

Service Testing and Research Laboratory

STAR Lab

In need of **chemical analysis** for a research project?
The **STAR Lab** is here to help!

- The Star lab is a research-oriented chemical analysis lab based on the OARDC campus.
- We offer a variety of inorganic chemical analyses on different environmental and agricultural materials.
- Our primary goal is to provide researchers with accurate and precise results of sample analysis.

Sample analyses

Standard soil analysis (SSSA / NCR13 / EPA)

- Standard fertility test (pH, Lime test index, P, K, Ca, Mg and CEC)
- Mehlich 3 extractable minerals
- Major/complete elements after acid digestion

Water quality (APHA / AWWA)

- Total Nitrogen and Phosphorus
- Anions (Nitrate, Phosphate, Chloride, etc.)
- Major/complete elements with or without digestion
- Mercury

Plant, animal tissue and feed

- Total Carbon and Nitrogen
- Major/complete elements
- Fiber contents
- Analyses for compost (TMECC), manure, and sludge are also available.
- A complete listing of sample analysis is on our website. Consult with us to arrange customized analyses as well.

How do you assure accuracy of the analysis?

- QA QC: 20% of samples run are QC checks; either NIST Reference Standards, internal lab checks or reagent blanks.
- We participate in the NAPT Proficiency Testing Program of plant and soil samples to assure accurate results.

Note: The North American Proficiency Testing Program (NAPT)
<http://www.naptprogram.org/>

How can I submit the samples?

- Plan ahead: Check out sample preparation requirements.
- Submit Sample Analysis Request Form and a Sample ID list.
- E-mail or send the forms with the samples.

Note: Volume discounting is available.

Primary equipment

Inductively Coupled Plasma Spectrophotometer



Major/complete suite of elements with perchloric acid or nitric acid microwave digestion.

Instrument detection limits: <math><0.10 \mu\text{g/ml}</math>

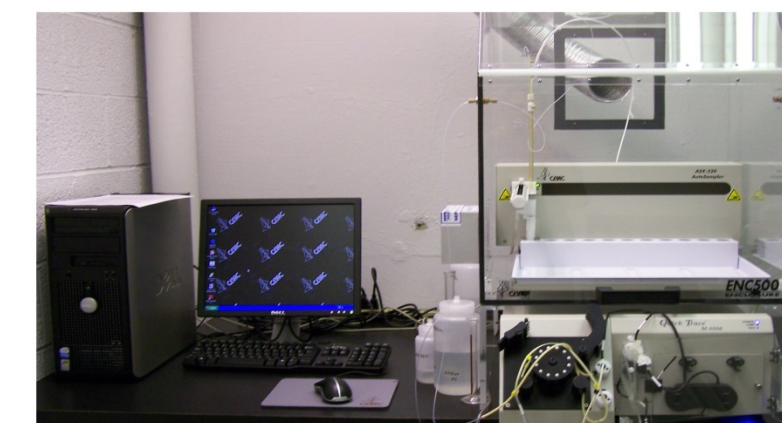
Flow Injection Analyzer



Water: Nitrate, Ammonia, Phosphate, and Total N & P

Soil extracts: Bray P1 - Phosphorus
2M KCl - Nitrate & Ammonia

Cold Vapor Atomic Fluorescence Mercury Analyzer

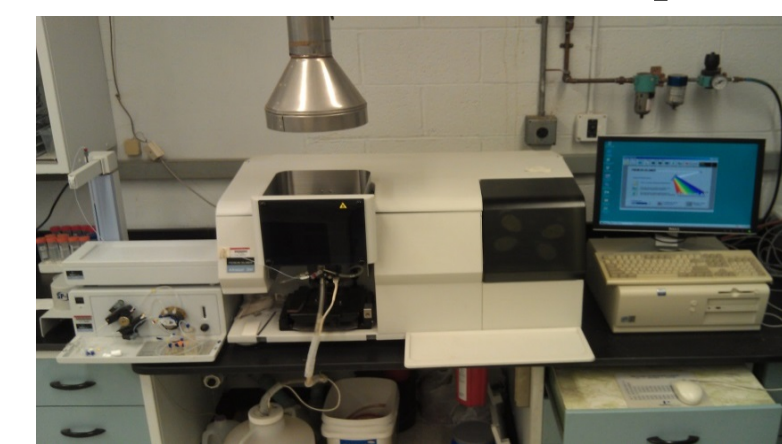


Instrument Detection Limits:

Water: $0.002 \mu\text{g Hg/L}$

Plant and soil digests: $0.4 \mu\text{g Hg/Kg}$

Atomic Absorption Spectrophotometer



Potassium, calcium, magnesium, and sodium in soil extracts

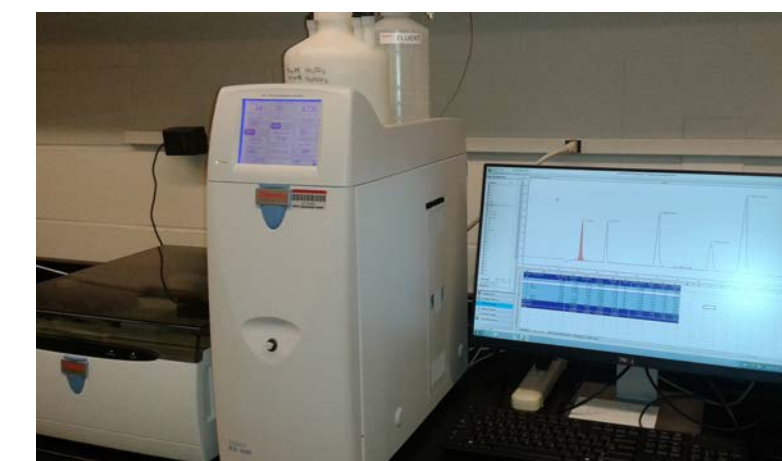
Carbon and Nitrogen Combustion Analyzer



Total N and C in soils, plant & animal tissue, composts, and manures

Instrument Detection Limits:
 $100 \mu\text{g N/g}$ and $200 \mu\text{g C/g}$

Ion Chromatograph



Fluoride, Chloride, Nitrite, Bromide, Nitrate, Phosphate, and Sulfate in water and extracts



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Visit our website for the complete list of analyses and fees.

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