

Types of Fertilizers

DEFINITION OF FERTILIZER: anything that's added to soil to help plants grow.

Natural or Organic Fertilizers come from

(a) Animal or plant parts like bone meal, blood meal, manures and urea, alfalfa meal, dried seaweed, or cottonseed meal.

(b) Rocks or minerals like Rock Phosphate, Dolomite, Greensand, or Sulfur.

Synthetic Fertilizers come from chemicals like petroleum, acids, or other chemicals.

Which is better?

Often this is a matter of opinion. Natural or Organic fertilizers tend to be much lower in concentration, and may protect plants from some disease.

Scientists are just beginning to do research on this, and it could be a reason to use natural rather than synthetic fertilizers in some situations.

(University of Wisconsin).

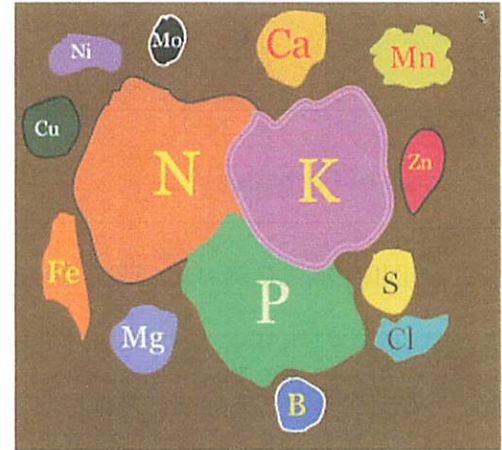
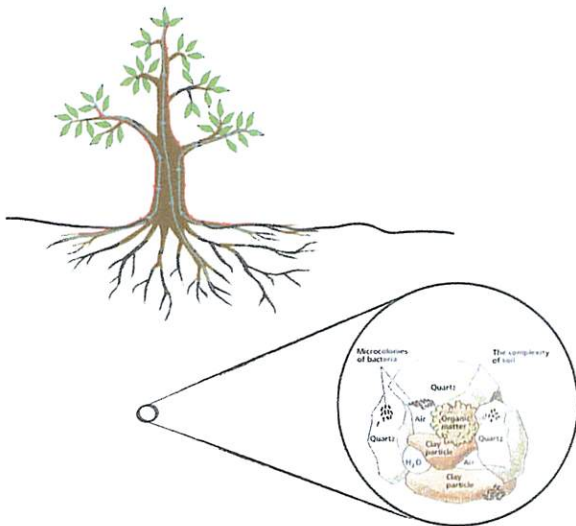
These organic elements may also feed soil organisms that often contribute to building a bridge from nutrients into the plants. These types are considered to be "slow release". These types are more desirable when growing food crops organically.

Synthetic Fertilizers are more concentrated and may feed over a longer period of time, and may provide a wider range of elements that plants need. Mostly they are more convenient. One note of caution, many chemical fertilizers are quite strong and can damage plants if too much is applied. Always feed a little less initially and see what the results are before upping the application amounts. Some are classified as 'Controlled Release' synthetic fertilizers. These, like the 'slow release' organic fertilizers, dissolve over a set time. These can be sold as an "8 month" or "12 month" feed, for example. Commercial growers use these predominantly as they can count on a steady feed over a set amount of time.

Control Release Chemical Fertilizers

These are prills, polyamer coated to cause an even release of the nutrients, thus reducing any chance of "burning". The most commonly used of these types are Apex Polyon, Osmocote, and Nitrocote. It has been documented that Osmocote releases the fastest and is more temperature influenced. Nitrocote releases very evenly over the release period, and Apex Polyon releases the slowest with very uniform results. Apex Polyon performs best in the cooler maritime climates.

The Complexity of Soil

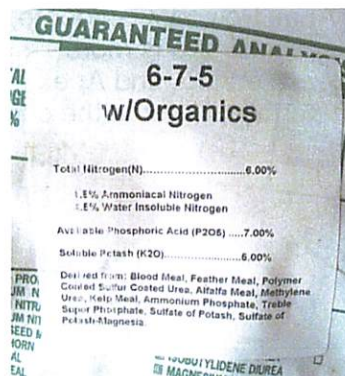


Safety of Fertilizers

In general, plant fertilizers, both organic and chemical are completely safe around children and pets. Where there is concern is when using lawn food that contains herbicides like "weed and feed". These, I feel, should be used with caution as these herbicides can "gas off" over a few days time, and may be a health risk to children and pets. If a plant fertilizer is saying it will also kill weeds and insect pests, I would consider it risky to use around children or pets. It's just common sense.

Understanding the numbers

On every bag of fertilizer you should see 3 numbers, like 6-7-5 on this bag. These numbers represent the percentages in this bag of the three nutrients that plants need in the largest amounts (in order, these are nitrogen, or N, phosphorus, or P, and potassium or K).



Understanding Fertilizers That Help Our Plants Thrive

We all know that plants need fertilizer, but what kind do they need? When do they need them? Do plants need more than one feeding per year? How much per plant? Organic or Chemical? Can I hurt my plant with too much? Will it hurt the environment? What influences the production of flower buds? What is N-P-K? Should I use a dry granular or liquid fertilizer? If I use a dry granular, do I have to scratch it in, or just sprinkle it about, and where should the fertilizer be applied? I have heard that I should use a controlled release type...should I use one that is temperature release or moisture release? Will any fertilizers be a health risk to children or pets? What is the difference and which is better...Osmacote, Nutricote, or Apex Polyon? What are some symptoms of fertilizer deficiency in plants? What about using compost as fertilizer?

Requirements of All Plants

Plants are living organisms that need soil, water, air, light, and room to grow and thrive. It is often believed that most all plants do not need to be given fertilizer, as it is supplied to them by the soil they are growing in. This can be true for plants growing out in nature, but for our garden plants to perform the way we would like, adding nutrients yearly is often necessary. It might be good at this time to discuss soil and how it works.



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The Make Up of Soil

What we walk on and what plants grow in is 50% soil, and 50% empty space. The soil part is 90-95% rock, broken up into tiny particles over time, and 5-10% organic material. The empty space is filled with water or air, both important for plant life.

Plants drink the nutrients they need

The bigger molecules of nutrients necessary for plant growth are broken down into useable smaller molecules by physical, chemical, and biological processes so they can be taken into the plant via the roots. Sometimes soil fungi is involved in this process, and it has been documented that if these soil fungi, called mycorrhizal fungi, are present plants are healthier and have more vigor. Some bagged soil mixes and organic composts sold today boast that their products contain these valuable fungi.

Symptoms tell the tale

Some elements are found in abundance, while others may be scarce. Plant growth, or leaf and stem colors, can be indicators of elements missing and needed for good plant health.

The rhododendron foliage to the right has chlorotic foliage due to a lack of nitrogen availability. This could be rectified by fertilizing the plant, but this may also be due to the ph being too high or too low, thus preventing access to nitrogen.

In general, for the best results, garden soils must be replenished of necessary elements yearly to insure that plants thrive. A yearly application of a well-balanced fertilizer will generally do the trick.



Periodic Elements of Soil

The 14 elements plants typically get from the soil, together with the symbols chemists use for them include: nitrogen (N), potassium (K), calcium (Ca), magnesium (Mg), phosphorus (P), sulfur (S), chlorine (Cl), iron (Fe), boron (B), manganese (Mn), zinc (Zn), copper (Cu), molybdenum (Mo), and nickel (Ni).

If, for example, the bag weighs 100 pounds and has the numbers 6-7-5, there would be 6 lbs of Nitrogen, 7 lbs of phosphorus, and 5 lbs of potassium. The remainder of the weight is made up of elements in lower concentrations, inert ingredients and coatings. This brand lists the ingredients Derived from: Blood Meal, Feather Meal, Polymer Coated Sulfur Coated Urea, Alfalfa Meal, Methylene Urea, Kelp Meal, Ammonium Phosphate, Treble Super Phosphate, Sulfate of Potash, Sulfate of Potash-Magnesia.

For rhododendrons, we use the formula of 1 cup scattered around the drip line for a plant 3 ft. tall or less, and 1.5 -2 cups for plants larger than 3 ft. tall. This is a very general guideline, and if your rhododendron is huge, obviously it will take more fertilizer. Some might say "I see these huge old rhododendrons around that bloom profusely every year, and no one is feeding them. What's up with that?". This is very true about old established rhododendrons, but feeding them might offer some desirable benefits like generating new shoots and branches, thus filling in an old straggly plant.




This works well for us, but we are in a maritime climate that has mild winters. This schedule would not make sense if you have snow, so in that case I would feed just after blooming. Using dry granular slow release fertilizers is easy as well because you do not have to scratch it in...just sprinkle it on and let your watering or the rain dissolve it into the ground around the plant.

Suggested Times to Fertilize - Early Summer Feeding

In general, plant fertilizers, both organic and chemical are completely safe around children and pets. Where there is concern is when using lawn food that contains herbicides like "weed and feed". These, I feel, should be used with caution as these herbicides can "gas off" over a few days time, and may be a health risk to children and pets. If a plant fertilizer is saying it will also kill weeds and insect pests, I would consider it risky to use around children or pets. It's just common sense.

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**Valentine's Day
Late Winter Feeding**

February 2012

				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Results:


- *Bigger Flowers
- *Brighter Colors
- *Longer Lasting Bloom
- *Stronger Plants



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**Father's Day
Early Summer Feeding**

June 2012

				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Results:

- *Production of Flower Buds
- *More Flower Buds Produced
- *More Branching/ Better Foliage

