



## STOLLER ENTERPRISES, INC.

*...World leader in crop nutrition...*

### **SUCKING INSECTS ... APHIDS, MITES, WHITE FLY, THRIPS, AND OTHERS**

The major feeding stimuli for sucking insects are amines and amino acids. These compounds are necessary for them to form their own protein. (They cannot use plant proteins).

The sucking insect's life cycle is so short, it needs to make massive amounts of protein for its eggs. Plants sugar can give it diarrhea ... causing sticky plants.

Sucking insects usually attack and feed on new leaves ... less than 1/3 of their normal size. The new leaves only have phloem tissue ... not xylem tissue. They are not yet making their own organic compounds. They are living off of organic compounds that are made from mature leaves.

These new leaves are very high in amines and amino acids which freely move in the phloem tissue. They are very low in calcium, boron, and other nutrients that are non-mobile or only slowly mobile in the phloem tissue.

When sucking insects destroy the new leaves or vector in a virus, it disrupts the hormone balance of the whole plant. Then, old leaves undergo a major change. Proteins will hydrolyze to amines and amino acids on the older leaves. They will then be good feeding leaves for sucking insects.

The more nitrogen that a grower uses, the more problems the plants will have with sucking insects. Nitrogen causes higher amines and amino acid levels of plants.

Sucking insects will normally "take down" plants from the new leaves downward.

**If we understand "The Language of The Plant", this is an easy way to make plants resistant to sucking insects.**