How do Keylamax™ minerals work in the plant?

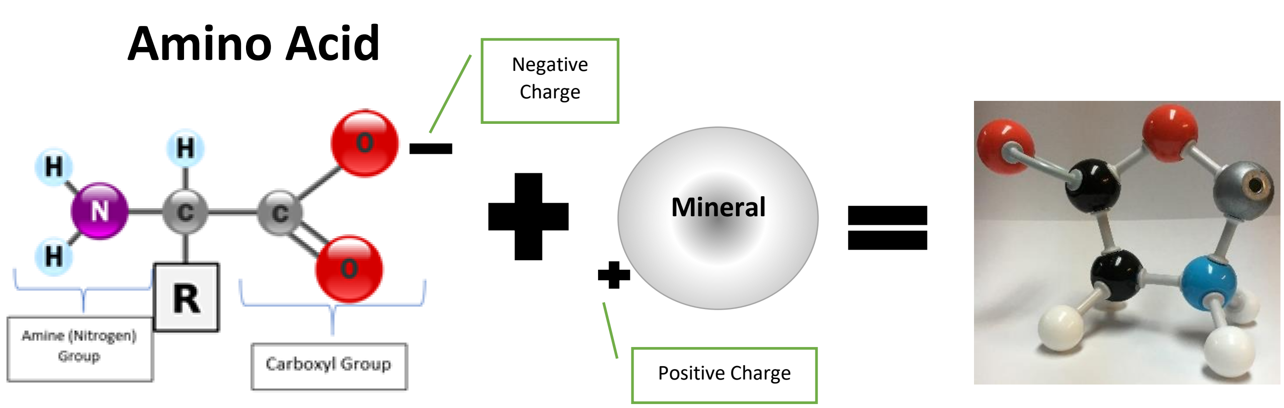
Keylamax™ amino acid complexes use amino acid chelation technology to change the nature of the mineral as the plant sees it to allow more rapid assimilation and movement within the plant.

Amino acids are natural and essential organic molecules that are the building blocks of proteins and have the ability to bind minerals.

An amino acid consists of a nitrogen group at one end of the molecule and a carboxyl group (a carbon with two oxygens) at the other end. That carboxyl group has a negative charge.

That negative charge is important because most minerals have a positive charge. As with magnets, positive and negative charges will attract and then neutralize each other. A neutralized mineral amino acid complex does not get trapped in the leaf. The mineral amino acid complex can penetrate rapidly and once assimilated can move quickly within the plant.

One study done at UC Davis for the American Vineyard Foundation showed that a foliar application of zinc amino acid chelate moved 20 times more zinc into the sap from the leaf than a foliar application of a comparable amount of zinc sulfate 24 hours after application and manganese amino acid chelate moved 100 times faster than a comparable amount of manganese carbonate.[1]



Why do the Keylamax™ minerals move so quickly in the plant?

By disguising a mineral with an amino acid, the plant thinks that the molecule is a protein. Proteins and sugars move in the phloem of the plants and can move in all directions very rapidly. This technology has a tremendous advantage because minerals such as Calcium, Zinc, Iron, Manganese and Copper are immobile. That means that once they move from the roots to the leaf in the xylem tissue they stay in that leaf. Keylamax™ minerals are totally mobile. With this technology Calcium, Zinc, Iron, Manganese and Copper can now move in the phloem of the plants with the same speed as sugars and proteins and can move from an old leaf to new growth, roots and fruit.

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1. American Vineyard Foundation Progress Report. 2000, pg.75