WHY SEAWEED ?

Did you know that every natural element known to man exists in seawater? Or that seaweed, which concentrates these elements in its tissues, in turn, provides plants with more than 60 minerals, vitamins, macro/micro nutrients and amino acids? Studies have determined that this has been known for centuries! Seaweed, (or kelp), is one of the most valuable soil conditioners in the world!

We are so focused on what happens above the soil, we often forget that what's happening below the soil's surface, is a whole lot more than we realize.

The best way to achieve healthy soil is to add organic materials. Chemical fertilizers do not promote healthy soil. They offer impressive results by making plants look good, but that's only for the short term. Studies confirm that in the long run, they do more harm than good.

So why is seaweed so beneficial for plants? Seaweed stimulates beneficial soil microbial activity, particularly in the pockets of soil around the feeder roots resulting in a substantially larger root mass, where the beneficial fungi and bacteria known as “mycorrhizae' make their home. This area of the soil is known as the “rhizosphere'. The rhizosphere activity improves the plants ability to form healthier, stronger roots. Having many actions, it also enhances the plants own natural ability to ward off disease and pests. A good example has been observed that aphids, and other types of sap feeding insects, generally avoid plants treated with seaweed. At the same time it works within the soil to make nutrients available to the plant. The rhizosphere forms a nutrient food bank for the plant, that it can draw on in times of stress.

Another action seaweed has on the roots in the rhizosphere is due again to the increased mass and depth of the roots. The plant is able to draw more moisture from the soil, increasing the drought tolerance level. The root mass also allows the plant to more effectively absorb and use fertilizers that are applied to the plant and soil. The overall stronger root structure help plants physically resist certain types of root diseases.

Seaweed enhances photosynthesis by increasing a plants chlorophyll levels. Chlorophyll is what gives plants their green color. By upping the level of chlorophyll, the plant is able to efficiently harness the suns energy. Along with this, seaweed contains a complex range of biological stimulants, nutrients and carbohydrates. To date more than 60 different types of nutrients in seaweed have been confirmed. However seaweed in itself is not a plant food, rather it is classified as a 'bio-stimulant'.

Seaweed contains natural plant growth regulators (PGR) which control the growth and structural developments of plants. The major plant growth regulators are auxins, cytokinins, indoles and hormones. These PGR's in seaweed are in very small quantities generally measured in parts per million. It only takes a very small amount of these to do the job.

Indole compounds help the development of plant roots and buds. Cytokinins are hormones that promote growth by rapidly speeding up the process of cell division, making seaweed of value in treating tissue cultures. When applied as a foliar

spray, the leaves rejuvenate and stimulate photosynthesis. Thus they stay green longer. The cytokinins in seaweed are a major factor when applied to apple and peach trees in promoting the growth of fruiting spurs and reduce premature dropping of fruit. Auxins, also hormones, occur in the roots and stems during cell division. They move to areas of cell elongation where they allow the walls to stretch. Auxins actually give fruits and vegetables a naturally longer shelf life. This is known as delaying senescense: the deterioration of cells and tissues that result in rotting.

Improved cold tolerance: We have had results with seaweed treated tomato plants that were able to take temperatures as low as 29 degrees and survive quite well. Many more cold tolerant annual flowering plants such as petunia, alyssum, and verbena were able to withstand many hard freezes and stay green and flowering. Plants that have broken dormancy too early due to unseasonable fluctuating temperatures are able to make it with the help of just one foliar application, as have seedlings that were put out and left uncovered.

How can this be? The effect of the growth regulators in seaweed fill plant tissues. In turn this helps plants to tolerate the pressure from frost that would normally cause significant tissue damage. Polyamino compounds in seaweed also play a role in cold resistance, as does abscissic acid. Seaweed as a plant supplement treatment has consistently proved to be the best treatment for preventing the threat of frost damage. For us seeing it was believing it!

Seaweed and insects: Once again the plant growth regulators in seaweed come into play concerning insect control. We have observed reductions in populations of aphids and flea beetles on seaweed treated plants to the point that these bugs were hardly noticed. Infestations of spider mites have been reduced by 40-50 %. The presence of hormones, has an effect in disrupting the insects reproductive capabilities.

So in conclusion, seaweed is like giving your plants and soils an organic vitamin pill! Feeding plants without concern of the long term health of the soil, is like building a house on sand. Thus, organic gardening practices are by far the best way to improve this critical part of your plants living space! As people become more sensitive to enviromental issues, the need for organic gardening methods plays a critical role in our health and the health of the planet. The use of seaweed...a natural, sustainable gift from the ocean...aids us with our efforts in the garden.