



# Mother Nature

## a Brilliant Master Gardener

The wonderful, long warm days of summer are beginning to wane. Our watering chores begin to decline as days shorten and the nights and days begin to cool. This annual turn of events signals the beginning of the most important time of year for gardeners. We plant and weed, water and feed our gardens, but truly our most important task is to preserve, protect, and build our soil. Mother Nature is a brilliant Master Gardener. As winter approaches, she has devised an ingenious method for preserving the nutrients in the soil and protecting the billions of microorganisms that live there. During the shortening days of autumn she has planned for leaves to drop from deciduous trees and shrubs to cover and protect the soil. A thick coating of leaves provides insulation and protection for beneficial soil creatures, prevents soil compaction, and also slowly releases nutrients as the leaves break down. Leaves insulate the roots of plants against extreme temperature fluctuations, and help to protect against repeated freezing and thawing of roots. It is a system that has worked for millennium, and is responsible for the tremendous growth of trees and shrubs that blanket much of the earth without ever being watered or fertilized by anyone but nature itself. By leaving these leaves where they fall instead of raking leaves in the name of neatness we are creating an ecosystem that is nutrient rich and full of biological diversity.

Nitrogen is an extremely soluble nutrient, and is easily washed away by our many inches of rain. Consequently our soils here in coastal British Columbia tend to be nitrogen deficient. Nature's system for preserving nitrogen in soils over the winter is quite simple and beautiful. Leaves that fall

and begin to decompose actually tie up nitrogen reserves in the soil as the decomposing bacteria use the nitrogen for food energy. Over the winter the leaves may freeze and thaw, and as more and more bacteria and fungi invade the leaves they begin to decompose. Once they have reached the final stages of decomposition, *an event that generally coincides with the warming of the soils and the beginning of the gardening year*, the bacteria and fungi move towards alternate food sources, and the nitrogen from the leaves is slowly released back into the soil.

Any organic mulch will help protect and improve your garden. Small chipped branches from deciduous trees are very beneficial, and may also result in an increase of pH, (*important on the coast where our soils are most often overly acidic*), an increase of microbial action, and a decrease of soil borne pests. **Do not confuse 'small chipped wood branch material' with straight bark mulch.** Bark contains very little nitrogen. Soil organisms must actually rob the soil of nitrogen for the energy needed to help decompose the bark mulch, and decomposition of bark is a very lengthy process. Bark also contains toxins that help protect it against insects and diseases, and these toxins can inhibit many types of beneficial bacteria. Only in specialized ecosystems like virgin old growth forest can plants effectively utilize bark mulch, and even then in limited and balanced quantities, along with rotting wood. Straw can be used as a mulch as well, but avoid hay, as it often contains numerous weed seeds. Take caution that the straw you use has not been treated with herbicide, as is often the case.

Remember that our main job as gardeners is to preserve, protect and feed our soil organisms so that they can do their job, which is to feed our plants. If we take care of the soil it will provide nutrients, protect soil water reserves, and maintain the web of soil life that is so crucial to every creature's existence on this planet. **Your planet will thank you.**

*Connie Kuramoto will be offering an Organic Master Gardener Program this fall in Parksville that will teach more about nurturing your soil and more. Call 250-618-8805 for details.*



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Connie Kuramoto  
[gardensonthego@telus.net](mailto:gardensonthego@telus.net) 250-618-8805