

# 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 located on the OARDC/Wooster campus.
- We offer a variety of inorganic chemical analyses of 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 we 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 to submit the samples.

- Plan ahead: Check out sample preparation requirements.
- Submit Sample Analysis Request Form and a Sample ID list.
- Submit e-request (Volume discounting is available)
- E-mail or send the forms with the samples.

### Primary equipment

#### Inductively Coupled Plasma Spectrophotometer



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

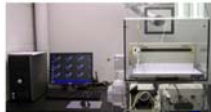
Instrument detection limits: <0.10 µg/ml

#### Atomic Absorption Spectrophotometer



Potassium, calcium, magnesium, and sodium in soil extracts

#### Cold Vapor Atomic Fluorescence Mercury Analyzer



Instrument Detection Limits:  
Water: 0.002µg Hg/L

#### Carbon and Nitrogen Combustion Analyzer



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

Instrument Detection Limits:  
100 µg N/g and 200 µg C/g

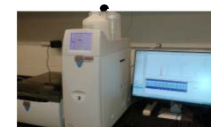
#### Flow Injection Analyzer



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

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

#### Ion Chromatograph



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

### Contact information

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Visit our website for the complete list of analyses and fees.  
[u.osu.edu/starlab](http://u.osu.edu/starlab)  
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