

## **SIREN PH PRESENTATIONS**

### **Rolf Mahlberg**

We were very fortunate to discuss the importance of pH with respect to nutrient management in soils. We were able to work with fifty students in the Worthington public schools. Students learned that the soil reactions which take place making nutrients available to plants are directly influenced by the pH value of the soil. Students learned the value of using the scientific process to measure the impact different pH values have on plant response to nutrient availability as well as how soils may be modified to impact the pH value of soils.

Students really dug into the experiments and improved their lab skills as they worked on the SIREN project. The instructor will continue to use this process to strengthen the science backgrounds of future students.

### **Jeff Rogers**

The SIREN workshop has been a valuable tool to enhance the lab activities in my Introduction to soil Science and Soil Fertility courses. I have implemented the nutrient deficiency lab in my soil fertility course and feel it has been a successful learning tool for my students. I am excited to have the opportunity to test the impact of pH on plant growth and nutrient use in my Introduction to Soil Science course this spring. Thanks to the SIREN workshop and everybody involved for making learning more enjoyable and meaningful for my students.

### **Heather Winkelmann**

During the 2011-12 school year, Lafayette Charter School (LCS) had the privilege to participate in the SIREN Program. With the students at LCS we were able to perform a project using a pH meter to measure the pH in plants. We manipulated the plants by reducing the nutrients available in the soil to cause deficiencies in the plants. The students performed all of the steps in the project from planting, measurements, observations and soil testing. The test was replicated 6 times with different groups. We chose to use pansy flowers to show how the pH would have a direct correlation to the health and growth of our plants. They found the higher the pH the more noticeable the iron deficiency was in the plants. A lower pH did not show any noticeable deficiencies in the plants.

**Joshua Barron**

I have been teaching agriculture for the past nine years and science for the past three at Westbrook-Walnut Grove. This is my third year taking the SIREN CLASS at SWROC. Through this experience I have gained a lot of knowledge which I have tried to pass on to my students. The educational field trips we had the opportunity to go to were all very good. From large conventional farms to small organic farms, from pigs to cattle, from city lakes to farm ponds, we saw a lot of what southwest MN has to offer their community. The practical labs are easy enough to do in class but with enough substance behind them to be meaningful. Wonderfully smart people in the program and I hope that it continues to grow. I hope the mantra of sustainability, economics, and community continues in peoples' minds for years to come.

**Sandy Scheff-Belaen**

The kids once again kept really accurate data on the pH experiment. It was great to see them doing this experiment and getting "into" it. They all became experts with using the pH instrument. They became very good at using the scientific method also. That is what I like about this SIREN program. The students get to do real research and they learn a lot too.

The results were not the greatest due to our old equipment. I have data tables if you want to see them. Also, I have pictures of the entire experiment.