Fertilizer and Soil Basics

Soil's acid-alkaline standing (pH) is an invaluable indicator of its well being. It is the crucial soil factor that influences bacterial action, structure, nutrient availability and leaching, and the toxicity of certain elements. Take a soil test before planting, then make recommended adjustments. Use a Rapitest Soil Test kit, or bring a sample to the Agriculture Research Station for analysis.

The pH scale runs from 1 to 14. A rating of 1 is extremely acid, and a rating of 10 or more is extremely alkaline. A pH of 7 is neutral. Most soils run from a pH of 4.5 to 8.5.

Flowers, fruits, and vegetables do best in soils that have a pH of 6.0 to 6.5. There are groups of plants, such as rhododendrons and azaleas, which ideally prefer a more acidic soil of pH 4.5 to 5.5.

Generally, most soils in Newfoundland are naturally acidic. Large applications of limestone are required to initially correct soil acidity, and smaller amounts are needed to maintain the soil pH. Clay soils will require more lime to correct acidity than sandy soils. A soil test is the best way of determining lime requirements. About a cup of soil from each area is required for a soil test.

Dolomitic limestone supplies both calcium and magnesium. It promotes increased activity of soil microorganisms and improves efficiency of fertilizer use. It usually takes around three months for lime to change the soil pH.

Soil organic matter improves its texture, structure, and nutrient content. Organic matter in the form of compost, shredded leaves, peat moss, and composted manures should be added regularly to the soil. Organic matter such as peat moss will generally reduce the soil pH. Incorporating organic matter into the soil will improve its drainage while still allowing soil to remain moist and provide water to plant roots.

Nitrogen is necessary for green growth and foliar production. Phosphorus promotes the growth of roots and stems, and also promotes flower production. Potassium is an overall strengthener, especially in fruits and vegetables, this helps to make them more resistant to disease and insects.

What do the three numbers on the fertilizer bag mean? (Ex: 5-10-10, 6-12-12)

This is a ratio of N-P-K, by percentage weight in the fertilizer mix.

- Nitrogen (N): This encourages leaf growth and greening.
- Phosphorus (P): Helps root systems, seedlings, flowers, and vegetables develop.
- Potassium (K): Promotes vegetable, flower, and root growth. Builds tolerance to disease, drought, and cold.

Forms of Fertilizers

- Granular: Provides even, consistent feeding as nutrients are released. Spread around plants or directly on lawns.
- Time Release: Provides consistent feeding for 2-9 months. Don't need to apply as often. Spread around plants or directly on lawns.
- Water Soluble: Easy application. Provides even feeding, quickly absorbed. Mix with water and water onto plants.
- Organic: Made from natural products. Lower in nitrogen. Increase soil bulk and texture. Spread by hand or dig into soil.

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When to Fertilize

- Annuals and Perennials: Use a granular fertilizer like 6-12-12 at the beginning of the growing season in May and again in June.
- Lawns: Apply a time release (or slow release fertilizer) in May and again in June. Fertilize again in July only if the grass is well watered and the temperatures are not above 25°C. In fall fertilize with an appropriate fall fertilizer to encourage root growth and cold tolerance.
- Trees and Shrubs: Fertilize in spring with 6-12-12.
- Evergreens: Fertilize in spring with evergreen food.

Soil Amendments

Newfoundland soils are naturally acidic. Most soils need additional limestone to raise the pH. Work lime in at a rate of 10 lbs per 100 ft^2.

Murray's Info Sheets
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