

Together, we can create corridors to protect our bees, our butterflies and other beneficial insects. We can make positive changes to improve bee health-.

Meanwhile, with any luck our master gardeners will be invited back to World Honey-bee Day on the Farm this year. I might even get to enjoy a scoop of delicious honey ice cream while passing out lists of bee-friendly plants, shrubs and trees.

Master Gardeners of Ottawa-Carleton and Master Gardeners of Lanark County are member groups of Master Gardeners of Ontario Inc., a registered charity with the mission of providing gardening advice to homeowners.