Garden Nutrition

What's in a Fertilizer Bag?

When you see 6-12-12 written on a fertilizer bag, what is the significance of the numbers? They stand for the percentage of nitrogen, phosphorus and potash guaranteed to be in the bag. For example the 6 in 6-12-12 indicates 6% nitrogen, the first 12 indicated 12% phosphorus, and the second 12 indicates 12% potash.

Nutrient Roles

Each nutrient has a specific role in plant growth.

- Nitrogen gives leafy green growth and is desirable in lawns early in the season and through the summer. However it is undesirable to have a high nitrogen percent in the fall as this will make the plant tender going into the winter dormancy period. This can be found in most manure or compost.

- Phosphorus promotes root growth and flowering and is usually given at planting, transplanting or during flowering. This can be found in bone meal or fish offal.

- Potash promotes winter hardiness and should be given during the latter part of the season to help prepare for winter. This can be found in wood ashes.

You will find that most fertilizers have a certain quantity of all these nutrients therefore the important thing to consider is the ratio and what the plant is doing, i.e. greening up, rooting, flowering, or going into dormancy.

Fertilizer Rates

Be very careful when applying fertilizer, for example if you buy 12-24-24 for potatoes when you usually apply 6-12-12 make sure you cut down the application by half since it is twice the concentration of all nutrients contained in 6-12-12. Fertilizer can easily burn so never place it on foliage.

Fertilizer Placement

Fertilizer and lime should be incorporated into the soil before planting. Otherwise you can place your fertilizer 2-3 inches from emerged seedlings. Do not place on or near the seedling as it will burn.

The Importance of Lime!

Learning about nutrient ratios in fertilizers and applying the correct rates is important but it is a complete waste of time if you don't use lime. Our soils in Newfoundland are very acidic. Plants grow best in a near neutral soil medium. We use lime to change our soil from acidic to neutral. If the soil is acidic and fertilizer is added, some of the nutrients are used by the plants but the majority is bound to the soil and is not available for uptake by plant roots. Therefore if you change the acidity with lime you make all the nutrients available to the plant and get the full money's worth for your fertilizer.

Adding lime does not change the acidity overnight - it takes time. Ideally you put lime on in the fall so that it has neutralized your soil by the spring. However whenever you realize your soil is acidic by all means add lime. This is not something that can be done once and forgotten, it has to be done yearly. A soil test will indicate the nutrient levels in the soil, the acidity of soil and the recommended rates of fertilizer and lime to apply based on the crop. Remember that trees, lawns, ornamentals and food crops all need fertilizing and liming.

If plants are kept healthy and not starving for nutrition they are more resistant to plant diseases. Also they can recover better from insect attacks and a healthy vigorous plant will quickly outgrow a weed.

Other Important Nutrients

Some of the other nutrients to consider are Calcium, Magnesium and Boron.

Boron is needed for turnip and beets so that they do not get a hollow centre. This should be written on the fertilizer bag as an addition to the main nutrients and is often sold as turnip fertilizer.

Calcium is important to such crops as tomatoes so that they do not get blossom end rot. Make sure you purchase a fertilizer with calcium added. Most tomato fertilizers will have this added in.

Magnesium is important to many crops so that they do not get a light green colouring in between the veins. A treatment of epson salts will cure this problem if you see it. Depending on the type of limestone you purchase either calcium or magnesium will be present.

There are also nutrients needed in very small amounts for optimum growth, especially in vegetables. Most times there are enough of these nutrients in the soil. However if this is a problem seaweed is an excellent source of these nutrients and seaweed also contains growth hormones that enhance plant growth. There are commercial seaweed extracts that may be purchased from garden centres or you can incorporate seaweed directly into the soil in the fall of the year.

Taking Soil Samples

Soil samples should be taken from several parts of lawns, mixed together and 1-2 cups of the whole mixture can be taken to the Provincial Soils Lab. Submit different samples for ornamentals, vegetables, or areas that may have been treated differently (i.e. soil that has never been fertilized before and garden soil that has been fertilized before). Specify which crop will be grown in each area.