**FREE PHOSPHORUS SOIL SAMPLING**

The Indiana State Department of Agriculture has received funding from the U.S. Environmental Protection Agency for a three year program to address water quality issues related to phosphorus within the Western Lake Erie Basin (WLEB). This is due to the ongoing issues with excessive phosphorus levels found in Lake Erie that lead to harmful algae blooms.

One part of this program is conducting soil sampling on farm fields to determine available, or extractable, phosphorus (P) levels in the soil. Phosphorus recommendations are based on the next crop and the quantity of nutrients in the soil. Phosphorus is added as fertilizer or manure and lost through erosion, runoff or leaching. Reducing Ag phosphorus loss by proper application and timing will improve farm economics and help minimize these ecological issues.

Each farmer wishing to participate in this Phosphorus Soil Sampling Program will need to fill out a registration form that asks for Grower information, Field and Equipment information and the Nutrient Management History of the fields that will be sampled. The farmer will sign this form saying that ISDA personnel have permission to enter his/her fields in order to complete the soil sampling. ISDA personnel will notify the farmer within 5 days of anticipated sampling date(s) for confirmation of practices and courtesy. Primary focus for participants will be on INField Advantage (INFA) fields. Secondary focus for participants will be on non-INFA fields.

Soil sampling in this program calls for laboratory analysis to be conducted by A&L Great Lakes Laboratories out of Fort Wayne, IN. The soil test will be the S1 Soil Test which includes Organic Matter, Available Phosphorus, Exchangeable Potassium, Magnesium, Calcium, Soil pH, Buffer pH, Cation Exchange Capacity and Percent Base Saturation of Cation Elements.

Soil sampling will only be done on Ag fields, which does include pastures. Sampling locations will be done by soil type using available aerial photos, soil maps and existing data points.

The samples will be taken after harvest, from October to December, for spring fertilizer application information. Most importantly, sampling should be done at the same time of year each year.

If a farmer hasn’t previously had sampling done and there is no existing test data, then the S1 soil analysis will be conducted by A & L Great Lakes Laboratories. The soil samples taken will be 0-8” samples, regardless of the crop rotation and tillage that is used. For a farmer in the INFA program, it is 4 samples to match INFA sample locations. If the farmer is not in the INFA program, then a sample should be taken in each soil type in the field, but no more than 4 samples per field.

If the farmer is already doing soil sampling and is currently using a no-till system, then two split samples can be taken, 0-3” and 3-6”. The stratification provided by the split samples will provide the farmer and his CCA data that shows there may be excess P in the top 3” of soil (versus the 3-6” range) where it is most available to surface runoff through Dissolved Reactive Phosphorus. This leads to a recommendation of banding it into the soil profile where the plant most needs it. By banding the fertilizer, disturbance of the soil through tillage or incorporation is reduced. Adding a soil amendment, such as gypsum, binds phosphorus to the soil and does not allow it to leave as easily in surface runoff.

If the soil sample is being taken in a pasture, then the samples taken should be 0-5” in depth. The analysis will be the same as that conducted in other Ag fields.

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