The Elements of Fertilizer

Understanding the numbers

When you buy fertilizer you see a series of 3 numbers, and those numbers relate to “N - P - K”. The numbers are actually a percentage. On the fish & seaweed for example, there is 3% nitrogen, 3% phosphorus and 2% potassium.

Nitrogen

Nitrogen is considered the most important part of fertilizer since it’s in charge of helping chlorophyll produce energy for the plant. Anything high in Nitrogen will promote the overall growth of the plant. If you use too much Nitrogen you can end up with far too many leaves and little fruit or flowers.

Nitrogen rich fertilizers:

- **Mix into your watering can & use every 3 weeks**
- **Blend blood meal into the soil or scratch it into the surface**, each brand will have directions on how much to use
Phosphorus  $\text{P}_2\text{O}_5$

Phosphorus helps the plant store energy and is essential for creating blooms. Flowering plants like dahlias, roses, and tulips are heavy users of phosphorus. Mix some bone meal, rock phosphate or super phosphate into your soil when you plant for the best results. For flowering perennials like roses, scratch the phosphorus rich fertilizer into the soil. If you have a dog I would avoid using bone meal as it is highly attractive to them and encourages digging.

Phosphorus rich fertilizers:

The 45% potassium in triple super phosphate may seem appealing, but anything with a very high percentage is easy to overdo. Too much of any of these fertilizers can stunt growth.

Potassium  $\text{K}_2\text{O}$

Potassium is an important part of plant respiration and additionally helps develop resistance to disease. Yellowed leaf veins, wimpy plants and poor crop production are the most common signs of this deficiency.

Potassium is particulary beneficial to root heavy plants such as potatoes, carrots, dahlias and tulips.
Bonus Elements

While “N - P - K” is the critical trio of elements, I have found iron and calcium to be very useful.

Iron

Iron is an important component in enzymes involved in photosynthesis. Without iron the plant will lose its ability to turn Nitrogen into energy. Plants with iron deficiencies will have yellowing of the leaves, also known as chlorosis. Yellowing is more often caused by poor irrigation, but if you have unexplained yellowing a dose of iron should do the trick.

Calcium

Calcium is important for cell wall development and works with phosphorus to regulate moisture. While many plants get all the calcium they need from the soil, I have found calcium to be critical in growing healthy tomatoes. Blossom end rot is often caused by calcium deficiency or irregular watering. Other plants that benefit from calcium include apples, cherries, melons, peaches, broccoli, brussel sprouts, cabbage, carrots, lettuce and peppers.

Feeling Overwhelmed?

If I could use just one of these fertilizers I would go with one of the fish emulsion products (Alaska and Age Old are the most commonly available). Phosphorus (bone meal or rock phosphate) would be the next most important.