

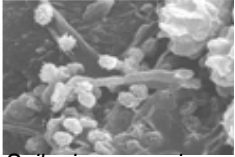


Maintaining Healthy Lawns & Gardens

Caring for soil should be as important to you, the home gardener, as it is to farmers. Not only does lawn and garden soil retain water and food for your plants, but it also hosts millions of micro-organisms integral to a plant's health. Keeping your soil and soil micro-organisms healthy is the key to having beautiful lawns and gardens.

Creating Healthy Soil

Micro-organisms



Soil micro-organisms

Soil micro-organisms are an essential part of a lawn or garden nutritional system. The micro-organisms mine for mineral nutrients and exchange them with plant roots for carbohydrates. A lawn or garden rich

in biological diversity has proven, time-honored methods for feeding itself and clearing itself of pests and diseases. The use of pesticides or some chemical fertilizers will kill these micro-organisms and actually makes more work.

Water Retention

Maintaining soil moisture is key to plant growth. Soils containing at least 5% organic matter are best at retaining water. It's important to water deeply, soaking the top two inches of soil. Mulching all exposed soil surfaces with compost or another nutritious cover and watering within the CRD's water guidelines (<http://www.crd.bc.ca/water/conservation>) will help maintain soil's moisture over time.

Food For Plants

Through photosynthesis, plants make the majority (90%) of their own food from nutrients obtained from the air. A further 6.5% of nutrients come from air moisture and soil water. The remaining 3.5% of a plant's dietary requirements come, with the assistance of micro-organisms, from minerals in the soil. Correct plant placement, available water, and healthy soil will produce abundant food for plants. A two-inch topdressing of compost for garden beds and a half-inch on lawns is the only additive needed in a healthy garden system.

Garden waste such as dead leaves, spent flowers and fallen twigs are carbon stores and act as food for the microorganisms living in the soil. The carbon, nitrogen, and other nutrients contained in this "waste" can be composted and applied to the garden later or it can stay in your garden as mulch.

Beneficial Organisms

All manner of beneficial organism colonies exist on the

surface of plant leaves. They provide protection to the plant by capturing and destroying incoming organisms that would destroy their host. Keep your microbes happy with a spray of compost tea, which can be made using your own compost or purchased from a retailer. Compost tea acts as a defense mechanism coating the plant leaves with beneficial micro-organisms that take up the spaces that would normally be open for disease or predators.

Harmful Insects

More than 98% of the insects in your garden are beneficial to your plants. Take the time to learn how to identify the few that could cause harm. Ultimately, a healthy garden with a robust beneficial insect population will take care of most invaders before they become a problem. Do some research before taking action, then choose responsible methods, considering the beneficial insects and micro-organisms. See www.crd.bc.ca/rte/pest for some excellent tips.

Maintaining Healthy Soil

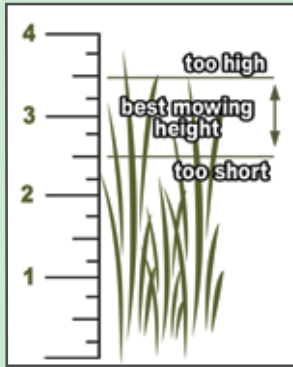
Dealing with Weeds

In permaculture (the study of the interrelationships found in natural systems) weeds are often referred to as 'pioneers'. Pioneer weeds colonize areas otherwise uninhabitable by more needy plants, and when they die they return their stored nutrients to the soil. Over time the soil builds up and a second tier of plants arrive and are able to survive in this amended soil. Weeds can be dug out and "solarized" before composting.

The key to effective weed management in lawns is prevention and this is best accomplished by keeping bare soil covered with plants or mulch. Overseed lawns in the spring when the ground is moist and warm and there is plenty of rain to keep the new seeds germinating and healthy. Sprinkle compost and then seed generously with a good quality, appropriate seed mix. Mulch should also be used consistently on garden beds to maintain optimum plant health.



Lawn Care Tips:



Recommended mowing height

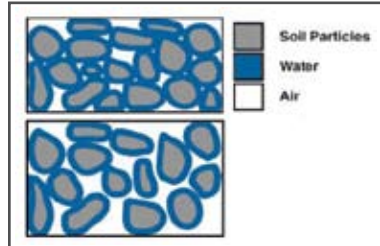
Mowing: Grass plants evolved with grazing animals so trampling and trimming are well tolerated provided the plants are ecosystem-adapted species. Lawns mowed to a height of approximately 3 inches (never shorter than 1.5 in) prevent weeds and increase soil moisture retention. A plant can only maintain a root mass roughly equivalent to its photosynthesizing mass

so short grass means short roots. Logically, longer roots enable your lawn to cope with less frequent watering. Cut your lawn regularly with sharp blades removing no more than the top 1/3 of the total grass blade in one cutting.

Leaving grass clippings on the lawn will provide food for the micro-organisms on the lawn. It does not contribute to thatch because the soft tips of the cut grass decomposes readily.

Thatch: Thatch is made up of the stems and roots of the grass which are high in lignin. Build up of thatch in your lawn is often due to a lack of soil borne microorganisms and fungi which typically break down the lignin. Leaving the clippings on your lawn will help provide food for the microorganisms that breakdown thatch. Thatch layers between one and three inches can benefit from a dose of effective micro-organisms via compost tea or a product called EM available online or at a local garden retailer. A thatch layer greater than three inches will probably need mechanical removal, followed by a good layer of compost and reseeding.

Dealing with Soil Compaction



Compacted vs. non-compacted soil

With soil, a loose, crumbly structure is ideal. If your soil is compacted by trampling stress and/or the presence of large amounts of clay, topdressing the soil with a mulch

of compost or grass clippings is a viable alternative to aeration. Mulching creates new soil and introduces micro-organisms that can help to break up compacted soil. Aerating your lawn should not be considered a necessary routine, and may be a symptom of improper soil building; it can actually exacerbate compaction and disrupt healthy micro-organism activity.

Transition to Organic Methods

A garden transitioning away from chemical fertilizers may need help in the way of nutrient supplementation until mineral sources are balanced and the soil food web gets going. Established perennial plants and trees will generally transition quite well, but lawns will take more time and effort to adjust. Get a soil test to determine what your garden needs and then use The Organic Materials Review Institute (OMRI) approved products to supplement the mineral nutrients in your soil. If all else fails you may find one of the many excellent lawn alternatives better suits your life and gardening style.

Healthy Products: OMRI hosts a list of products available for use by the organic land care industry including organic food growers so we can be sure they are safe for use in our backyards. Look up your local Certified Organic Growers chapter to source locally available organic gardening products.

CONTACT US:

Generously funded by the CRD Pesticide Use Reduction Education committee.



Making a difference...together

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We sell composting equipment, gardening guides and more. Call, e-mail, drop by or visit our web site.

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