



NEWS REPORT

GREAT LAKES LABORATORIES, INC.  SPRING  2000

List of Contacts at A&L Great Lakes

Agronomy:

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Gary Elliott
& Myron Warner

Billing & Accounting:

Sharon Topp
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Land Application:

Keith Henley

Quality Assurance:

Greg Neyman

GPS Mapping:

Dan Kite

Telecommunications:

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Soil Trak:

Randall Warden,
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& Dan Kite

Feed Testing:

Lois Parker
& Randall Warden

Water Analysis:

Keith Henley

Pesticide Residues:

Keith Henley
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Fertilizer Analysis:

Jo Ann Nichols

Compost Analysis:

Lois Parker

Area Agronomists:

Gary Elliott
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SAMPLETRAK

Ever wonder when (or if) your samples have arrived at the lab? When will the lab analyses be completed and the data reported? Your "favorite" customer keeps calling to ask if you will be there tomorrow. We have a way to reduce this type of stress!

Our SAMPLETRAK notification system keeps you informed of the status of your samples. When samples arrive and are logged into our computer system, an e-mail is sent acknowledging their arrival. With some types of samples SAMPLETRAK e-mail notifications will also indicate the day when lab analyses are scheduled to be reported.

We initiated SAMPLETRAK this past fall on a trial basis with several of our agricultural soil testing customers. We received several comments that SAMPLETRAK allowed them to better schedule their activities. This was a very successful trial and we are now ready to offer this service for most types of samples.

Contact us to enroll in this program. Just let us know your A & L account number and e-mail address, and we will start you in the SAMPLETRAK program. A great feature is that there is no cost to you! This is just another part of our total service approach.

Gearing up for Biosolids

Our Environmental Division has just increased its capacity to analyze biosolids samples. The addition of a new fume hood, acid scrubber and an additional laboratory technician allows samples to be processed much more rapidly, decreasing the sample turnaround time.

The report format for biosolids samples has also been improved. Our new report will continue to show results of sample analysis on a wet and dry weight, and it will also report each parameter in wet and dry tons. This will reduce the need for the additional calculations previously performed by our customers.

These improvements will be noticed immediately by customers submitting biosolids samples. We continue to strive to provide our customers with quality service, rapid turnaround time and innovative sample reporting.

New Fact Sheet

Crop seed and seedlings can be injured if too much fertilizer is placed near the seed. Our new **Fact Sheet** entitled *Fertilizer Salt Index* provides information that can be used to compare various fertilizer materials. Contact us for a copy.



Meet Julie Speelman

Julie Speelman is A & L Great Lakes'



Senior Chemist in the Environmental Division. Her main responsibilities include water and microbiological

analyses. She is currently cross training within the department to master the organic analysis procedures and instrumentation.

Julie earned her B.S. in Biology from Huntington College (IN), and is looking forward to receiving her M.S. degree in May from Purdue University. Her master's degree will also be in Biology, where she has specialized in Aquatic Toxicology.

Julie is originally from Ohio, and has been with A & L Great Lakes Labs since 1989. In her spare time Julie enjoys playing softball and has been very active working in the lab's summer garden.

Water Analysis Packages

A & L Great Lakes Laboratories offers three water analysis packages designed with the end-user in mind. The following water analysis packages offer a thorough, cost-effective analysis to evaluate health and quality aspects of water for common uses:

Livestock Water Suitability Package (W1) - includes Sodium, Calcium, Magnesium, Manganese, Iron, Chloride, Conductivity, Total Dissolved Solids, Sulfur, Nitrate-Nitrogen and pH.

Irrigation Water Suitability Package (W2) - includes all the analyses in the W1 package plus Carbonate, Bicarbonate, Phosphorus, Potassium, Boron and Sodium Absorption Ratio (SAR).

Drinking Water Suitability Package (W3) - includes Sodium, Calcium, Magnesium, Sulfur, Iron, Manganese, Total Coliform, pH, Total Hardness, Conductivity, Total Dissolved Solids and Nitrate-Nitrogen.

Interpretive guidelines are available with these water analysis packages to help the end-user better understand their water analysis report. Contact the laboratory for sample collection instructions and shipping information.

MANURE MANAGEMENT

All states in our region are addressing the issue of confined animal feeding operations. Viewing management policies as a window of opportunity will not only accomplish their intended purpose, but can also increase profits for the total farm operation.

Livestock waste is beneficial to crops. It adds nutrients back to the soil, improves soil tilth, increases soil water holding capacity, reduces wind and water erosion, and improves aeration. Dairy, beef, and poultry manure can also increase soil pH over time, reducing the need for lime applications.

Optimizing storage and handling practices will increase the quality of the product. Nutrient losses in manure occur from the onset. Nitrogen is lost by volatilization in open lots and lagoons. The addition of a nitrification inhibitor can reduce this loss. Phosphorus and potassium are lost by runoff and leaching in open lots. Nutrient levels vary significantly depending on how well the manure is agitated prior to application. As much as 80% of the phosphorus in lagoons and liquid pits can accumulate in the bottom sludge. Additional nutrient loss will occur depending on how the manure is applied and incorporated into the soil profile.

Because of these variables, the nutrient content of the manure should be determined by laboratory testing. Separate tests should be run on manure produced from different livestock and storage facilities. You can assume all of the phosphorus and potassium found in manure is available the year of application. Nitrogen is more complex in determining its availability. All of the ammonium nitrogen is available the first year, so we suggest testing the manure for both total nitrogen as well as the ammonium form. We recently revised our manure report form to display the amount of nitrogen that should be available the year of application.



Pre-Sidedress Soil Nitrate Testing

Warm, dry soil conditions since harvest last fall have significantly raised the potential for nitrogen carryover. Nitrogen mineralization (conversion from organic N forms) was likely increased with higher soil temperatures. The lack of saturated soil conditions in most areas reduced the potential for N denitrification (volatile loss) and leaching. A pre-sidedress nitrate test (PSNT) can help corn growers determine the amount of nitrogen present from both carryover and fertilizer applications, and then decide whether additional nitrogen fertilizer is needed.

Soil samples for a PSNT should be taken in May or June just prior to the application of sidedress nitrogen, and immediately sent to the laboratory for analysis. The lab will analyze the sample for nitrate-N. Testing for ammonium-N is also suggested if manure has been applied to the field. PSNT results can then be compared to suggested guidelines to determine the amount of nitrogen, if any, that is needed.

- **TIME** – Take soil samples when the corn is 6-12 inches tall.
- **DEPTH** – Soil samples should be 12 inches in depth in order to use published interpretive guidelines. Composite 10 to 15 cores per sample.
- **PLACE** – Areas of different soil types or management histories should be sampled separately. Avoid starter bands or unusual areas. Sample areas should not exceed 10-15 acres.
- **HANDLING** – Thoroughly mix the all the cores and remove 1 cup of soil for analysis. Ship immediately to the laboratory.
- **RESULTS** – A & L Great Lakes will prepare your samples and have analysis results available to you the day following receipt. Include your phone number, fax number or e-mail address for quickest response.
- **INTERPRETATION** – Request A & L Fact Sheet #18 titled *In-Season Soil Nitrate Testing* for PSNT interpretations and additional information.




Herbicide Carryover after Drought


Dry weather conditions over the last 9 months have raised the potential for herbicide carryover during the 2000-growing season. Due to the drier conditions in certain parts of the Midwest, almost all herbicides used in these areas will be prone to carryover.



Soil moisture plays an important role in the herbicide breakdown process. Dry soil conditions during the growing season increase the chance for carryover. Adequate soil moisture is especially important during the first 4 to 6 weeks after herbicide application. If rainfall and soil moisture were not sufficient during this time, dissipation of the herbicide by weed uptake will likely be reduced, increasing the potential for carryover. Additionally, a lack of soil moisture can result in increased herbicide absorption to soil particles and organic matter, reducing the herbicide's availability for degradation.

Other soil properties that influence carryover are pH, organic matter, clay content and CEC. Soil pH is especially important with some of the newer herbicides because of its strong effect on degradation. Herbicides such as atrazine and simazine are persistent when the soil pH is above 7.0. Because of the complex interaction of all these factors, there is no single, foolproof way to predict a "carryover" problem.

A soil test to determine herbicide carryover is an excellent management tool for making crop rotation decisions when there is a potential problem. For additional information on herbicide carryover and testing services available at A & L Great Lakes Labs, contact Keith Henley. 



We will be exhibiting again at the Midwest AG Industries Exposition (MAGIE) in Danville, Illinois on August 16-17, 2000. Please stop by and visit.

PLANT ANALYSIS - "An Extra Pair of Eyes"

Crop production involves many initial decisions and then continual adjustments throughout a growing season. Since each year's crop production challenges are unique, top managers need to have several ways to measure the outcome of their decisions.

A pair of eyes can go a long way to help determine, up to a point, which direction to take. What happens when a farmer first discovers as the crop starts to grow, that the appearance of the plants is not normal? Logically, it seems best to ask the plants what is happening. But since plants cannot talk, other measures are necessary.

One way to get inside a plant is to take a proper plant sample and analyze it for nutrient element concentrations. This can lead to making good, objective decisions on how to proceed from the plant's point of view.

Plant analysis results are usually evaluated by placing the nutrient concentrations into categories:


DEFICIENT - Plants should be showing clear visible symptoms of a nutrient element disorder.

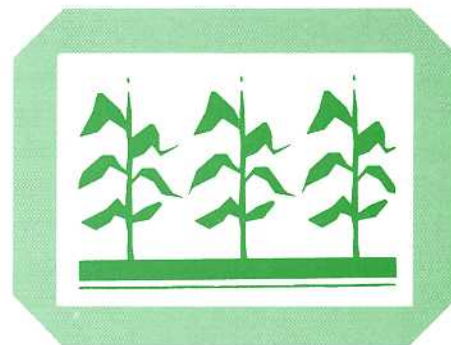
LOW - Plants may be normal in appearance, but they probably will be responsive to fertilization with the low testing nutrient element.

SUFFICIENT - Plants are normal in appearance and have an adequate concentration of the nutrient element for maximum expected yield.

HIGH - Plants are normal in appearance, and optimum yield levels can be expected. The concentration of this nutrient element is higher than expected.

EXCESS - Plants have either clear visible symptoms of a nutritional disorder or have a normal appearance. Yield may be reduced significantly because of the excess of the nutrient element.

The desired situation is for all element concentrations to be in the sufficient range so that crop growth is not limited by nutrition. Plant analysis, therefore, is a "tool" to help you take a "closer look" to learn if you have adequate, balanced crop nutrition. Contact us for sampling supplies and additional information. 



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