

March 23, 2011

## High Yielding Corn-on-Corn

# AGRONOMY TOPIC OF THE WEEK

Central Valley Coop has several producers that have converted to continuous corn. It is not easy to raise high yielding corn in this situation. Why? Residue management is the main factor we keep coming back to in all of our research. We are so short on heat early in the season, when anything prevents the soil from warming-up for germination, it's a negative. Residue must be sized and managed, allowing the planters to create an area free of trash. We need the plants to emerge evenly, to allow the best chance of uniform ear size.

Nitrogen management is another key influence of high yielding corn-on-corn. A safe amount to plan for is .95# of N per bushel. So, if we have a yield goal of 230 bushels @ .95# we need a total of 218# of N per acre. We have started to split apply N, finding that a base rate of roughly 160# of N works well. Then we like to come back with some N as pre-plant or side-dress application. This allows us to achieve optimal amounts of N in the root zone, maximizing N efficiency. You can tailor N rates to any yield goal. Ideal soil test values would have Phosphorus at 30 ppm and Potassium at 190 ppm. Sulfur and Zinc are also critical components that need to be considered.

We have run into some other interesting issues worth discussing. In our intensive tissue testing program last summer we found:

- ◇ Zinc deficiencies beginning at V-2 through VT
- ◇ Boron deficiencies from V-2 to V-6
- ◇ Potassium deficiencies starting at V-6 through VT
- ◇ Sulfur deficiencies from V-8 to VT
- ◇ Nitrogen deficiencies beginning at V-7 through VT

It is essential to know where your micronutrient levels are. There are very effective products on the market, used to address these issues. We were able to address many deficiency issues in 2010 by applying micronutrients with the herbicide application, or separately. We had several positive responses last year, utilizing the tissue testing process and application of nutrients accordingly. The big issue we struggle with is how to get enough potassium into the plant. Even on high testing soils we still were deficient. This year we are going to try side-dressing liquid potassium, enhancing uptake. We continue to learn all the time and will continue to be on the cutting edge. When you start producing high yielding corn-on-corn, nutrient needs are slightly on the unknown side. We will continue to work and learn how to capture the most yield.

