



USDA-CSREES 2007 National Water Quality Conference

Evaluation of Three Soil Sampling Techniques

There are three approved methods of collecting soil samples in Texas for regulatory samples collected from concentrated animal feeding operations permitted land application fields. These three soil sampling techniques will be discussed. These include the Best Professional Judgment Sampling, as specified by Texas Cooperative Extension, Systematic Random Sampling, and Simple Random Sampling. The purpose of this project is to determine the error associated with collection of soil samples based upon selected techniques compared to an intensive sampling. Three fields (20 to 40 acre areas) will be intensively sampled on a 0.25 acre grid. Fifteen subsamples will be taken from the intensively sampled soil samples after they are dried, pulverized, and homogenized to constitute soil samples representing the Best Professional Judgment, Systematic Random, Simple Random sampling techniques. All of the samples will be extracted with Mehlich-3 extraction and P, K, Ca, Mg, Na, and S will be determined by inductively coupled plasma (ICP) spectrophotometry. The intensively sampled soil nutrient averages will be compared to the three sampling techniques.

Author: Sam Feagley
University Affiliation: Texas A&M
Co-Author(s): Mark Atwell