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The Watering Handout

Up to 60% of our (very expensive and heavily subsidized) potable water goes onto our landscapes. The Environmental Protection Agency in the U.S. estimates 30%, and the National Wildlife Federation estimates 50 – 70%(!) of our water use is for irrigation. According to Canadian Geographic, “In North America, 60% of household water use happens outdoors.”

Getting off to a good start

Make sure plants are watered before planting. If plants are dry in the pots, water them twice. When organic matter dries out, it actually becomes *hydrophobic*, meaning that it repels water! There is a technique known as pulse watering, which involves giving plants a light water, then taking a break to allow them to absorb that water. Give them a second drink, and allow time for absorption. This helps the soil expand (it contracts when it dries out) and push against the side of the pot, making something of a seal, so subsequent waterings will stay in the pot and do the good they're meant to do. (With large trees, consider using a bucket with a small hole in the bottom. Perch it on top of the pot or rootball and fill it with water. Water will slowly seep out and thoroughly wet

the root zone, as opposed to just running off.

With larger plants (trees and large shrubs), after the plant is placed in the hole, fill the hole ½ way with (unamended!) excavated soil, then fill the hole with water. Let that drain away/get absorbed, then finish filling the hole and build a watering saucer around it.

Folks often forget about trees during dry periods. Trees desperately need water to cool themselves on hot days. Bringing up water is also how trees bring up nutrients from the soil, so it is doubly important. The good news is they cool your yard at the same time AND sequester carbon. To water a tree, set the hose on the lowest trickle possible and leave it at the base of the tree overnight. But don't over water! Roots need carbon dioxide too, and they can't get it from waterlogged soil. Get a [soil moisture sensor](#) to see if the rootball and environs have started to dry out. Overwatering kills the tiniest roots that are just trying to get growing. Watering bags such as [Tregator](#) are great for helping trees make it through their first season.



Here, we will deal with 'broad brush strokes', but be aware, there are always exceptions. Veggies, for instance, are thirsty, and need more regular watering than 'landscape plants'.

Some basic precepts:

- Drip is best, since it allows water to slowly soak into the root zones with minimal evaporation. Applying water directly to the base of the plant (as opposed to from above via sprinklers or pop-up irrigation) via drip hoses/systems, or otherwise, avoids wetting the leaves and puts the water RIGHT at the base of the plant.
- Water early in the morning. Water should evaporate off the leaves early and quickly.
- The worst time to water is the early evening, since leaves will stay wet all night. The longer water sits there, the more time it allows for fungal spores to germinate. However, watering at mid-day means huge losses to evaporation.

- It is better to water less often, but deeply. Measure rainfall with a gauge so you know what you're really getting from the sky, then you can augment. Water pressure varies from home to home, so however you irrigate, put out an empty tuna can and irrigate for a half hour. Measure how much is in the can, then you can calculate how long you need to irrigate to put down an inch (2.5cm) of water.
- When it all comes down to it, the only way to tell if a garden needs water is to stick your finger in the soil. If it's cool and moist, it's ok. If it's warm and dry, give it a drink.
- Plants in pots and planters need to be watered pretty much every day!

For New Plantings (subtracting rainfall!):

- For the first 4 – 6 weeks; put down ½" (1.3cm) two times per week
- After that, until the snow flies; 1" (2.5cm) per week, all at once
- A well-designed landscape should be drought-tolerant, so after that establishment period, water only during periods of extreme drought.
 - A great irony? To get their roots deep into the ground, drought-tolerant plants, including many native species, require MORE watering care during the first year (two years in the case of some ferns, such as Christmas Fern (*Polystichum acrostichoides*) than do 'regular' landscaping plants such as Astilbe. The good news? After that first year, the rest is easy, since they'll be established from then on.

There are many methods of watering, each of which has its own merits. Just standing with the hose, watering the lawn or garden really doesn't do the job. It takes a while to apply enough water. Watering methods include oscillating sprinklers that you'd move around as needed, DIY irrigation, such as these micro-pore hose systems like the one pictured here from [Lee Valley](#), and professionally-installed automatic systems. If you must have an irrigation system installed (perhaps, because of time, or physical ability, you just can't haul hoses!), make sure the installer is [WSIP certified](#) to get the best, 'smartest' system. State-of-the-art systems are tied into satellite weather radar and forecasts, have built in soil moisture sensors, and use a mix of delivery devices, including low-pressure drip hoses and large-droplet spray heads, using the best method for the precise location and purpose. Think about turning off the system after the first year.



To reduce your municipal water consumption (and save some cash!), it helps to avoid allowing nature's rainwater to run off your property. Use [Low Impact Development \(LID\)](#) techniques to capture stormwater; rain barrels, rain gardens, bioswales and evaporation ponds (ornamental ponds/water features to which downspouts are guided so the water will hold and evaporate). From there it will soak into the soil and be available to your garden plants, in addition to reducing local flooding, protecting our waterways, the creatures that live in them and so much more.

Mulch slows evaporation, keeps soil cooler in the summer and warmer in the winter, reduces weed germination and promotes the [soil microbiome](#). Keep mulch topped up (to 2 – 3" (5 to 7cm)- no more, and never against tree trunks!) every year or two. A composted mulch, such as that sold by [Elmview Farms](#), is a good blend of wood shavings that keep weeds down and of compost that feeds the plants and soil.

Rain barrels and How to Use Them

The folks that give/subsidize rain barrels don't do a great job explaining the essence of using them well. Yes, you get to use the water to water your plants, but that's not really the purpose. The important part about rain barrels is to empty them a day or so *before* it rains so the barrel is empty before it rains again, ready to catch that rain. For YOU, try and put your rain barrel on a pedestal, metaphorically and literally, since raising it up increases the gravity that can force the water through the pipes, and also make it more physically easy (you don't have to bend down so far) to get the water out. Two simple ways to use the water in your garden, beyond just using rain barrel water to fill a watering can? Attach a sweating hose (the kind with little pores) and run it through the garden. When it's time to empty it, just open the barrel's bottom valve and let gravity slowly deliver the water to your plants. The second option is a system such as [Irrigatia.ca](#) which is an automatic solar gizmo designed to slowly and constantly pump the water from the barrels out into the garden. Before winter, make sure you empty the barrel and lay it on its side. If it freezes it may crack.

Watering turf (seed or sod) – a different kettle of fish

There are drought tolerant turf types such as perennial rye, and the new varieties of rhizomatus tall fescue, which reduce water use, repel insects and resist fungal attack. They also spread by rhizome, under the soil surface, so they're 'self-healing' just like Kentucky Blue. Look into these if turf is important in the landscape. Used together, over-seeding and topdressing are an excellent way to upgrade an existing lawn since minimal work is required, and disturbance of the existing soil is minimized. Use of improved varieties of seed mean fewer pests and less water use.

New lawns – seed or sod – should be watered lightly (never allow water to pool) two or three times a day, depending on heat and humidity, for about 10 minutes each time. New sod must never be allowed to dry out. If too much water is applied, the seed will float and move with the water, causing it to wash away.

This watering regimen needs to be continued until sod has rooted, or seed has germinated and rooted. After that, watering can be reduced to once a day for two weeks (again, depending on weather), then to ½ inch (1.3cm) twice a week for two weeks, then to 1" (2.5cm) a week for the remainder of the season. Seed applied through [terrasteeding](#) will need considerably less attention.

Once a landscape is established, you don't need to water the whole garden just to water that plant. Check out these [watering spikes!](#)



Make systems easy to use!



[Quick coupling systems](#)



These timers are easiest

Some Bits and Pieces

Sometimes, if it's hot and humid, as it often is in Ontario summers, and the soil has moisture in it, plants can still fall behind cooling themselves. There's a handy technique/treatment known as syringing. It's oft'used on golf course greens but works in gardens too. At the heat of the day, just give wilting plants a light misting (VERY light – so it evaporates quickly). (That bit about water droplets on leaves in sunlight burning them – MYTH!) This syringing cools them and allows them to catch up on drawing up water from the soil, taking stress off (you and the plants! 😊).

As a sidebar, if you're digging and dividing perennials, have a bucket or wheelbarrow of water handy to store the plants in while you dig others or divide them. Keep them in water until you plant them. It's all about stress reduction! This isn't always possible, but try to divide after a rain and on a cloudy day.

ANOTHER sidebar: If you HAVE to move a plant in the heat of summer, cover them as soon as they're dug from the soil (and keep them covered) with a thin old sheet or some burlap (something that lets light through and doesn't weigh too much) and mist them a couple of times a day. It's not about watering the plant, but rather about taking stress off, so it can concentrate on growing new roots. The moist/misted fabric creates an envelope of humidity around the plant, reducing [transpiration](#) and keeping it cool. This should probably stay on about three weeks to a month, until the plant has had a chance to grow new root hairs.

Preparing for Winter

Woody plants (especially evergreens) need to be well-watered going into winter. Once the ground freezes they can't uptake any more water, yet still lose water to evaporation. If the fall is dry, give woody plants a good soaking before the snow flies. New evergreens should be wrapped for their first winter. This is especially important for White Pine (*Pinus strobus*), Hemlock (*Tsuga spp.*) and Fir (*Abies spp.*) and broadleaf evergreens such as Rhododendrons.

Hopefully you found this helpful. Feel free to share! Questions? Reach out!

Yours in Nature,



Sean James NPD, FLP, & Master Gardener

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