



Why “Mic-Ro-Pac”? Foliar Fertilizer: How does it work?

CL#28

The following is a very brief overview of how foliar fertilizer can make a difference. A study of foliar fertilizer with the objective of tracing how the plants absorbed the nutrients was done using radioisotopes by Michigan State University. We will define foliar fertilizer here to include micronutrients.

Foliar feeding is not meant to replace soil applied fertilizer programs, however, there are stages in a plant's life-cycle when demand for nutrients maybe greater than it's functioning capacity to supply them. Certain soil conditions, like PH, excess moisture, or cool temperatures prevent nutrient(s) from being available to the plant root even when these nutrients are available in abundant supply.

During periods of peak demand, data from crops trials have shown that increases in yields and/or grades results from applications of foliar nutrients. These foliar fertilizers can be designed to meet a plant's specific needs for micro nutrients especially trace minerals. This allows deficiencies to be corrected: strengthen weak or damaged crops, speed growth and grow better plants producing a higher yield and better quality.

The isotopes showed that all foliar applied nutrients are absorbed by the leaves. As far as the amount of nutrients required and the speed with which those nutrients were utilized, the study showed that it was 8-10 times more effective to foliar feed a plant. The beneficial effect of foliar application results from an increase in cellular based chlorophyll synthesis. This increase of chlorophyll production and synthesis is starts in the cells of leaves that are most exposed to sunlight. And since chlorophyll is the green seen in leaves, we have visual verification of this increase in chlorophyll by the leaves turning darker green. Not only that but the cellular activity and respiration increase uptake of water by the plants vascular system in response to increasing need of water by the leaf. This starts a cycle of more nutrients which require more water, etc. This increased uptake of N and P and providing cellular phosphate at a time of high usage by the plant. A small amount of potash or phosphate can increase the yield so significantly, that it is a better return per dollar than soil applied fertilizer. This need for more water and greater gaseous exchange stimulates additional root mass to provide it. More root tissue and root hairs increase the plants ability to uptake water and fertilizer. The important thing to remember is that a small amount of fertilizer used, actually increases the uptake by several times over the amount of fertilizer applied. Statistics by researchers abound but all point to fact that by increasing photosynthesis growers are able to produce considerably more. The principle with foliar fertilizer is the same----increased photosynthesis.

Why **MicRoPac** ? If we could take everyone to the field and visually show them the results, the product sells itself. But there are hundreds of foliar fertilizers and many have very similar ingredients. It is how **MicRoPac** is made that makes it more bioavailable to the plant. Bioavailability is the difference between the amount of foliar fertilizer plus micro nutrients which have been sprayed on the plant and the actual amount of the nutrients the plant absorbs.

Now you may certainly use **MicRoPac** alone and get very good results, however, Atlantic-Pacific suggests Hook adjuvant be used for excellent results. Why? **Hook** is the only multi-functional adjuvant that provides: A spreader, sticker, penetrator, deposition agent, activator and drift control agent. Hook enables **MicRoPac** to spread for maximum coverage, stick in case of rain, penetrate waxy leaves, and being a deposition agent allows more even absorption of **MicRoPac**. Also Hook is known for its lower canopy coverage, which gives bottom leaves, as well as the underside of the leaf, access to **MicRoPac** thereby providing the means of growth to where photosynthesis is more effective.

Please remember that while foliar fertilizer can make a difference, **MICROPAC** is that difference.

“The **MICROPAC** Difference.”

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