"False High" pH Readings
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Every farmer knows that this fall and winter has been extremely wet. It has been challenging to get soil sampling done. Quite a few have been coming in and some were pretty wet when they were taken. Dr. Glenn Harris, UGA Extension Soil Scientist, cautioned us about taking soil samples from extremely wet fields during our Peanut Production meeting last month. From questions I had about his comments, I thought I would take the time to cover the issue again.

A couple of potential problems with sampling wet fields are 1) you may not get a good representative sample, because of really wet areas and 2) if the laboratory you are using uses the "water" method of measuring pH, you could get pH readings that are higher than they really should be. In fact, these "false highs" could be off as much as .5 units, for example they may read 6.5 when they really are a 6.0.

Why does wet weather cause pH values to be high? It has to do with salts (or lack of salts) in the soil and how it affects the reading when using a pH meter in the lab. Basically, a pH meter measures the "electrometric potential", or charge, between a glass electrode and a reference electrode, that is directly related to hydrogen ions. This measurement, which is actually in millivolts, is then converted to a pH reading. A "wet" soil sample usually means that salts have been leached out and if the sample is prepared with water, the readings are not as accurate. This problem can actually be overcome by preparing the sample with salt instead of water, which is exactly what the University of Georgia Soil Testing Lab starting doing a few years ago. Dr. Harris says, most other

private soils labs in Georgia and throughout the southeastern U.S. are using water (and not salt) to prepare samples.

If you suspect false high pH readings, go back and spot check fields. This is especially true if the lab you are using is using the pH water method (basically any other lab besides UGA or University of Kentucky). Use last year's samples to compare pH from each individual field to help determine if you may have a problem.

For more information about pH, liming or related information, contact the Burke County Extension Office at (706)554-2119.