Fertilizers

The Basics

Why use Fertilizer?

- Expectations
  Want the “Golf Course” look.
- Helps in recovery from stress.
  Mowing, Heat, and Activities.
- New Hybrids of grass seed perform better than the older varieties, but they require fertilizer to achieve these better results.
- Keeps turf more vigorous, weed free, and more disease and drought tolerant.

Whats in a Fertilizer ?

Its on the Label!

- N - P - K
- Micro-Nutrients
- Active Ingredients
- Derived from
- Weight of the Bag


ferti·lome®
South-West Green Maker
A Premium Lawn Food For Alkaline Soils
18-4-6
GUARANTEED ANALYSIS
Total Nitrogen (N) 18.00%
9.6% Ammoniacal Nitrogen
6.4% Urea Nitrogen
2.0% Water Insoluble Nitrogen
Available Phosphate (P_2O_5) 4.00%
Soluble Potash (K_2O) 6.00%
Total Sulphur (S) 10.00%
10.00% Combined Sulphur (S)
Boron (B) 0.02%
Copper (Cu) 0.05%
0.05% Water Soluble Copper (Cu)
Iron (Fe) 5.00%
5.00% Water Soluble Iron (Fe)
Manganese (Mn) 0.05%
0.05% Water Soluble Manganese (Mn)
Zinc (Zn) 0.05%
0.05% Water Soluble Zinc (Zn)
Derived From: Ammonium Sulfate, Ammonium Phosphate, Urea, Urea Formaldehyde, Sodium Borate, Oxides and Sulfates of Copper, Iron, Manganese, Zinc.
F-370

30 lb.

Nitrogen (N)

Top Growth and Color

- N is not immediately available to plants, must be broken down, “fixed” by lightning, microbes, and or water.
- Different forms of N.
- Quick release to slow release.
- Too much N; burns, no fruit, or leggy.


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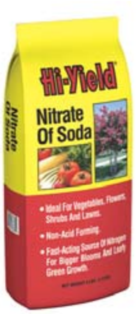
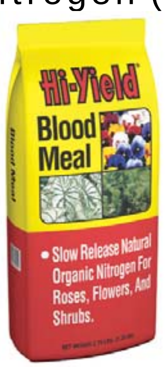
Nitrogen (N)





Other sources of Nitrogen

Slow

- Start-n-Grow feeds slowly for 3 to 4 months.
- Geranium, Hanging Basket & Pansy feeds very quickly, from almost immediately to lasting only 7 to 10 days.

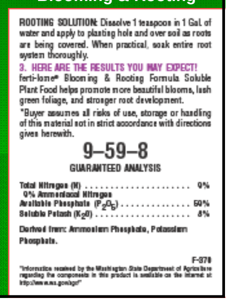
Rapid

Phosphorous (P)

Root Growth and Blooms

- Used in Starter Fertilizers, Garden Fertilizers and Rooting products. *Root Stim. Bone Meal*
- Most soils have plenty.
- Slow to leach.
- In excess; decreases drought and fungus resistance, in turf.

Blooming & Rooting



ROOTING SOLUTION: Dissolve 1 teaspoon in 1 Gal. of water and apply to planting hole and over soil as roots are being covered. When practical, soak entire root system thoroughly.

3. HERE ARE THE RESULTS YOU MAY EXPECT!

ferti-lome® Blooming & Rooting Formula Soluble Plant Food helps promote more beautiful blooms, lush green foliage, and stronger root development.

*Buyer assumes all risks of use, storage or handling of this material not in strict accordance with directions given herewith.

9–59–8

GUARANTEED ANALYSIS

Total Nitrogen (N)	9%
9% Ammoniacal Nitrogen	
Available Phosphate (P_2O_5)	59%
Soluble Potash (K_2O)	8%

Derived from: Ammonium Phosphate, Potassium Phosphate.

F-378

"Information received by the Washington State Department of Agriculture regarding the components in this product is available on the internet at http://www.wa.gov/agr/"

Phosphorous (P)

Potassium (K)

- Helps improve stem strength of the plant.
- Helps in the building of fruit quality.
- Helps in the reduction of diseases.
- Helps the plant form carbohydrates.

ferti·lome®

South-West Green Maker

A Premium Lawn Food For Alkaline Soils

18-4-6

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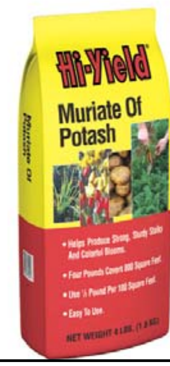
F-370

30 lb

Potassium (K)



Secondary Macro's

- **Calcium (Ca)**
  - Found in cell walls.
  - Helps strengthen plants.
  - Reduces Blossom End Rot in Tomatoes.
- **Magnesium (Mg)**
  - Part of chlorophyll, in every green plant.
- **Sulfur (S)**
  - Helps in chlorophyll formation.
  - Improves root growth and seed production.
  - Helps with vigorous plant growth and resistance to cold.

Secondary Macro's

Calcium (Ca)

Sulfur (S)

Magnesium (Mg)

Iron (Fe)

- Essential for formation of chlorophyll.
- Leaf yellow with veins dark green.
- High pH and high levels of copper, manganese, zinc and phosphorus can cause deficiency .

Iron (Fe)

Copper (Cu)

- Important for reproductive growth.
- Aids in root metabolism.
- High levels of zinc, nitrogen and phosphorus, can produce a deficiency.

Copper (Cu)

Boron (B)

- Helps regulate other nutrients.
- Aids in the production of sugar and carbohydrates.
- Essential for seed and fruit development.
- High pH and high levels of phosphorus can cause deficiency.

Boron (B)

Zinc (Zn)

- Essential for the transformation of carbohydrates.
- Regulates consumption of sugars.
- Helps regulate plant growth.
- High levels of copper and phosphorus can produce a deficiency.

Zinc (Zn)

Manganese (Mn)

- Manganese is necessary in photosynthesis.
- Helps with the breakdown of carbohydrates, and nitrogen metabolism.
- Deficiency can be caused by High levels of potassium, phosphorus, iron, copper and zinc.

Manganese (Mn)

Aluminum (Al)

- Aluminum added to the soil will change the pink Hydrangea Blue.

Which has More N?

18 lbs. Bag

30 lb. Bag

Which has More N?

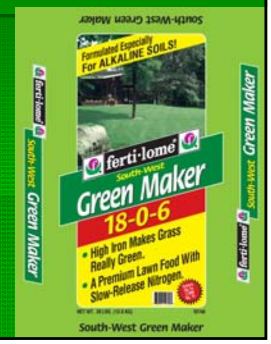
- Scotts Super Turf Builder 30% of an 18 lb bag
- Fertilome Southwest Green Maker 18% of a 30 lb bag
- Both are 5.4 lbs of N
- % Margin on Scotts = $ .00 Profit
- % Margin on Green Maker = $ .00 Profit
- You Need to sell more Scotts to make the same amount of money.

What are you working for?

Which Would you use?

Mow Maker

Green Maker



What affects Fert. uptake?

- **Soil composition**-- Soils high in clay particles will absorb (bind to their surface) more nutrients, while fertilizer will leach faster through sandy soil. Organic matter in the soil increases its nutrient-holding capacity and contributes nutrients upon its breakdown.
- **Soil micro-organisms**-- Some fungi and bacteria may "tie up" nutrients while others convert the fertilizer to a form that the plant can take up.
- **Competition**-- If the roots of many plants occupy an area, a reduced amount of nutrients will be available for each plant. Weeds when present, will take up nutrients intended for desirable plants.

What affects Fert. uptake?

- **Soil moisture content**-- Most nutrients are taken up via the soil solution, so soil water is needed to dissolve them.
- **Soil aeration**-- Oxygen is needed in the soil to help roots with the uptake process. Decomposed organic matter helps develop good air-water relationships in the soil.
- **Soil temperature**-- Nutrient uptake is faster in warmer soils than in cold soils.
- **Plant condition**-- Plants under stress will be less able to take up nutrients, generally due to a reduced or damaged root system.

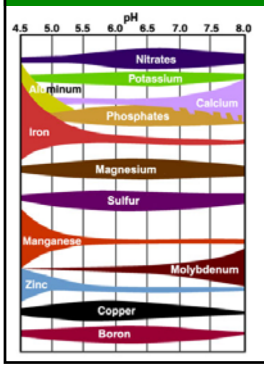
Products that improve Fertilizer uptake

- Soil Activator provides micro-organisms and humates to improve soil, and fertilizer uptake.
- Aqueduct is a soil surfactant that improves water penetration, and the effectiveness of fertilizers and chemicals.

What affects Fert. uptake?

- **Soil pH**-- Extremes in pH affect availability of plant nutrients. At low pH levels, calcium, phosphorus and magnesium become unavailable. At high pH levels, phosphorus, iron, copper, zinc, boron and manganese become less available.
- **Nutrient availability**-- Nutrients may be present but may first require conversion to an "available" form that the plant is capable of taking up and utilizing. Conversion to an available form is affected by soil microorganisms, pH, soil moisture and chemical reactions.

How pH Effects Nutrients



- Look at pH 6.3 to 7 for best plant production.
- Readily available in this range; N, P, K, Mg, S.
- Getting lower in this range; Cu, B.
- Deficient in this range; Fe (iron), Mn, Mb, Zn.

Synthetic vs. Organic

- Generally, inorganic, fast-release, or liquid forms of fertilizer, are faster-acting than organic, slow-release, or dry forms.
- Compared to synthetic fertilizers, most organic fertilizers contain relatively low concentrations of actual nutrients.

Organic Fertilizer

When to Fertilize!

1. Try to avoid very early Spring applications of fertilizer.
   - You STOP all root growth, and encourage lush, top growth, that is not drought and disease resistant.
2. Make a late Spring application.
   - Use something with Iron, for greening all Summer.
3. Make an application in early Fall.
   - This helps feed the turf, trees and shrubs while they are putting roots on, and preparing for winter.

When to Fertilize!

4. Make one or two applications in late Fall and early Winter.
   - These are the most IMPORTANT applications of the year.
   - These go to stored food in the roots, which is used as food through the winter, when the plant doesn't produce chlorophyll.
   - Remaining nutrients are used by the plant to "Flush" in the spring, giving you a dark green, healthy plant.
   - These applications allow you to wait as late as possible, to fertilize in the Spring.

Trees, Shrubs & Evergreens

- You can feed Trees and Shrubs in the Spring.
- A Fall application, when you Winterize your yard, is best.

Evergreens

- Every time you sell something for evergreens, sell one of each, as well as a control.
  (Fung, Insect)

+

Sell a new Plant!

- What a great group of add-on sales!
- Every plant can use Root Stimulator, and Start-n-Grow.
- To get the best results on Trees and Shrubs, the customer should also use the Myke, and they can get a 5-year warranty.

Gardens

- Slow release
- Micronutrients

ferti·lome

Fertilizers

The End