360 Soil Scan Nitrate test

Getting Started with Water Sample

Select take another sample. (If this is the first time sampling “See Getting Started” for detailed instruction)

Clean sensor by spraying it with distilled water and wipe down the side of the sensor to avoid sample contamination. Pat the sensor to with a clean paper towel (do not wipe since this will damage the sensor. Important to do every time after you calibrate the unit or run an analysis to avoid contamination.

Fill the calibration bottle with the standard solution and add .5 ml of ISA solution. Stir for 5 seconds. Place the calibration bottle under the sensor. Make sure you add the ISA solution to both the calibration solution and the tile sample water!
Once calibration solution with .5 ml ISA added select Calibration. Start preparing the tile water sample.
Remove the calibration and overnight bottle from the sensor and set aside. Spray with distilled water and pat the sensor tip dry. Place the tile water sample under the sensor and select the next key to start analyzing the sample.
Analysis in progress
Please wait from 1 to 10 minutes for the analysis to complete.

Nitrate (NO₃-N)

PPM
3

Farmer
CDI Example

Sample Number

Farm
Home

Latitude

Longitude

Altitude

Field
2

Notes

Field Analysis
Default Field Analysis
After the sample is analyzed you can select to do another tile water sample and continue sampling water or switch to sampling soil. If you are done select Done for the day and prepare the 360 Soil Scan unit for either short term storage or long term storage.

**Daily use** – If you plan on using the within the next week place the calibration solution back on the tip for short term storage.

**Long term storage** - If you do not plan on using the machine for 7 days or more moisten a sponge with distilled water and place it at the bottom of the Long-term Storage Bottle. Put the lid on the storage bottle and cover the sensor with the bottle, making sure the sponge does not touch the sensor tip.

Warning: The sensor tip should not touch the sponge or be left to soak in water. Doing so will significantly reduce the life of the sensor.
End of Day Procedures

After Each Use:
Clean the sensor by spraying it with distilled water. Wipe down the sides of the sensor to avoid sample contamination. Pat (do not wipe!) the sensor tip with a clean paper towel. Wiping the tip will damage the sensor.

Daily Use:
If you plan to use the machine within the next 7 days, leave the sensor immersed in the nitrate standard solution in the Calibration and Overnight Bottle.

Weekly or Monthly Use:
If you will not use the machine for 7 days or more, moisten a sponge with distilled water and place it at the bottom of the Long-Term Storage Bottle. Put the lid on the storage bottle and cover the sensor with the bottle, making sure the sponge does not touch the sensor tip.

Warning: The sensor tip should not touch the sponge or be left to soak in water. Doing so will significantly reduce the life of the sensor.
Choosing When to Take Samples

To best ensure that drainage water is of acceptable quality, a regular sampling schedule should be undertaken—such as bi-weekly, monthly depending on the level of commitment of the sampler and when the tile drains are running. However, if such frequent sampling is not feasible, at least samples should be collected yearly or twice-yearly. Also, it is important to check the quality of tile effluent soon after nutrient application or heavy rainfalls. This will ensure that any significant changes in the tile water due to the application of nutrients will be noticed, and appropriate protective measures can still be taken.

Samples for Chemical Properties:

- For any nutrient samples, plastic or glass containers with a screw lid should be used. Examples that can be used are mason jars with a water tight lid.
- If sample bottle is not new, was it with detergent that is free of phosphate and ammonia, then rinse it under tap water until suds are no longer present.
- Sample bottle should be large enough to hold 8 ozs. of sample water

Collecting and Storing for Chemical Samples

- Collect the sample directly into the sample container.
- The sample container should be rinsed once or twice with water from the site being sampled
- Fill the container to within 1 cm of the top.

Handling Before Test for NO3-N

Once the sample has been properly collected, bring it should be brought in for testing. Generally, the sooner the testing takes place, the more accurate the results. If you are not able to bring the sample right away they should be stored at 34-36° F. The sample may be stored up to 48 hours at this temperature before sample is tested.

Analyzing Results: The 360 Soil Scan Nitrate Test will analyze the amount of nitrate ions present in your tile water. Depending upon time of year, crops that are growing and rainfall, and tile flow will have an effect on the amount of NO3-N that show up in the tile. For information on interpreting the results see Purdue Extension Agronomy Guide AY-318-W “Interpreting Nitrate Concentration in Tile Drainage Water”. Or your local Extension Office