

Make the neighbourhood a better place

Start something in your backyard!

A resident's guide to natural yard care for the Lower Mainland



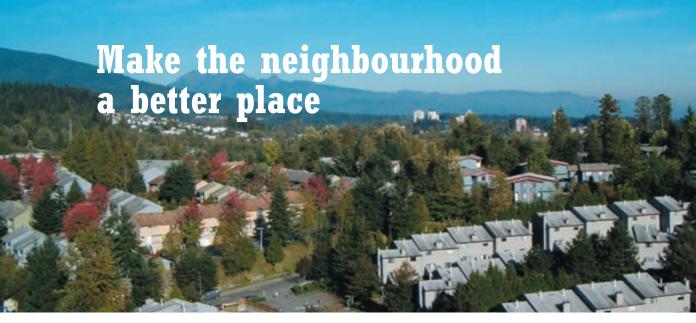


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This booklet is not a comprehensive list of sources of information or supplies. While the GVRD has endeavoured in this booklet to compile preferred natural yard care practices from a variety of experts, readers should note that these practices may not be suitable in every situation, as various parts of the region may have specific concerns not considered here. Suggestions in this booklet are not intended to take the place of professional advice for special circumstances. The GVRD does not endorse any particular business, individual or commercial product.

What is natural yard care?

Natural yard care (or "ecoscaping") is about working with nature to create a yard that is attractive and easy to maintain with a minimum of resources. Consider transforming a high-maintenance lawn into an inviting, drought-tolerant landscape that will become an inspiration for the neighbourhood and an important part of its biodiversity.

An important part of natural yard care is making choices that will not create problems beyond your fence. For example:

- Nourish your lawn and garden with a thin layer of well-decomposed compost and
 rely less on chemical fertilizers. You can make your own compost for free. Compost
 helps the soil hold moisture so plants need less water, and provides a slow-release
 source of nutrients for plants.
- Choose labour-saving plants such as those that are drought tolerant and pest resistant.
 There will be less need to control pests, which eliminates the need for pesticides that might affect your health, harm other living things and find their way into local streams. And you will use less water.
- Leave grass clippings on the lawn after you mow instead of raking and bagging them. This is also known as "grasscycling." You save time, and the nutrients in the clippings provide organic matter and from 15 to 40 per cent of your lawn's nitrogen needs.

You'll find more tips and resources in this guide.





Working with nature will give you more time to relax and enjoy the variety of life flourishing in your natural landscape.

Why choose natural yard care?

Switch to natural yard care and take advantage of our West Coast climate to:

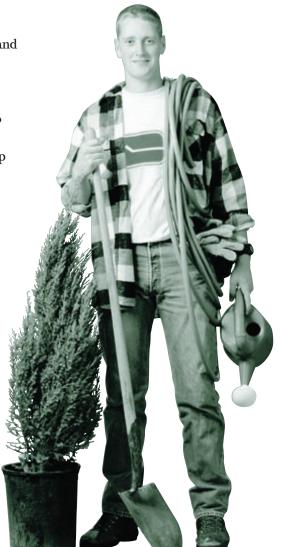
 Spread your work out over the year and your yard will always look maintained and inviting.

· Spend less time on watering and weeding.

• Create a healthy, chemical-free place for people and pets to play.

• Spend less money on fertilizers and pesticides.

By adopting natural yard care practices, you're also contributing to cleaner air and waterways, and reducing your waste and water use. All this adds up to creating a better neighbourhood!



From the ground up: feed your soil

Healthy soil contains beneficial organisms that keep the earth loose, so that air, water and plant roots can move freely. It also provides nutrients to plants and holds water that plants need. Good soil supports the growth of healthy plants, which are more resistant to pests and disease.

Build healthy soil

How do you know if your soil is healthy? Dig 20 to 30 cm and take a look.

Soil colour

If it's light brown (not dark brown or black), it probably needs more organic matter.

Organic matter comes from decomposing plants and animals, and exists at various stages of decomposition. As soil organisms break down organic matter, they improve the nutrient content, texture and the drainage capacity of your soil. Examples of organic matter include leaves, manure and compost.

Soil texture

Some types of soil can be improved considerably by digging in organic matter, such as good quality compost, composted leaves, or well-aged bark or sawdust (it must be dark brown in colour). Keep in mind:

- Sandy soil doesn't hold water or nutrients.
- Clay soil holds nutrients but doesn't let water or air circulate.
- Compacted soil also won't let water and air reach the plant roots.

For gardens on sandy or clay soil, mix in an 8-cm layer of compost into the top 25 to 30 cm of soil. For established gardens, dig in 2 to 5 cm of compost per year. Top-dressing with compost in the spring and fall can improve lawns, especially those on sandy or clay soils and those with compacted soil.

Soil nutrients and acidity: the right mix

N-P-K

Stands for nitrogen, phosphorous and potassium. These are three major nutrients needed by plants to stay healthy. When you see numbers such as 20-20-20 on the side of a bag of blended fertilizer, they represent the proportions of N-P-K.

Nitrogen

(N) helps new growth of leaves and shoots. Natural nitrogen sources include grass clippings, fish meal, blood meal, manure and other organic fertilizers.

Phosphorous

(P) helps produce strong roots and promotes flowers and fruit. Natural sources of phosphorous include bone meal, rock phosphate and fish meal.

Potassium

(K) is essential for plant growth, fruit size, winter survival and quality. Natural sources of potassium include kelp meal, greensand and compost.

Compost and other forms of organic matter will help increase levels of all three of these nutrients plus other essential nutrients needed by plants.

Some neighbourly advice...



Remember, not all soil amendments are created equal. If you want to order soil in bulk, find out from the supplier if the soil has been pasteurized (heated) — not sterilized — that involves chemicals. Also, look for roots in the soil while it is still on the truck; once it's dumped, they won't take it back. Call the Regional Compost Hotline (see Resources on page 29) or your local nursery for recommendations on soil amendment products (including bulk soil) available in your community.



pH scale

blueberries are happy between 4.5-5.5, rhododendrons 5.5-6.5

pН

The pH scale measures soil acidity. The scale ranges from 0 to 14 where "0" is the most acidic, "14" is the most alkaline and "7" is neutral. Most plants prefer soil of pH 6.5, but Lower Mainland soil is naturally acidic, so many native plants thrive in this type of soil—rhododendrons, salal and native blueberries are good examples.

Providing the right soil pH is surprisingly important, because it determines what nutrients are available to plants. If the plants you are trying to grow need a more neutral soil (this includes lawns and many garden plants), you need to add lime.

How much lime to add varies with the type of plants being grown and is best added according to soil test. It's simple to test the pH level of your soil with a kit from a garden centre. Once you find out what your soil needs, you can add the correct amount of lime to the soil. Lime can be applied in either the spring or fall. It won't burn grass so it can be sprinkled directly on a lawn.

Good things to know about working with lime:

- Lime isn't toxic, but it is made up of fine particles that can impact your hands, eyes and lungs. Remember to wear gloves, a dust mask and goggles during application.
- The use of a spreader is ideal, but if you do it by hand, try to apply a light dusting close to the soil to reduce loss in the wind. Lime also comes in small pellets that reduce the presence of dust.
- Apply lime to raise the soil pH and promote healthy grass. The application rate for lawns is one 20-kilogram bag of dolomite lime applied 100 m² or 1,110 sq. ft.

Ground truth for the great lawn

Top-dress and fertilize twice a year

Top-dress with an organic lawn food. Avoid fertilizers with soluble nitrogen sources, because overfertilized lawns produce rapid leaf growth at the expense of roots. Not only does this require you to mow more often, but it also makes the lawn more susceptible to drought damage, because roots are shallow. Overfertilization can also cause too much thatch to build up. (See next page.)

A healthy and robust lawn starts with well-nourished soil.



Reduce compaction in high traffic areas

Healthy soil needs air, whether that soil is under a lawn or flower bed. Compacted soil reduces the circulation of air, nutrients and water, and impedes the growth of deep root systems. Aerate lawns only if the soil has become compacted, which usually only happens in areas with heavy foot traffic. This can be done in the late spring when the soil is moist, but not wet. Use an aerator to cut and lift out narrow plugs of soil, then rake or mow to break up the plugs. To prevent weeds from growing where the soil has been disturbed from aeration, immediately overseed the lawn with a good quality blend of turfgrass seed.

Select drought-tolerant grass seed, for example, a mix of pest-resistant, perennial ryes and fescues will yield good results. Consult your neighbourhood garden centre on the optimum mix for your yard. Overseeding can be combined with top dressing with compost, or compost mixed with sand.

To prevent compaction:

- minimize foot traffic when the soil is water logged, and
- ensure the soil contains healthy amounts of organic material and earth-worms—nature's aerators.

Practise grasscycling

Save energy, money and time by leaving the clippings on the lawn (grasscycling). This returns nutrients to the soil and can provide up to 40 per cent of your lawn's nitrogen needs and help grass grow greener and denser. The clippings also provide a mulch that protects the grass roots, and reduces evaporation and the need for water.

Only dethatch if thatch is thicker than 1-2 cm (or about 1 inch)

Thatch is a layer of undecomposed grass leaves, and other organic materials intermingled with a layer of dead and livings roots and stems. A one-to two-centimetre-deep layer of thatch is beneficial for the lawn – it mulches the soil, reduces water loss, provides organic matter and protects grass from compaction by foot traffic. In a healthy lawn, earthworms and soil micro-organisms decompose thatch as fast as it accumulates. Thatch only becomes a problem if it builds up into a thick and compacted mat that prevents water and nutrients from reaching grass roots. This usually only occurs on lawns that have been overfertilized and overwatered. It can also occur where pesticides or other products killed earthworms and other beneficial organisms that break down thatch. It is a myth that thatch is caused by leaving grass clippings on the lawn.

If the thatch has become too thick, use a dethatching rake to remove a thin layer gradually, one centimetre at a time. Avoid removing all of the thatch at one time as this opens the lawn to weed invasion. Top-dressing with compost also helps to decompose thatch by stimulating growth of organisms that feed on thatch.

Deal with moss the natural way

This is the soft green stuff that loves rainy days, shade and never needs mowing. Although you can try planting turf grasses more suited to shady areas, turf experts say that wherever moss is thriving, it is a sign that conditions are just not suitable for lawn grass to grow well. Many people learn to love moss instead!

Here are some ways to manage a site to make it less favourable for moss.

- Improve the perimeter drainage of your lawn to dry out the soil.
- Apply lime (see page 5 for tips on working with lime).
- Aerate the soil and top-dress with sand to improve drainage.
- Water properly see page 19 for details.
- Selectively thin or prune back plants that cast shade on the lawn.

Applying demossing pesticides containing ferrous sulphate will provide short-term control of moss, but only correcting the underlying conditions that favour moss will give long-term results. Then, rake out the moss and reseed with shade-adapted turf grasses to fill in the lawn. Learning to tolerate moss means less work—so consider accepting it as an alternative to grasses. Alternatively, you could plant other types of ground covers (see page 14 of this guide) that are better adapted to shady conditions.

Lawn alternatives

Encouraging moss growth is just one of the many options for reducing your lawn maintenance. You can also replace your lawn with low-maintenance ground covers.

For sunny dry spots consider kinnickinnick, woodland strawberry, wild strawberry, coastal strawberry, clover, thyme, London pride saxifrage, sedum species and ornamental grasses.

For shady moist spots consider ferns, salal, wild ginger, bleeding heart, columbine, wild strawberry, dull Oregon grape, violet and false lily of the valley.

For shady dry spots consider salal, sword fern, tall Oregon grape, bunch berry and twinflower.

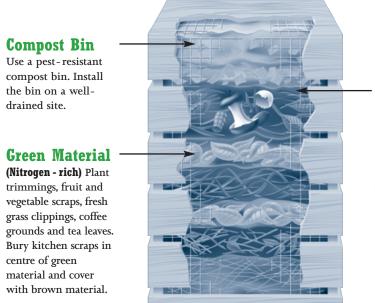
Intermix ground covers to enhance diversity and create year-round interest. You can also add features such as rocks or stepping stones to add to your design. Ask your local nursery for lawn alternatives and layout ideas.

Natural soil boosters

The cheapest way to build healthy soil is to add compost.

Compost

Composting transforms kitchen scraps and yard trimmings into an amazing soil booster! Compost improves any soil – it helps sandy soil hold water and it loosens compacted or clay soils. Make your own using a rodent-resistant compost bin. If you need help getting started, or if you want to buy compost, call the Regional Compost Hotline at 604-736-2250.



Brown Material

(Carbon - rich) Dry leaves, straw, sawdust, dried grass clippings.

π:-

Turn the material every other week.

Moisture

Keep the material as moist as a wrung-out sponge.



Some municipalities offer residential composter purchase programs. Good compost will help you build healthy soil that will keep your plants healthy. Contact your municipality for information.

Steps to great compost

Choose the right size of bin

The ideal compost bin has a volume of about one cubic metre so that it retains the heat it generates. Smaller bins lose heat, while larger bins do not allow enough air to reach the centre of the material.

Cut up large scraps to speed decomposition

Smaller scraps offer more exposed surface area for bacteria to invade and break down more quickly.

Keep a lid on things

A lid will keep out excess water. Composting works best when materials in the bin are about as moist as a wrung-out sponge.

Get some air

Turn or mix your compost materials regularly to help air reach the organisms in the centre. If you have a plastic composter, poke holes with a broom handle, old ski pole or compost tool into the pile to create air passages.

Hoard carbon sources

In autumn, put aside fallen leaves so that you have a carbon source year-round. Equal amounts of carbon and nitrogen materials in a bin help speed decomposition. (Refer to page 8 for sources of carbon and nitrogen.)

If bears are a problem in your yard, contact the Regional Compost Hotline to find out what not to put in your compost. Keep compost away from fences and thickets, and keep a screen around the bottom of the bin to deter rodents.

Mulch

Organic mulch is a layer of material such as leaves or compost that covers the soil. Organic mulch spread around the base of a plant feeds the soil, reduces evaporation and prevents weeds from growing. Keep mulch five cm away from the plant stem or tree trunk. Garden beds (including flowers, vegetabless, trees and shrubs) do well with a 5-to 8-cm layer of toted leaves, compost or soil amendments.



Keep mulch about 5 cm away from the base of each plant to avoid stem rot.

Organic and slow-release fertilizers

Most trees and shrubs get the nutrients they need from healthy soil. But lawns and flower or vegetable gardens may have different needs and usually require extra nutrients. An organic, slow-release fertilizer is a good solution. Look for the words "natural organic" and "slow release" on the packaging. This kind of fertilizer gradually releases nutrients, so there is less waste through leaching or runoff. And because the fertilizers aren't just washing away, you are not wasting your time and money!

Put the right plant in the right place

Plan now and save later

Find out which plants will thrive in your yard, and save time, energy and money in the long run.

- Choose plants suited to local conditions that will grow with minimal care.
- Place plants where they can get the required nutrients, water, light and room to grow. Look for cultural information on the tags of plants you purchase (or seed packaging), or ask garden centre staff what the plant needs before buying it.
- Group plants with similar water, light and soil requirements together to make it easier and more time efficient to care for them.
- Group plants with staggered blooming seasons so that different areas of your yard are always attractive.

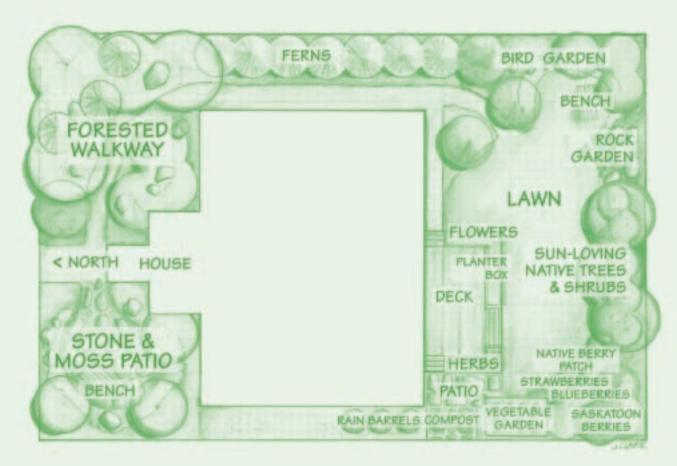
Before planting, consider where the soil is rich or poor, soggy or well-drained, and where there is sun or shade.

- Where are good places for play areas, views and privacy?
- Is planting a lawn or maintaining an existing lawn practical, or would some other kind of ground cover or patio space suit your lifestyle better?
- What plants will thrive in your yard's soil and light conditions?
- What plants do you really want to keep? Which could be replaced?

Some neighbourly advice...



It's never too late to improve the design of your yard! Work around your favourite plants, and transform the rest of the yard into an inviting, healthy and low-maintenance space that will increase the value of your property.



A natural yard care planting layout.

Some plants have particular growing needs, so your aim is to put each plant where it will thrive. Sounds simple, but often a shade-loving shrub ends up in a sunny spot because "it looks good there," or a perennial that requires well-drained soil is left to languish in a boggy spot. This has long-term consequences, because stressed plants don't look good and are susceptible to pests and diseases. This creates more work for you.

Most grasses and many vegetables and flowers do not grow well in shade. Very few plants grow well in the deep shade and dry conditions under conifers. Throughout the process, consider what will work best for you. For example, on a steep slope, do you want to mow grass or would a low-maintenance ground cover look good and make your life easier?

Call the Regional Compost Hotline, Master Gardeners Association of BC or your local garden centre for expert advice on making the right choices. Please see Resources on page 29.

Less fuss, more value: choose the right plants

Look for plants that are:

- Well suited to our local soils and climate if planted in the proper place
- Adapted to summer drought and winter rains
- More likely to resist pests and diseases

Native plants have evolved in their natural areas and become adapted to our climate and soil conditions. These plants can withstand many local pests and diseases.



Consider that native plants have been good low-maintenance friends to many Lower Mainland gardeners. Think about finding a spot for one or more of them in your yard.

Ask your nursery for information about the plants that can save you time and money.

Perennial – a plant that lives for more than one to two growing seasons. **Annual** – a plant that grows for only one season.

Some neighbourly advice...



Don't let invasive plant species such as Himalayan blackberry, goutweed, periwinkle and Scotch broom seduce you. These plants will quickly take over existing native species. Ivy is choking some of our regional forests, so it's best to avoid giving these plants a home. Weeds BC can help you identify your weeds, learn how to manage them and find out what can happen if you don't. Go to www.weedsbc.ca for the profiles of weeds common to our region.

B.C. native plants suitable for the West Coast garden

The following plants are available at most Lower Mainland nurseries. For more information on native plants and where to find them, go to Native Plant Society of BC at www.npsbc.org, Evergreen native plant database at www.evergreen.ca, or Naturescape British Columbia at www.hctf.ca/nature.htm

Dry – Sunny Sites

Native perennials

Yarrow (Achillea millefolium)
Nodding Onion (Allium cernuum)
Common Thrift (Armeria maritima)
Goat's Beard (Aruncus dioicus)
Douglas Aster (Aster subspicatus)
Common Camass (Camassia quamash)

Native ground covers

Kinnikinnick (Arctostaphylos uva-ursi)
Salal (Gaultheria shallon)
Short Oregon Grape (Mahonia nervosa)
Broad-Leaved Stonecrop (Sedum spathulifolium)

Native shrubs

Saskatoon (Amelanchier alnifolia)
Red Osier Dogwood (Cornus stolonifera)
Oceanspray (Holodiscus discolor)
Tall Oregon Grape (Mahonia aquifolium)
Indian Plum (Oemleria cerasiformis)
Mock Orange (Philadelphus lewisii)
Red Flowering Currant (Ribes sanguineum)
Snowberry (Symphoricarpos albus)
Trailing Snowberry (Symphoricarpos mollis)

Native trees

Douglas Maple (Acer glabrum) Beaked Hazelnut (Corylus cornuta) White Spruce (Picea glauca) Shore Pine (Pinus contorta)

Shady - Dry Sites

Native perennials

Western Red Columbine (Aquilegia formosa) Rattlesnake Plantain (Goodyera oblongifolia) Foamflower (Tiarella trifoliata) Inside-Out Flower (Vancouveria hexandra)

Native ground covers

Wild Ginger (Asarum caudatum)
Coastal Strawberry (Fragaria chiloensis)
Dull Oregon Grape (Mahonia nervosa)
Redwood Sorrel (Oxalis oregana)

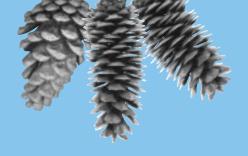
Native shrubs

Snowbrush (Ceanothus velutinus) Oceanspray (Holodiscus discolor)

Native trees*

Grand Fir (Abies grandis)
Douglas-fir (Pseudotsuga menziesii)
Western Hemlock (Tsuga heterophylla)
*These trees get very big and are not recommended for small yards.





Shady - Moist Sites

Native perennials

Vanilla Leaf (Achlys triphylla)
Western Red Columbine (Aquilegia formosa)
Queen's Cup (Clintonia uniflora)
Bleeding Heart (Dicentra formosa)
Shooting Star (Dodecatheon hendersonii)
Tiger Lily (Lilium columbianum)
False Solomon's Seal (Smilacina racemosa)
Star Flowered Solomon's Seal (Smilacina stellata)
Foamflower (Tiarella trifoliata)

Native shrubs

Red-Osier Dogwood (Cornus stolonifera)
Scouler's Willow (Salix scouleriana)
Sitka Willow (Salix sitchensis)
Red Elderberry (Sambucus racemosa)
Oval-leaved Blueberry (Vaccinium ovalifolium)
Evergreen Huckleberry (Vaccinium parvifolium)
Red Huckleberry (Vaccinium parvifolium)

Native trees

Vine Maple (Acer circinatum) Douglas Maple (Acer glabrum var. douglasii) Oregon Ash (Fraxinus latifolia)

Native ground covers

Bunchberry (Cornus canadensis)
Twinflower (Linnaea borealis)
False Lily of the Valley (Maianthemum dilatatum)
Redwood Sorrel (Oxalis oregona)

Native ferns

Maidenhair Fern (Adiantum pedatum) Lady Fern (Athyrium filix-femina) Deer Fern (Blechnum spicant) Spiny Wood Fern (Dryopteris expansa)

Wet Sites

Native perennials

Skunk Cabbage (Lysichiton americanum)

Native ferns

Lady Fern (Athyrium filix-femina)
Deer Fern (Blechnum spicant)

Native shrubs

Bog Laurel (Kalmia microphylla ssp.occidentalis) Labrador Tea (Ledum groenlandicum) Hooker's Willow (Salix hookeriana) Pacific Willow (Salix lucida ssp.lasiandra)

Wetland plants

Water Plantain (Alisma plantago-aquatica)
Fox Sedge (Carex vulpinoidea)
Scouring Rush (Equisetum hyemale)
Common Rush (Juncus effusus)
Wapato (Sagittaria latifolia)





A wild corner

Dedicate part of your yard to welcoming local wildlife, such as birds, frogs and insects, whose natural habitat is quickly shrinking as land is developed.

If you want to attract them, but still want areas for lawn and flower beds, plant a mixture of native plants around the perimeter of your yard, or in other appropriate locations. Birds and beneficial insects such as ladybugs are natural predators for unwanted pests in your lawn and garden.

Include plants with seeds and fruit for birds, water features (with water recirculation) and nest boxes to further attract local wildlife by providing food and shelter. Avoid using pesticides, which can harm the very wildlife you want to attract.

Be patient. It takes time for plants to grow into a suitable wildlife habitat, and for birds and butterflies to discover this new destination. Once established with well-adapted native plants, your backyard's natural areas should require less water and maintenance than most ornamental gardens. Also look to nature for design inspiration. For more information, call Naturescape BC (see Resources on page 29).

If you are concerned about bears in your neighbourhood, take down your birdfeeders from March to May and put your garbage out only on the morning of pickup. If you want to deter other animals such as skunks and raccoons, ask your local nursery about natural methods.

For 24/7 help resolving human/wildlife conflicts, call the Province of B.C. conservation officer service at 1-800-663-9453.



Work smart

Natural yard care realizes generous returns on your time and money.



Natural yard care promotes

- good groundwork-healthy soil and the right plants cut down on labour
- energy efficiency—use a rake, an electric or push mower, rather than a leaf blower or a gas mower
- wise use of water avoid overwatering, which promotes shallow rooting and the potential for stress and disease in lawns and gardens.

Check your lawn and plants regularly so that you can take immediate action at the first sign of problems before they grow.

Weed efficiently

Literally millions of weed seeds lie dormant for decades in the soil, waiting for sunlight and disturbance to start growing. In the garden, mulching right after weeding reduces their chances of germinating. When weeding lawns, use weeding tools correctly (see below) to minimize soil disturbance and avoid bringing weed seeds to the surface.

Weed right

A simple, old-fashioned tool with a V-shaped tip, called a weed fork, is ideal for weeding lawns. The correct way to use the tool is to slide it straight down beside the weed at enough of an angle to cut the tap root five cm, or more, below the surface. Pull out the tool the same way it went in, so that it doesn't open a hole in the turf. With the root severed, it is easy to lift the weed by the leaves. Do not use the tool to pry out the weed! This just brings more weed seeds to the surface to germinate.

When weeds are removed using this method, they leave behind small openings, the size of a root. Press small holes shut with your heel; for larger holes, drop in grass seed before tamping it closed. Don't worry about removing the entire dandelion root. If it is severed well below the soil surface, it may simply rot. If it does try to send up shoots, they will be too weak to push through a layer of vigorous and healthy turfgrass.

A little maintenance every week, or as needed, is better for your yard (and you) than an exhausting yard care marathon.

Smart lawn care

Top tips for efficient - and natural - lawn care

Mow high, mow sharp and leave the clippings on the lawn.

Set your mowing height to 6-7 cm (anklebone deep) for most lawns to develop deep roots and dense growth that crowd out weeds. The bonus is that it also means less mowing for you.

Sharpen your mower blade at least once a year, and clean after each use.

Cut the lawn at least once a week in the spring when growth is fastest; mow less often when growth slows. Aim to remove one-third of the grass length at each mowing. Cutting too much at once stresses the grass and makes the clippings too long to leave on the lawn. If the lawn has become too long between mowings, don't remove all of the excess length at one time. A couple of days later mow again with the blade set to remove a third, repeating if necessary until you get back to the 6-7 cm height.





Did you know the average gardener spends up to 100 hours every year mowing the lawn? In terms of local air quality, this amount of mowing with a typical 3.5 - horsepower gasoline mower emits the same amount of pollutants as a new car driven for about 55,000 km. That's almost 10 times the distance between Vancouver, British Columbia, and Fredericton, New Brunswick (5,409 km)!

Use the free supply of nitrogen in your grass clippings by leaving them on the lawn. The shorter the clippings, the faster they will decompose and nourish the soil. It is not necessary to invest in a mulching mower as clippings from a regular mower also quickly disappear.



Consider installing a covered barrel to capture rainwater that can be used on hot summer days to quench the thirst of garden beds and potted plants outside and inside your home. Contact the Regional Compost Hotline and inquire about recommended models and municipal programs.

In May or September, improve distressed lawns by aerating or manual raking, top-dressing (adding a layer of compost) and then overseeding (adding grass seed to thin areas).

Wise water use practices

Using too much water drains our region's water supply, leaches nutrients from your lawn and garden, and promotes shallow rooting. The excess water can also trickle away with pesticides from your lawn, or your neighbour's lawn, and affect nearby waterways.

Promote deep root growth

Water deeply and less often to build robust, healthy roots, and give your lawn a chance to crowd out weeds. If you want a green lawn in the summer, all that's required is 2.5 cm of water a week, including rainfall. You can get this amount of watering done in about one hour of sprinkling.

You can let your lawn "rest" or go dormant in the summer if your lawn is well established (more than two years old) and you have encouraged the growth of deep roots. Your lawn will naturally turn a golden brown if you stop sprinkling. To ensure the turf recovers in the fall, water it deeply once a month. The lawn will quickly green up again in the fall as heavy dews and rain bring it back to life.



Let plants dry out slightly between waterings. Water vegetables and other annuals at the first sign of drooping. If tougher perennials droop, water them when it cools off in the evening.

Use a soaker hose or a drip irrigation system for the garden and potted plants. These systems need 50 per cent less water than a sprinkler to do the same job. If you do use a sprinkler, position it so that you aren't watering paved surfaces (driveway, sidewalk, etc.). Keep soaker hoses above ground so dirt doesn't clog them.

During drought periods, boulevard trees and shallow-rooted shrubs (such as rhododendrons and azaleas) may need more water than usual. On such days, be kind to shrubs and trees on your street by giving them an extra can of water.

Regardless of the weather, make sure that new plants and trees get enough water while their root systems develop.

Some neighbourly advice...



Before reading on, ask yourself: "Do I really need that lawn?" The bigger the lawn, the more time and money you need to invest. Some lawn area can be replaced with other plantings and ground covers. There are very attractive ground covers that can be used instead of lawn because they withstand light foot traffic. Ground covers don't need to be limited to places where grass doesn't grow!

Regional lawn sprinkling regulations



Effective June 1-September 30

Lawn sprinkling is allowed from 4 to 9 a.m. and 7 to 10 p.m. Water in the cool of the day (early morning is best) to reduce evaporation and the risk of lawn disease. Water your lawn only once a week (and only if it needs it). Most lawns need about 2.5 cm of water a week, including rainfall, which can

easily be applied on one of your sprinkling days. The sprinkling regulations apply to both businesses and residents, and to hose-connected or automatic in-ground sprinklers. For enforcement questions, contact your municipality. For more information about the sprinkling regulations, visit www.gvrd.bc.ca, or call the RCBC Recycling Hotline. (See Resources on page 29.)

Manage pests

Integrated Pest Management (IPM) is a systematic way to manage pests. It is based first and foremost on preventing problems and provides a process for deciding whether or not pest problems need to be treated. This section describes IPM and offers tips on managing common pests. For more information on how to identify or deal with pests, call the Regional Compost Hotline at 604-736-2250.

Prevention

Ideally, prevention is the first and, if successful, the only part of the IPM process that you need to apply. The effort you take to ensure plants are healthy and growing in the right conditions is key to preventing pest problems.

Here are some tips.

- Choose disease resistant plants, such as types of roses that are immune to mildew and black spot disease.
- Prune correctly to increase air circulation so that foliage dries too quickly to allow fungal diseases to attack.
- Keep your lawn growing densely and your flower beds well mulched so weeds have no room to grow.
- Pull weeds before they go to seed.
- Move or replace plants that have pest or disease problems year after year with a hardier variety or another type of plant.
- Consider plants that attract beneficial insects (see page 25).









What is a "pest?"

For the purposes of this publication, references relate to non-beneficial insects, however, IPM principles apply to all forms of pests, including rodents and disease-carrying micro-organisms.

Some neighbourly advice...



Skunks, raccoons and birds love to dine on European chafer (*Rhizotrogus majalis*) beetles, a new pest to our region. In the fall and spring, the grubs (larvae) thrive in the upper layer of soil to eat turf grass roots. If your lawn suddenly appears rototilled, hungry animals could be responsible! To repair a damaged lawn, reseed generously with a deep-rooting grass mixture to cover bare spots in fall. The adult beetles, which emerge in the summer and are short-lived, don't damage lawns or tree foliage. It's difficult for adult beetles to lay eggs in healthy, tall and dense lawn. To suppress their population, combine preventative lawn care with annual nematode treatments (a biological and non-toxic treatment applied at the end of July). As a permanent solution, replace lawn with alternative groundcover. Call the Regional Compost Hotline for more information (see page 29).

The first time people think about pests is usually when they see damage, weeds or "new" insects appear. The following steps outline a process for dealing with pest problems naturally.

1. Identify the problem.

It may not be a pest! More damage to plants is caused by poor conditions, such as nutrient deficiency, temperature extremes, physical injuries, etc., than by pests. If it turns out to be a pest insect or disease, you can learn about its life cycle and, if it is an insect, its natural predators.

Find out what conditions favour the pest, so you can take steps to prevent the problem in the future. Getting insects correctly identified is essential, because many insects found on plants are beneficial species that are there to eat the pests.

2. Monitor the problem.

Regularly checking plants helps you find problems early. If you find damage or insects, watch the problem for a few days (or weeks) to see whether it is getting better or worse. People often notice damage after pests have gone, so spending a little time on monitoring can pay off by showing whether or not something still needs to be done. A good magnifying lens is a useful tool, and it is a good idea to keep written notes or sketches, so that next year you'll know what to look for and when.

3. Determine whether it is damaging.

If you look hard enough, you can always find a few plant-eating insects, weeds, even signs of disease in any yard, but this is rarely a cause for concern. It is actually ideal to have a few pest insects around, because they attract predatory insects and birds to the garden where they will continue to keep the number of pests low.

What is considered a "pest" often depends on personal taste. For example, while some people don't like clover in their lawns, others value it because it stays green in dry conditions and adds nitrogen to soil. Without realizing it, people also tolerate a certain amount of damage because they don't notice it. If you are keeping an eye on problems regularly, you can decide whether the damage has reached a point that justifies taking action.

4. Decide on treatment.

You only need to take action if the pests reach numbers that cause unacceptable damage. Depending on the problem, using a combination of controls usually gives better results than relying on just one.

Physical and mechanical controls

For weeds, these include applying mulches, cultivating, or hand pulling and pouring boiling water on weeds growing in patios and pavement.

For insects, these include spraying water on aphids, using sticky bands to control winter moth and installing floating row covers as barriers over vegetables to keep pests from laying eggs on the plants.

Biological controls

Biological control means using natural enemies to keep garden pests in check. Natural enemies of pests include beneficial insects, birds, snakes (great on slug patrol!) and even those seldom thought about micro-organisms in compost. Take advantage of the huge number of beneficial insects and other animals that can live in your yard by learning to attract and protect them (see page 25). Some beneficial species are sold commercially. These include ladybugs, a well-known predator, the aphid midge (*Aphidoletes aphidimyza*) to control aphids, and insect parasitic nematodes to control root weevil and European Chafer Beetle. Before buying biological controls, learn about them and how they can best work for you.

Chemical controls (most pesticides)

Pesticides provide short-term control, but rarely are a long-lasting solution to pest problems. If pesticides are needed, choose the least toxic products and treat only the plants or areas that are infested.

Some neighbourly advice...



The term "pesticides" applies to herbicides, fungicides and insecticides. Using these products can have an effect beyond the scope of the problem you are trying to solve. Even a relatively safe product for humans, such as insecticidal soap spray, will still kill ladybugs and other beneficial insects. Pesticides may also pollute streams and harm fish when the rain washes them off your yard into ditches.



Steps to safer pesticide use

Check with your municipality about related bylaws before wasting time and money.

- 1. Make sure the problem is identified accurately and that no alternative approach will take care of it.
- 2. Use the lowest toxicity product you can find.
- 3. Learn about the product you intend to use, buy only what you can use in one treatment or season, and apply it only to the problem area.
- 4. Keep pesticides in their original containers. This ensures that everyone who handles the product will know exactly what it contains and how to use it correctly.
- 5. Store leftovers in a safe place (preferably in a locked cabinet) out of reach of children and pets, or dispose of them responsibly (contact the RCBC Recycling Hotline at 604-732-9253 for a depot near you).

5. A word about pesticides

Making the choice to apply pesticides in your yard needs to be an informed decision. Research the product you want to use and learn about the potential risk to you, your family, your pets and your neighbours. Ask questions —a quick and easy answer to a problem may not always be the best solution in the long term.

If the problem requires chemical solutions, consider hiring professionals to do the work. They have the appropriate equipment, the safety gear and the knowledge to apply pesticides safely and effectively. Ask to see their provincial applicator licence and inquire about their training.

If you do the job yourself, follow the instructions on the product very carefully. Use only the amount and application method recommended, and treat only the problem area. Keep children and pets away from the area while you work and until the product has dried (or longer). Inform your neighbours and make sure that what you apply does not drift into their yards. Never apply treatments close to a creek, river, lake or beach.

6. Evaluate the results

At the end of the season, go over what worked and what didn't. Were you happy with the results? If you applied controls, did they work? Did you apply them at the right time? Look at ways to prevent problems next year.

For more information, visit www.gardenwise.bc.ca/gardenwise/ipm.lasso

Bugs: friend or foe?

Most garden insects are either harmless or beneficial. You don't want to make the mistake of spraying the beneficial insects! That's why it is so important if you suspect a pest problem, to make sure you really do have a pest. Get help with identifying your problem from the Master Gardeners Association of BC or from a good reference book.

Beneficial insects are natural predators of pests. To protect beneficial insects, avoid using pesticides, as they usually kill beneficial species as well as pests. Because most adult beneficial insects feed on pollen and nectar, you can attract them to your yard by growing plants that have a rich supply of both (see below). The insects stay to lay eggs, which hatch into hungry larvae that feed on the pests.

Plants to attract the good bugs

Plants with tiny flowers, such as sweet alyssum, candytuft, dill coriander and yarrow are outstanding insect plants. Also excellent are: alyssum, angelica, asters, basket - of - gold, calendula, caraway, catmint, catnip and coreopsis, daisies, echinacea, fennel, feverfew, goldenrod, lavenders, lemon balm, lovage, marguerite, marigolds, mignonette, potentilla, rudbeckia, speedwell and thymes.

Annuals: Asters, calendula, coreopsis, feverfew, marigolds and mignonette. Perennials: Alyssum, basket-of-gold (*Aurinia*), Ceonothus, coneflower, daisies, golden marguerite (*Anthemis*), goldenrod, potentilla, rudbeckia, speedwell (*Veronica*) and verbenas (*especially Verbena bonariensis*).

Herbs: Angelica, caraway, catnip and catmint (*Nepeta*), fennel, lavenders, lemon balm, lovage, thymes.

Some neighbourly advice...



Pesty aphids are difficult to control with sprays, because survivors quickly start up new colonies and they can become resistant to insecticides, even insecticidal soap if used repeatedly. A blast of water will remove aphids from plants in a much more effective — and less harmful way. Do this at least twice in a one-week period to catch survivors. This is much less harmful to the predators than using soap sprays or the "squish" method, both of which kill the beneficial insects that are almost always among the aphids. The best long-term control is to create a welcoming garden for the aphids' natural predators. Syrphid flies, pictured on the left, green lacewing larvae and ladybugs will happily do this work for you.



"When you kill off the natural enemies
of the pests, you inherit their work."
Carl Barton Huffaker, 1914-1995
Entomology and Parasitology: Berkeley
Professor of Entomology, Emeritus

Common ground beetles (such as this one) are beneficial because they can help control other pests.

Ground beetles

These are large (2-3 cm long), iridescent black beetles that scurry quickly out of the light when you turn over a rock. They live under ground covers and mulch—another good reason to mulch your garden. They are a gardener's best friend, because they eat slug eggs, grubs and insect pupae in the soil; some even run up trees after tent caterpillars.

Ladybugs

Both adult and immature ladybugs are super aphid predators. The beetles come in many colours: orange with black spots, solid black, black with red spots, and some have grey or yellow wing covers marked with black blotches. The larvae don't look anything like adult beetles. They are up to 0.5 cm long and resemble tiny, dark-coloured alligators, sometimes marked with orange patches.

Green lacewings

These delicate insects have large, finely veined wings. Both adults and larvae are predators, but it is the larvae that earn the name "aphid lions," because they eat so many aphids. They also prey on spider mites, thrips, leafhoppers, small caterpillars and insect eggs. The larvae are tapering, alligator - shaped, with prominent curved jaws that they use to capture their prey.

A ladybug larvae (top right), a green lacewing (middle) and a parasitic wasp (bottom right).



Syrphid flies

These robust, yellow-and-black or white-and-black striped flies are also called hoverflies for their ability to hover like hummingbirds over flowers. The adults feed on nectar, but their greenish grey, slug-like larvae are voracious aphid predators.

Parasitic wasps

Often tiny and delicate, these wasps sting their host insects, laying eggs inside them. The egg hatches inside the host and feeds on it, eventually killing it. Aphids and caterpillars are commonly parasitized in this way, and many other insects are also attacked.



You can permanently repel slugs from plants with metal barriers. Use galvanized metal collars or galvanized wire mesh ("hardware cloth") or copper strips around plants, garden benches, or trunks of trees and shrubs to keep slugs away. These collars are not toxic to animals or humans, and they last a long time. You can get a tree collar from a heating or sheet metal shop. Measure the diameter of the tree you want to protect and ask for a piece of galvanized metal to stand on the ground and fit around the bottom of the trunk.

The bottom line: Natural yard care gives you, your family, your pets and other creatures a safer place to play.

Go ahead - make a difference!

Make sure hazards don't end up next door. Make the right choice. Feel good.

Rain can wash pesticides and fertilizers from your yard into nearby storm sewers and streams, and eventually into major rivers and the ocean. Wind will also carry air contaminants beyond your fence line. The consequences of your choices can be far-reaching.



- The pesticide that started out on your rose bush can find its way into the bodies of birds and affect their ability to reproduce.
- The chemical fertilizer that started out on your lawn can end up in waterways and cause excessive growth of algae that harms fish.
- Pollutants from your gas-powered leaf blower can contribute to smog production, poor air quality, and noise pollution in your neighbourhood.

By making simple changes to the way you care for your lawn and garden, you can protect the health of your family, your community and wildlife. You can also contribute to cleaner air and water in our region. In the process, you'll save yourself money, time and work.

Resources

Environmental tips and information regarding regional services for waste reduction, water use efficiency (inside and outside the home), alternatives to household hazardous products, and protection of air quality.

RCBC Recycling Hotline: 604-732-9253.

Natural yard care, including regional demonstration gardens

BC Landscape and Nursery Association: www.gardenwise.bc.ca, 604-574-7772. Regional Compost Hotline: www.cityfarmer.org, 604-736-2250. Evergreen's Lawn and Garden Smart Program: www.evergreen.ca, 604-689-0766. Naturescape British Columbia: www.hctf.ca/nature.htm, 1-800-387-9853 ext. 5.

GVRD publications

Lawn Sprinkling Regulations, Waterwise Gardening, Use Water Wisely

For tips on things you can do in and around your home, turn to the HOME PAGES in the front section of your Telus phone directory.

Visit a construction of the construction of th

Visit a compost demonstration garden in your neighbourhood – the Regional Compost Hotline can help you find one – or contact your municipality and ask about natural yard care education programs, services and resources for residents.

Gardening questions

GardenWise.bc.ca

Local garden centres

Native Plant Society of BC: www.npsbc.org

UBC Botanical Garden Hortline: www.ubcbotanicalgarden.org, 604-822-5858 (Tuesday and Wednesday noon-3 pm)

Master Gardeners Association of BC: Plant Information Line: 604-257-8662 (Monday and Wednesday, 1-3 pm, closed in December), www.bcmastergardeners.org Weeds BC: Can help you identify your weeds, learn how to manage them and find out what can happen if you don't: www.weedsbc.ca

Responsible disposal of hazardous products

Product Care: www.productcare.org

Spring (March – May)

Flower and vegetable gardens

- · It's planting time again. Prepare beds for planting
- After March, plant perennials, annuals (check seed packaging for optimum planting conditions)
- · Divide and transplant perennials if needed
- · Allow bulb leaves to turn yellow before removing

Trees and shrubs

Continue to plant and transplant trees and shrubs

Composting

- Harvest winter compost if ready. Use for bed preparation and mulching
- Balance lawn clippings with an equal amount of "brown" material for best compost results

Watering

- Set up irrigation systems
- Make sure irrigation heads provide enough water coverage to your beds
- · Water in the early morning to reduce evaporation
- Dig past the top soil layer to check water moisture
- Water newly planted plants twice a week for first 2-3 weeks

Lawn

- Aerate compacted areas of lawns so air, water and nutrients can reach the roots
- Overseed with drought-tolerant grass seed such as a mix of fescues and perennial ryes
- Top-dress with 2-cm layer of compost
- Test soil for nutrients; if required, fertilize with the appropriate natural organic or slow release fertilizer in late May (otherwise one fall fertilizing is enough)
- Set the lawn mower blade height at about 6-7 cm
- After mowing, leave clippings on the lawn—they break down and become a source of nitrogen for the grass, and help the soil retain moisture
- Once the lawn shows vigorous growth, mow once a week, and not more than the top third of grass length

General yard care

- Mulch beds with compost after weeding to minimize summer maintenance and watering
- · Test soil before planting
- For beds with exposed soil, cultivate the top layer once every 1-2 weeks to limit weed growth (mulching the soil helps you to avoid this chore)

Summer (June - August)

Flower and vegetable gardens

- Stake tall perennials before they grow too big
- Once or twice a week, control weeds by manually pulling them to reduce soil disturbance
- Monitor plants for bugs and disease. Identify bugs before trying to control them. Remember: if they are beneficial to your garden, you will inherit their work if they are destroyed

Trees and shrubs

- Prune trees and shrubs that prefer summer pruning and if needed to ensure good air circulation in the canopy. Ask your local nursery for proper pruning times of specific trees and shrubs
- Remove dead, diseased and damaged parts of plants

Composting

- Continue to add kitchen scraps and yard trimmings to compost for fall planting and mulching
- Keep the compost pile in the shade, under cover and moist

Watering

- Follow sprinkling restrictions in effect June 1-September 30
- Monitor plants for wilting. Continue to monitor soil depth. Water only when needed
- Record observations on watering schedule and health of plants for next year's watering schedule
- Cut back watering significantly to let turfgrasses, spring bulbs and other plants go dormant for summer
- Water mulched annuals and perennials once a week during dry periods, soaking soil deeply at each watering
- Water hardy, established trees and shrubs only when needed

Lawn

- Continue to mow often and high (about 6-7 cm) and leave the clippings on the lawn
- If you let your lawn go dormant (brown) for the summer, do not mow. If the lawn is healthy, grass has long roots and its natural cycle is to survive long periods without water
- If you're not quite ready to let your lawn go completely dormant, a once-a-month deep watering will help speed up recovery after dry summer months
- Permits may be available for watering newly planted lawns

General yard care

· Relax and enjoy the fruits of your labour!

Fall (September - November)

Flower and vegetable gardens

- It's planting time again! Prepare beds—dig in compost, plant, divide and transplant perennials
- Pull weeds to prevent seed germination
- Mulch gardens with fallen leaves or compost to insulate plants, reduce weeds and feed the soil.
 Keep leaves about 5 cm from base of plant to prevent rot
- · Cut back spent perennials and compost
- · Plant spring flowering bulbs

Trees and shrubs

- · Mulch beds with leaves or compost
- This is the time to move or introduce new trees and shrubs

Composting

- Use composted soil for mulch and bed preparation for planting
- · Prepare space for winter composting
- Chop yard waste with a shovel or hand pruning tool and run over leaves with a lawn mower
- Cut up Halloween pumpkin before adding to compost

Watering

- Turn off and drain irrigation systems and stop all forms of sprinkling
- Put away soaker hoses or cover them with mulch to prevent deterioration

Lawn

- Improve thinned areas by overseeding and top-dressing with 2-cm layer of compost
- Plant new lawns from mid-September to mid-October

General yard care

- Look for labour-saving plants that are well suited for the location you have in mind
- Safely store hazardous products in a dry area, in labeled containers and out of reach of children and pets

Winter (December - February)

Flower and vegetable gardens

- If frost is a concern in your yard, insulate the base of tender plants with straw
- Pull any weeds that get a start in garden beds

Trees and shrubs

- Prune dormant trees and shrubs if required Ask your local nursery for proper pruning times of specific trees and shrubs
- · Plant trees and shrubs in late winter

Composting

• Turn or poke holes into your compost once a month during winter

Watering

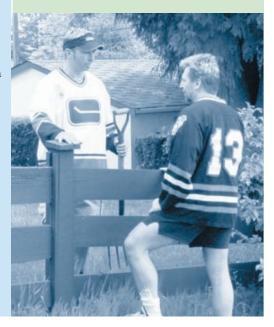
 Plan irrigation designs for your containers and garden beds to ensure water conservation in the spring and summer

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• Try to minimize foot traffic on lawns while soil is soggy with winter rains

General yard care

- Start planning the next growing season. Decide what plants you want, while nurseries are well-stocked
- · Order seeds
- Sharpen lawn mower and pruning blades. Fix and clean gardening tools
- Call RCBC Recycling Hotline (604-732-9253) and ask how to dispose of unwanted chemicals and hazardous products responsibly



Special thanks to the following contributors:

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GVRD

The GVRD is a partnership of 21 municipalities and one electoral area that stretches from the U.S. border to Lions Bay, and from Bowen Island to Langley Township. Its purpose is to protect and enhance the quality of life in our region through the delivery of region-wide essential services.

The Sustainable Region Initiative (SRI) is our commitment to consider the future, to care for community, environment, and economy in everything we do, and to nurture partnerships that make our region great today and even better tomorrow. More information: www.gvrd.bc.ca/sustainability

Greater Vancouver Regional District

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Home Pages: Choices for Wiser Living

Turn to the Home Pages: Choices for wiser living in the front section of your Telus phone directory for simple ideas that will reward you and the environment. Some will save you time. Many will save you money.

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This document is endorsed by the BC Landscape and Nursery Association.



For tips and ideas on natural yard care and information about municipal programs offered in your community,

contact the Regional Compost Hotline at 604-736-2250 or visit www.cityfarmer.org





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Top neighbourhood-savers

- · Build healthy soil and choose hardy plants to prevent pests and disease problems.
- · Add plants to your yard that will attract beneficial bugs, birds and other animals.
- Spread mulch in your garden to make every drop of water count and avoid placing a strain on the regional water supply.
- Follow the sprinkling regulations in effect between June 1 and September 30.
- Overseed and top-dress your lawn with compost instead of applying weed killers and highly soluble fertilizers that can be washed into local streams.
- Use a push mower instead of an energy-consuming gas or electric mower-this is good for your lungs, and your heart!
- Work with our West Coast climate and the site you live in to create an easy care, beautiful yard.

Top time-savers

- · Keep your lawn mower blades sharp.
- · Leave clippings on the lawn.
- Spread mulch to control weeds.
- · Use slow-release and organic fertilizer.
- Set up soaker hoses or irrigation systems in your garden beds (remember, they are also subject to the annual sprinkling regulations).
- If you don't mulch, cultivate (or loosen) the top few centimetres of soil once a week to control weeds.
- · Plant ground covers to cut down on the amount of lawn maintenance.

Top money-savers

- Make and use your own compost to feed the soil.
- Grow plants from seed instead of buying bedding plants.
- Use a broom or rake instead of a gas- or electric-powered leaf blower.
- Use a push mower.
- · Keep nutrients in the soil by avoiding overwatering.