FERTILIZER BASICS

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If you have ever bought a container or bag of fertilizer to use on anything from African violets to your turf, the label on the package has information on it concerning the contents and how to apply them. In fact, since 1889, Florida has had a fertilizer law that helps regulate the manufacture and sale of this material. The law indicates that each container of fertilizer have a label that details information on what materials are contained in the fertilizer. This label is an important communication tool that the consumer should carefully review. So why do we fertilize plants and what's in a bag of fertilizer?

We fertilize our plants for many reasons concerning both the appearance of the plant or in consideration for the production of food crops. Fertilizers help plants grow roots and shoots, and supports flowering or fruiting. In our area of Florida, fertilizers are also important for correcting or preventing nutrient deficiencies. The proper and responsible use of fertilizer not only grows good, sustainable plants, but can also protect the environment and saves money. A basic understanding of fertilizer garnered from a fertilizer label can be a helpful beginning.

There are all types of basic information on a fertilizer label including the brand name, the net weight, manufacturers name/address, and the source of the various fertilizer materials. There is also what is called the guaranteed analysis which pertains to the nutrients such as 15-0-15, 10-10-10, 30-30-30, etc. Complete fertilizers contain a mixture of nitrogen, phosphorus and potassium. A fertilizer with an analysis of 10-10-10 for example has 10% nitrogen, 10% phosphorus, and 10% potassium. Nitrogen or "N" is the first number in a fertilizer formula, and includes different types of nitrogen such as water soluble and water insoluble forms. Some forms of nitrogen are coated with sulfur or plastic materials that make them insoluble. This allows for a long-term release of nitrogen over a period of time. Nitrogen promotes growth and a deep green color. The amount of phosphorus is also listed on the label – the second number after nitrogen - and is represented with a "P". Phosphorus can be in the form of water-soluble or citrate-acid soluble. Soil tests indicate that our residential soils often have plenty of phosphorus already and additional applications may not be needed. Phosphorus supports root growth and helps the plant resist stress.

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What To Look For On Your Fertilizer Label

% of Total N as Slow-Release Nitrogen (SRN) =

$$\frac{7}{14} \times 100 = 50\%$$

(Meets 50% SRN Charlotte County Requirement)

GUARANTEED ANALYSIS

TOTAL NITROGEN (N) ..... 14.00 %
14.45% Urea Nirtogen (N)*
SOLUBLE POTASH (K_2O) ..... 26.00 %
SULFUR (S) Total ..... 19.70 %
10.50% Free sulfur (S)
9.20% Combined sulfur (S)
IRON (Fe) Total ..... 0.96 %
0.19% Water Soluble Iron (Fe)
MANGANESE (Mn) Total ..... 0.48 %
0.1% Water Soluble Manganese (Mn)
DERIVED FROM: Polymer Coated Sulfur Coated Urea, Sulfate of Potash, Iron Oxide, Manganese Oxide.
CHLORINE (Cl) Max 2.00%
*7.00% Slowly Available Urea Nitrogen from Polymer Coated Sulfur Coated Urea.

The use of trade names in this publication is solely for the purpose of providing specific information. UF/IFAS does not guarantee or warranty the products named, and references to them in this publication do not signify our approval to the exclusion of other products of suitable composition.

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Potassium is the third number and is symbolized by a "K". Also called potash, potassium, is soluble and is immediately available to plants. Potassium helps with photosynthesis, water balance and cold tolerance.

Fertilizers may also contain secondary plant nutrients often called micronutrients such as manganese, boron, zinc, copper, etc., which are needed by plants in only small amounts. While only needed in small quantities, deficiencies of these nutrients can be detrimental to some plants.

Fertilizers can also be further categorized as either organic or inorganic depending on their nutrient sources. For instance, inorganic sources may include such materials as ammonium nitrate, ammonium phosphate, or potassium chloride. Organic fertilizers generally include composted manures, compost, and plant or animal bi-product residues.

While this article provides only a small snapshot of what is in a fertilizer, read the label for more information on application, timing and specific plant requirements.

For more information about our Florida Yards and Neighborhoods Program, please contact our FYN Horticulture Program Assistant, Allison Turner, at 764.4351 or email Allison.Turner@CharlotteFL.com. Allison can help educate you about the FYN Program so you can create a beautiful, Florida-Friendly landscape that saves you time and money while conserving precious water resources and reducing pollution.

contact a
MASTER GARDENER
on the Plant Lifeline from 1:00pm-4:00pm Monday, Wednesday, and Friday at 764.4340 or by email Master.Gardener@charlottefl.com.

You can also visit them at one of our many Plant Clinics around the county:
http://charlotte.ifas.ufl.edu/PlantClinics.pdf

Resources:

- *Sartain, J.B. (2008) The Florida fertilizer Label. UF/IFAS Extension Service.*
- *Shober, A.L. (2009) Soils & Fertilizers for Master Gardeners: The Florida Gardener's Guide to Landscape Fertilizers.*
- *Zekri, M. & Obreza, T.A. (2009) Plant Nutrients for Citrus Trees. UF/IFAS Extension Service.*
- *Knox, G., Broschat, Kidder, J. et al. (2002) Fertilizer Recommendations for Landscape Plants. UF/IFAS Extension Service.*

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