

Gardening on the Eve of Climate Change

by *Carla Keast*

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In the face of significant weather change as a result of global warming, how do we protect our gardens to keep them healthy? And just as important, can our gardens help heal our planet?

Exactly what changes to expect is one of the big uncertainties of climate change, which makes preparing for it somewhat difficult. There are a lot of ideas out there. Most are variations on three things: manage the plants; manage the water; and manage the carbon.

Managing plants means matching the growing conditions of the garden with the growing preferences of the plants, growing several varieties of plants rather than several of the same variety, growing plants that will withstand a variety of conditions, and adding some native plants to the garden.

There's talk of a longer growing season, which makes many of us hardiness zone 3 gardeners dream of being upgraded to zone 4 or 5. Unfortunately, our usual winter low temperatures are expected to remain, which means that our hardiness zone will probably not change.

What is likely though, is weather extremes: longer drought periods,

longer rainy seasons, earlier than usual frost, later than usual frost – we prairie gardeners and our plants have developed a fairly decent resilience to surprise frosts. We protect the vulnerable plants, and the rest hunker down and 'tough it out' through the frosty nights. But that long wet rainy event that was supposed to be summer in 2009? And my goodness, it's late April (2010) and we haven't had a drop of rain.

As gardeners we know where the wet and dry spots are in our gardens. In the past, with reasonable weather and willing plants (and perhaps a bit of extra watering) we may have been able to grow plants that weren't that well suited to our gardens. During weather extremes, though, these are going to be the problem areas – low areas are going to become water-logged sponges during wet spells and dry spots are going to become appalling collections of dust during drought. Knowing the wettest and driest places in our garden, and planting moisture lovers and drought lovers in those areas, will certainly help keep our plants alive.

I lost all of my Silver Princess Shasta Daisy (*Leucanthemum super-*

bum 'Silver Princess') and Moonshine Yarrow (*Achillea* 'Moonshine') in 2009. I had put them together in a low spot in a border, not because they love moisture, but because this was a location where they would deliver the most 'visual bang' from the deck and the kitchen window. In hindsight, the daisy probably had just the right moisture during more normal years. The site was probably much too moist for the yarrow, but it persevered, because that's what yarrow do. A summer of extreme moisture, however, was simply too much for the yarrow. I'll be replacing them, and relocating them to places that suit their growing preferences more precisely.

Another idea is to diversify. If you've lost plants, rather than simply replacing them, add some new ones to the mix. Not only am I going to move the yarrow to a drier location, I'm going to plant Silver Yarrow (*A. clavennae*) along side the 'Moonbeam'. The 'Silver Princess' can go to the edge of the low spot and I'll combine it with 'Becky' or 'Snow Lady' (*Lilium superbum* 'Becky', *L. superbum* 'Snow Lady'). With a few varieties of the right plants in the right places, some are bound to survive the next round of extreme weather.

Choosing plants that will withstand a wide variety of growing conditions contributes to a healthy garden. Daylily, Iris, Peony, Caragana, Honeysuckle, and Dogwood come to mind. While we probably don't want to restrict our gardens to these selec-

tions, part of the reason they are so common is that they are so resilient.

In addition to weather extremes, there are also predictions that the prairies will experience more drought than we are used to. Adding some drought tolerant plants will help carry our garden through dry years. Including some native plants is always a good idea, as they've developed a variety of ways to survive harsh prairie conditions, and many of them are more likely to be drought tolerant.

With our growing understanding of the importance of water conservation, many of us have already started changing the way we manage our water. Many gardeners have implemented the use of soaker hoses and carefully managed lawn waterings. The focus of water management with an eye on climate change is not only to water more selectively, but to make better use of the water that arrives on site through rainfall or snowmelt. The old fashioned rain barrel is new again.

Many of us use mulch as a weed suppressant. But mulch is also a great way of collecting water. A layer of mulch in a bed or border will shatter raindrops into small fragments that can percolate down into the soil, rather than running off and carrying away the soil with it. Mulch has the added bonus of protecting the soil from the sun, which slows down evaporation significantly. A mulched bed needs considerably less watering than one with exposed soil.

Taking it a step further is the idea of creating areas within the garden to collect and hold rainwater and snowmelt, rather than draining it to the street. These areas are called downspout gardens and bog gardens. They can be dressed up with moisture loving plants to become a feature garden, or they can simply be a shallow ditch lined with landscape fabric and filled with stones. They are essentially a tiny retention pond that collects runoff and allows it to slowly percolate into the surrounding soil.

Managing plants and water is not big news to most gardeners. But what about managing carbon?

Global warming is all about the carbon cycle, something that most of us memorized half-heartedly in school thinking that it had very little to do with us personally, however, times change.

In very simple terms, carbon is the building block of organic life. Carbon doesn't break down. It serves its purpose and then gets passed along to its next job. The cycle part describes the way it circulates through our biosphere. Starting in the air, a plant uses it to grow a leaf; a bug eats the leaf and uses it to grow wings; a bird eats the bug and uses it to grow muscle; the bird dies and the carbon either gets released into the soil or into the air. A plant will take it back from the air and the cycle starts again. Some feel there's too much carbon in the air right now – carbon dioxide and other

greenhouse gases may be contributing to global warming.

What can we as gardeners do to reduce the amount of carbon dioxide in the atmosphere? Plants are very efficient at removing pollutants and trees in particular play an important role. Adding a tree or two to our garden can be your contribution to improving the environment in the community. Trees are also very effective at helping us to reduce our energy costs by providing shade for our homes in the summer and wind protection in the winter. In addition to the savings on energy costs, relying less on air conditioners and furnaces means that fewer air pollutants are released into the atmosphere.

Another valuable carbon management tool is composting. Not only is composting a healthy means of returning organic matter to the soil, but it's also a means of reducing our carbon footprint. Good composting practices move carbon back into the soil, where plants can make use of it. However, poor composting practise releases carbon into the air in the form of methane. This can be avoided by keeping the compost heap moist (but not too moist) and turned regularly. But to really manage the carbon in our garden, we need to compost all the organic material – all the fruit and vegetable wastes, leaves, grass clippings and small branches – rather than sending it to the landfill, where its decomposition produces methane.

Obviously, our gas powered garden tools are a significant source of carbon emissions. How do we part with them? Try topdressing the lawn with one of the new slow growing seed mixes. It won't eliminate the need for mowing but is supposed to reduce it considerably. Consider replacing low traffic areas of the lawn with some low maintenance ground covers. As for the leaves that collect in our bog gardens? A leaf rake removes most. The wind also helps

out. I sometimes pluck a few others out by hand, and the rest, I simply ignore.

Keeping our gardens healthy in the face of climate change will require changes in how we garden. Some, we'll be able to control; others, maybe not. But as prairie gardeners, it seems to me that we have a head start — we've already learned how to be resilient and patient. 🌿

Rosemates

by Claire Bérubé

Claire is the Perennial Expert at Jardins St-Léon Gardens in St. Boniface, MB.

She answers clients' questions and consults for the garden centre, as well as managing the Perennials, Shrubs, Roses and Herb departments.

Ask any serious rose grower what they plant next to their rose bushes and you'll invariably get a dumbstruck look and reply "a rose of course!"

Some of us enjoy roses as a feature of our landscape, not as a mass planting, but rather as individual plants that are part of an ensemble.

Growing roses isn't just about roses, it's about incorporating them

*Felix Leclerc – Canadian Artist series of roses
(Jim Kohut)*

