

1 - Agro Enviro Lab

OUR MISSION:

- ✓ Offer in the shortest time possible and at the best possible costs, testing services that meet the ISO/IEC 17025 standard and provide reliable and accessible results that meet our customer needs.
- ✓ Each year, we invest 20% of our revenues in R&D aiming at developing new methods and services.

ANALYTICAL SERVICES:

Agricultural Soils
Chemistry, Biology and Physical Soil Sampling

Plant Tissues
Chemistry
Dry Matter

Manures

Chemistry, Dry Matter, Organic Matter

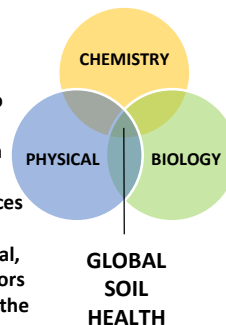
Water and waste water
Chemistry and microbiology

OUR TEAM:

- ✓ 2 agronomists
- ✓ 1 PhD student
- ✓ 4 professionnals in chemistry, microbiology and biology
- ✓ 15 laboratory technicians

2 – Our approach: Soil Health Assessment

- Identify soil chemical, biological and physical functional constraints
- Target management practices to address soil constraints
- Quantify soil improvement from implementing new or modifying current soil management practices
- Create holistic management opportunities in integrating social, economic and environment factors
- Protect soil and environment in the long-term



3 – Methods «Global Soil Health Assessment »

Soil sampling in the field



A composite soil sample consists of 30 sub samples¹

Laboratory measurements: list of indicators

CHEMISTRY

pH and pH buffer

Phosphorus, Potassium, Calcium, Magnesium, Aluminium and Minor Elements

PHYSICAL

Aggregate Stability

Aggregate Proportion

Available Water Capacity coefficient

BIOLOGY

Organic Matter

Active Carbon

Potentially Mineralizable Nitrogen

Soil Respiration

4 – Results

GLOBAL SOIL HEALTH ASSESSMENT REPORT²

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1 Background

information: farm ID and contact information, field number, date of sampling, etc

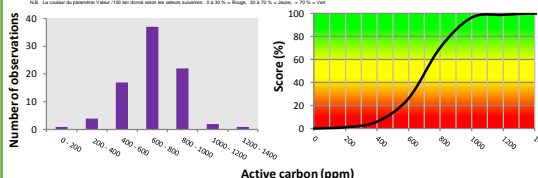
2 Soil texture and

humidity condition: amount of sand, silt and clay, volume of water in soil sample, etc

3 Indicator list, values and rating

4 Constraints will be highlighted if the rating of a particular indicator is low

5 Overall quality score



Distribution of active carbon data in clay soil of Quebec. The data have a mean of 697 ppm and a standard deviation of 181 ppm.

Cumulative normal distribution for scoring active carbon in clay soils of Quebec.

5 – Conclusion

This work done by Agro Enviro Lab in 2013 and 2014 allowed us to commercially provide a quantitative approach to assess global soil health in Quebec that meets criteria for accreditation of soil analysis

method. Further R&D works on Global Soil Health Assessment will be pursued in 2015 and 2016.

References

1. CRAAQ. 2014. Guide technique-Échantillonnage conventionnel des sols au Québec-De la planification à l'envoi au laboratoire.
2. Gugino, B.K., Idowu, O.J., Schindlerbeck, R.R., Van Es, H.M., Wolfe, D.W., Moebius-Clune, B.N., Thies, J.E., et Abawi, G.S. 2009. Cornell Soil Health Assessment Training Manual, 2^e Edition. Cornell University, Geneva, NY.