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WATER-SAVING TIPS FOR YOUR LAWN AND GARDEN

In the summer months, municipal water use doubles. This is the season when Canadians are outdoors watering lawns and gardens, filling swimming pools and washing cars. Summer peak demand places stress on municipal water systems and increases costs for tax payers and water users. As water supplies diminish during periods of low rainfall, some municipalities must declare restrictions on lawn and garden watering. By applying some handy tips, your lawn and garden can cope with drought conditions and you can minimize water wastage. You will also save money.

General tips

Much of the summer peak demand is attributed to lawn and garden watering. Often water is applied inefficiently, resulting in significant wastage due to over watering, evaporation or run-off. Here are some general watering tips to help avoid wastage:

- Before watering, always take into account the amount of water Mother Nature has supplied to your lawn or garden in the preceeding week. Leave a measuring container in the yard to help you monitor the amount of rainfall and follow the tips below to help determine how much water to add. Also bear in mind any watering restrictions that may apply in your municipality.
- Water before sunrise or after sunset to reduce evaporation. Water on calm days to prevent wind drift and evaporation.
- Set your sprinkler or hose to avoid watering hard surfaces such as driveways and patios. If you're not careful, it's water and money down the drain.
- Water slowly to avoid run-off and to ensure the soil absorbs the water.
- Regularly check your hose or irrigation equipment for leaks or blockages.
- Collect rainwater from your roof in a rain barrel or other large container and use a bucket or hose to water your garden. Direct the down spout of your eaves troughs into the container.
- Use water from dish rinsing, dehumidifiers or other gray water sources that do not contain harmful chemicals.
- Depending on your lot size and budget, an irrigation system can make a difference. A garden hose with small holes placed on the ground applies water to the soil surface where it is needed—rather than to the leaves—and reduces evaporation. Drip or trickle irrigation systems are highly efficient because they deliver water slowly and directly to the roots under the soil surface. This promotes deeper roots, which improve a plant's drought resiliency. If you use a sprinkler, choose one with a timer and that sprays close to the ground.

Tips for your lawn

Established lawns[1] generally require about 2.5 cm (1 inch) of water per week to thrive[2]. If Mother Nature is providing this amount of rainfall, your lawn will thrive without supplemental watering. When rainfall does not provide adequate moisture, your grass may start to turn brown. This does not mean it is dead—it's simply dormant. An established lawn will recover and resume its green appearance shortly after sufficient rainfall returns.

Apply these tips to save water and money without compromising the health of your lawn:

- Apply about 2.5 cm of water not more than once per week and skip a week after a good rain. The correct

[1] Newly seeded or sodded lawns have greater water demands.
[2] Actual water requirements depend on individual conditions, such as soil type.

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amount can be estimated by placing an empty tuna can on your lawn as you apply water evenly across the surface. When the water level reaches the top of the can, you've applied about 2.5 cm of water which is all your lawn needs. You can time how long it takes to reach this level, then set the timer on your sprinkler.

- Water thoroughly. Deep watering at this rate is better than frequent, shallow watering because it encourages deep roots.

- Don't water your lawn excessively. When it's waterlogged, it may turn yellow and develop fungus and diseases. Oxygen and mineral uptake may be restricted on heavy clay soils. Too much watering can also lead to thatch and fertilizer leaching.

- Check your municipality to see if watering restrictions are in effect.

- Avoid mowing and unnecessary traffic on your lawn when the lawn is dry or dormant.

- Don't cut your lawn too short. When it's 6 cm in height or taller, the roots are shaded and better able to hold water.

- Aerate your lawn once a year in the early spring or fall to improve water penetration. Afterwards, topdress by applying a thin layer (max. 15 mm) of organic material and rake to distribute evenly. You can overseed after this to help thicken the lawn.

- A thick, vigorous lawn is the best prevention against weed invasions and can better withstand heat and dryness. A healthy lawn needs nutrients, such as nitrogen. Application rates, sources and timing will depend on many factors including soil type. As a rule, a healthy lawn with good soil needs 1 to 2 kg of nitrogen per 100m² every year. Leave grass clippings on the lawn to return about 1 kg of nitrogen per 100m² to the lawn, and reduce weeds and moisture loss.

Tips for trees, shrubs and flower gardens

Here are some water-saving tips for trees, shrubs and flower gardens:

- Direct water to the root system. In the case of trees and shrubs, the roots that take up the most water are generally located within the top 30 cm of the soil and near and even beyond the drip line. This is the area directly below the outer tips of the branches.

- Plants have different watering requirements at various stages of their growth. For example, in the first year of planting, trees need about 2 to 3 cm of water once a week. During the next four years, they need 2 to 3 cm of water every 2 to 3 weeks. Generally, mature trees require about 2 to 3 cm of water once a month. Again, if Mother Nature is providing at least this amount of moisture, supplemental watering should not be necessary. But moisture requirements depend on a range of factors, including soil type and species. For example, native tree species carefully selected to match the site conditions are most likely to withstand drier conditions.

- Water perennials and vines well in the first year during establishment. Afterwards, perennials selected to match site conditions should not be killed off by drought if no supplemental watering is provided. They may wilt, but should bounce back once it rains, or simply go dormant until the next growing season. If you notice wilting or die-back on your perennials, water to a depth of 10 to 20 cm to help restore the plant's turgidity and vigour.

- Apply a layer of mulch about 10 cm deep over the surface of the garden to retain moisture, moderate soil temperature, control erosion and suppress weeds. Pine bark, straw and crushed rock are just a few of the materials that can be used as mulch.

- Use a perforated hose or hand water your garden, rather than using a sprinkler. This will help to apply water to the soil and roots--rather than the leaves--and reduce evaporation.

- Grass under your tree competes with the tree's roots for water. Apply mulch instead which helps to retain water. You can remove the lawn and replace it with mulch material.

Designing a water-efficient garden

You can create a lush, colourful garden, like the one in Figure 1, that requires little maintenance or water by applying the seven principles of xeriscaping—an approach to designing landscapes so that their water requirements correspond to local climatic conditions. While these are sound principals for any garden, they are particularly useful if you live in a region with low rainfall or that experiences water shortages.

1. **Design for your site and your needs.** Sketch your lot including property lines, buildings, driveways and features that will remain. Add trees, shrub and flower beds, lawn areas, patios, decks, etc. Consider the specific conditions of your yard, taking into account that water requirements will differ in shady versus sunny spots, and slopes versus flat areas or depressions. Some places, such as narrow side yards, may be hard to water. Where possible, drain paved surfaces to garden and lawn areas.

2. **Group plants with similar water needs to make watering more efficient.** Shrubs and perennials should be grouped together in mulched beds. Trees should also be clustered in mulched beds rather than isolating individual specimens in lawn areas. This will help to reduce moisture loss and competition.

3. **Amend the soil.** First, find out what type of soil you have and improve its water retention capabilities accordingly, for example, by adding compost or other organic materials.

4. **Size your lawn area to meet your practical needs for play and traffic.** Avoid many small or narrow lawn areas in favour of a consolidated lawn, since they are easier and more efficient to water. For primarily visual areas, consider water-efficient ground covers, perennials or shrubs. For foot-traffic routes or narrow spots, such as side yards, a permeable inert surface such as wood chips requires no water. Unit paver or flagstone patios as well as decks can be used as an active use no-water alternative to lawns. Avoid asphalt or concrete because they prevent the rain from soaking into the ground. These surfaces also reflect heat causing greater evaporation.

5. **Choose plants that are well adapted to your climate and site conditions.** Consult your local garden centre or the references at the end of this article to find plant lists. Know your site including its soil types. In shady areas, use shade-tolerant species or consider a woodland shade garden. In sunny spots, use drought tolerant, sun-loving species or consider a wildflower meadow. Drought tolerant species should be used on rapidly-draining slopes (avoid turf grass), but you can consider moisture-loving plants in depressions or low spots. For a water-saving lawn, choose a species best suited to rainfall levels in your region. Low maintenance lawn seed mixes are commercially available. Check your local seed companies or garden centre.

6. **Use mulch.** (Refer to Tips for trees, shrubs and flower gardens.)

7. **Use an efficient irrigation system and appropriate maintenance.** (Follow the tips in the previous sections.)

Other outdoor activities

Lawn and garden watering is not the only outdoor activity contributing to summer peak demand. You can lower your water bill and relieve the burden on municipal water supplies by doing the following:

- Use a broom instead of water to remove debris from paved surfaces such as driveways.
- Use a bucket and sponge to wash and rinse your car, instead of a hose.
- Cover swimming pools when they are not in use to reduce evaporation.

Kamloops Xeriscape Demonstration Garden

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