



Spring 2003, No. 3

### DON'T WAIT UNTIL YOU SEE DEFICIENCIES TO FERTILIZE

**Seeing is believing.** Most of us have heard this adage before. It applies to a lot of things...including deficiencies of plant nutrients such as phosphorus and potassium. So once we can see actual symptoms of nutrient deficiency on our crop, it is time to apply fertilizer. Right? After all, this approach eliminates the possibility of applying fertilizer where it might not be needed. No...this is the wrong approach. Once a symptom appears, it is too late. Some yield and perhaps quality has already been lost.

**Crops may have a "hidden hunger" for nutrients** that causes a reduction in yield or productivity without showing a specific nutrient deficiency symptom. By the time symptoms become visible, the plant has already lost a lot of time that it could have used reaching its genetic potential—and it is losing potential yield and quality every day.

**Fertilizer management is different than pesticide management.** Pest management frequently relies on a careful monitoring program to provide early detection of problems, followed by appropriate control measures. Pest and weed infestations can vary dramatically from year to year. The plant requirement for nutrients exists every year, and can be predicted from proper soil testing.

**Plants may not show obvious symptoms of nutrient deficiency other than slower growth.** Where mild nutrient deficiencies occur, specific symptoms may never appear to identify a particular problem. A nutrient deficiency causes a disruption in a variety of essential metabolic processes within the plant, leading first to slow growth and in severe cases eventually to plant death. Crops mature unevenly because deficiencies rarely occur uniformly across entire fields. This leads to less yield, harvesting difficulties, and lower quality of the harvested product. And as previously stated, this can all occur without specific diagnostic symptoms appearing.

**Another problem is that not all nutrient deficiencies produce clear-cut symptoms.** Or for a particular nutrient, one crop may show symptoms and another crop may not. There is also a possibility of multiple deficiencies, where the most severe will likely be manifested. Once that deficiency is corrected, then the secondary one will show itself. All the time the crop is losing yield.

**True...a nutrient deficiency can sometimes be corrected within the growing season,** but this is frequently a more difficult and expensive cure to the problem than preventing deficiency in the first place. Additionally, the plant has already lost some of its yield potential that will never be regained.

**So, now what? Correct potential nutrient deficiencies before they occur.** Use your experience and knowledge of your fields as a guide, along with soil and tissue testing to give you the predictive information that will prevent nutrient deficiencies in the first place and to optimize crop growth for maximum profits.

**Seeing is believing. But in the case of nutrient deficiencies, seeing may be too late.** Another adage might best apply: *A day late and a dollar short.* Don't wait until you see deficiencies before fertilizing because you will indeed *be a day late and a dollar short...*and a lot more.

—RLM—

For more information, contact Dr. Robert L. Mikkelsen, Western Director, PPI, 617 Oeste Drive, Davis, CA 95616.  
Phone: (530) 758-4237. E-mail: [rmikkelsen@ppi-far.org](mailto:rmikkelsen@ppi-far.org).