

Ask Dr Fill



Dear Dr. Fill

I see a lot of articles on creating butterfly gardens, and I'm wondering if there's anything in particular I could do to help support the population of Monarch Butterflies in particular. I have been thinking of planting milkweed, but many people warn me that it's far too invasive for a garden. If I lived in the country, I'd be happy to plant some, but my city garden is far too small to risk anything that will spread. I'm wondering if there are other things I could plant, or other things that I could do, as the more I learn about the many problems that are threatening them, the more I'd like to do what I can to help.

**Sincerely
Monarch Lover**

Dear Monarch Lover

Monarchs are one of the most recognizable butterfly species with their distinctive orange, black and white markings, and they are certainly in the news as they face more and more environmental threats. While some things we can do to help all butterflies will also help Monarchs, Monarchs do have some specific needs.

The more we know about their incredible migration, and the multiple threats they face, the more we all want to help. And I'm glad to say that there are absolutely things we can do, even in a small city garden or even if we live in a condo or apartment with flower boxes on our balconies.

Each fall monarchs set out on a 5,000-kilometre journey to their wintering sites in the mountain forests of Mexico, where they cluster together from

late October through March. It's one of the world's longest insect migrations. Although most of the trees they stay in are now located in protected areas, many of those trees have already been lost, so they do need any help that they can get! Understanding their life cycle helps us know what we can do, no matter where we live along their route.

The monarchs begin the journey north in the spring. Female monarchs stop to lay their eggs on milkweed plants wherever they can. The enormous patches of milkweed that used to be so common are now entirely disappearing as corn fields replace them, and the patches that remain are being wiped out by herbicide spray drifting from the corn fields to the wildflowers. The

caterpillars must eat the milkweed leaves, eventually transforming into butterflies that continue flying northward. This journey continues for 2 or three generations. The Monarchs that eventually arrive in Canada are usually the "great grandchildren" or even the great, great grandchildren of the ones who spent the winter in Mexico.

In their caterpillar stage, the monarch's sole source of food is the milkweed plant. The butterflies lay their eggs on milkweed plants so that as the eggs hatch, the caterpillar can begin to feed right away. The reason they've evolved to eat only this one plant is that the milkweed contains chemicals that make the Monarchs poisonous to any predators.

(In fact, this survival strategy has been so successful for Monarchs that Viceroy butterflies

have evolved to mimic Monarch's colour pattern in hopes of evading predators who all seem to know that the orange and black pattern is a sign to avoid eating them).

But the milkweed is only needed while they are in their caterpillar stage. Once they emerge as adults, Monarchs can start sipping nectar from a variety of flowers. So all gardeners can help out in this way, and some of their favourites are ones that you can easily and safely grow in your gardens – purple coneflowers, black-eyed Susan, coreopsis, beebalm, sage, and dahlias are among their favourites.

Monarchs also really love the abundance of nectar in cosmos, and these flowers will bloom throughout the summer to keep them fed, so they're a great choice and easy to grow from seed.

Even if your flower garden is limited to the smallest balcony, you can attract Monarchs with Lantana plants. These annuals are usually sold in full bloom, which means you have an immediate source of nectar to feed your Monarchs as soon as they arrive. (Choose sterile varieties that do not form berries for the longest bloom time).

Red and orange zinnias are another favourite annual. They're easy to grow from seed and they'll attract and provide food for hummingbirds as well as Monarchs.

But for the larvae, we can plant common milkweed (*Asclepias syriaca*) and Butterfly milkweed (*Asclepias tuberosa*) which both grow in dry, well-drained soil. The other variety, swamp milkweed, (*Asclepias incarnata*) – grows in damper, marshy

areas. While you said you don't want to risk having it spread in your small garden, you could safely grow the beautiful neon orange (*Asclepias tuberosa*) in your garden, but sadly, this isn't actually always a great idea! Monarch caterpillars are eating machines. If you lure in a Monarch to lay eggs on your plant, and it's the only one around, it's possible that the caterpillar would eat all the leaves and then starve as they can't eat anything else in your garden. So if you would like to try growing this variety, it's always good to grow several plants – AND – don't be upset IF the leaves are all chewed because that's why we grow them!!! (Often, they won't be chewed at all and we'll just have a beautiful plant, but more about that in a bit!)

Helping Monarchs doesn't have to be limited to planting flowers for them. There are lots of other things you can do! If you have friends who are teachers, you could tell them about the Go Wild School Grants, which fund educational, hands-on projects in Canadian Schools that give students the opportunity to help nature and wildlife, including Monarchs, in their communities.

The Nature Conservancy of New Brunswick is also happy to mail out milkweed seeds, free of charge, to any gardeners who are in rural areas and have room to plant some milkweed as wild patches are vanishing as suburbs spread farther and farther out into rural areas.

If you belong to any groups – church groups, bridge clubs – choirs – scrapbooking clubs – your group can purchase eggs to

hatch and release, once the butterflies are tagged. One group in Fredericton was tagging and releasing 7 or 8 butterflies each day last year. When they released them, they stayed around their gardens for many, many days before they began their journey south. No one really understands exactly how they know where to go, but ones that were tagged here as part of these programs have been found in Mexico, so they do have some kind of internal GPS that gets them there.

You can also let friends and family who are buying homes in rural areas know how important it is to refrain from removing milkweed in their garden or yards to help keep native milkweed levels from declining. Sadly in New Brunswick, many large areas where milkweed once grew are now levelled for new homes.

Obviously we need to not use any insecticides on flowers in our gardens that Monarchs may visit as they are seeking out nectar. The milkweed needs to be protected to help the caterpillars, but we need to protect the adult butterflies as well!

Lastly, you might want to place some fruit in your garden for the Monarchs. Adult monarch butterflies also love to feed on banana, oranges and watermelon!

You might also be interested to know that New Brunswick is not really a major part of their territory, so even if we do plant milkweed, we may not always have Monarchs laying eggs and hatching into caterpillars in our yards. We might, but we shouldn't be too disappointed if we don't! Southern Ontario and southern Quebec

represents the most extensive area of breeding in Canada. Common Milkweed is (or at least was) widespread in southern Ontario and Quebec, and this region supports the main breeding population of Monarchs in Canada each year. Monarchs are far less numerous in the Maritimes, and major breeding occurs only at scattered locations where there were traditionally good stands of wild milkweed. In New Brunswick, breeding occurs mainly along the banks of the Saint John River, and in Nova Scotia breeding is confined mainly to the Annapolis Valley. Monarchs do fly to Newfoundland, sometimes in considerable numbers, but they do not breed there since milkweeds do not occur in the wild and gardeners struggle to grow them in their gardens there. In Prince Edward Island, Swamp Milkweed occurs in the wild, and Common Milkweed has been introduced, but both have a very limited distribution in the province, and so far, no records of Monarch breeding have been found.

One less obvious thing that we can all do to help is to avoid planting things that closely resemble milkweed. Ontario is now battling a plant commonly known as "dog-strangling vine" which is an invasive species of swallowwort that was introduced to North America in the mid-1800s for use in gardens. In recent years these perennial vines have spread rapidly and we know that Monarchs are laying their eggs on them, but the caterpillars can't eat the leaves.

For those who are thinking they'd like to grow common milkweed (the tall pink form) to encourage

monarch butterflies, you should always create a small patch of milkweed that includes at least six plants. Try to include a nearby water source for your butterflies; a birdbath or a large potting saucer filled with water will work fine. Plant other flowers (those mentioned earlier) for the adults to gather nectar from.

Before you plant common milkweed, keep in mind that their rhizomatous roots will quickly fill in the space between plants. There's no need to fertilize milkweed plants, as they prefer poor soils. Your biggest maintenance challenge will probably be in containing them. *Asclepias syriaca* spreads both via seeds and rhizomes, forming colonies. At the very least, you may wish to remove the seed pods before they open. Otherwise, they WILL spread to distant corners of your yard. They do demand full sun and well drained dry soil.

And keep in mind that milkweed plants are food for caterpillars but poisonous to humans. Do not get the white sap (which gave the plant the name milkweed) on your skin or in your eyes. Milkweed is also toxic if eaten, so keep plants away from young children and pets.

If you are growing the **orange milkweed** (*Asclepias tuberosa*) there are a few other things to remember. First of all, **it is NOT going to spread** through your garden by rhizomes as other types do. If you grow it, you might actually wish that it would! Secondly, it loves hot, dry sunny locations in your garden. Don't bother attempting to grow it in wet or shaded areas! Lastly, it

is EXTREMELY slow to emerge in the spring. I can't tell you how many times I thought I'd lost it, only to see it sprouting up in LATE June. But once it is up, it does grow fast! Many of us like to leave the long, upright seedpods on the plant in the fall as they can be quite attractive. If you don't want them to self seed you'll want to remove the pods at the first sign that they are drying out and beginning to split open. As with the taller pink common milkweed, inside there are hundreds of seeds, each attached to a fluffy propeller - much like dandelion seedheads - and some of them WILL germinate where they land.

With the different varieties of *Asclepias*, it can be confusing to keep track of which ones are invasive and which ones are not. It doesn't help that the true definition of "invasive" involves it being a "non-native" plant. So... since some varieties ARE native - they may not be listed as invasive - but you still might want to think twice before you plant them in a garden setting! So... in a nutshell: *Asclepias tuberosa* is NOT going to cause you headaches. *Asclepias syriaca* likely will.

Swamp Milkweed (*Asclepias incarnata*) is a perennial, hardy in zones 3-8 and is not as invasive as some other milkweeds and it can remain fairly well behaved in the garden.

Hopefully some of this information will give you some suggestions on what you can do to help out the Monarchs. There is no doubt that every single person can make a difference, so thank you for your question and for your concern. I'm hearing from many gardening friends that there seem to be quite

a few Monarchs around
Moncton this summer, so
hopefully you'll have some
of them visiting your
garden!

Happy Gardening!
Dr. Fill