GLOSOLAN PT 2024

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7th Meeting of the Global Soil Laboratory Network (GLOSOLAN)
Important of Soils

- Soil is a vital resource, it provides us with nutritious food and other products as well as with clean water and flourishing habitats for biodiversity.
- Agricultural soils play a crucial role in food security and climate change.
- Soils are key to tackling climate change as it captures and stores vast amounts of carbon.
- Supports and drives all of life on earth.
Soils - key to unlocking the potential of mitigating and adapting to a changing climate.

Global warming:
- Temperature increase

Unsustainable soil management leads to soil degradation and CO₂ emission into the atmosphere.

Crop/Plant residues:
- Litterfall
- Soil organic matter

Sustainable soil management boosts CO₂ sequestration to boost soil health and contribute to achieving SDGs.

Crop rotation/diversification:
- Preserving wetlands/peatlands
- Monitoring soil organic carbon stocks

There is more Organic Carbon in our Soil than in vegetation and the atmosphere combined.

Food and Agriculture Organization of the United Nations

with the support of:
Sustainable Agriculture and Forestation Program, Federal Office for Agriculture, Switzerland
Sustainable Development Goal (SDG) number 17, target 18: “Enhance Availability of Reliable Data”
...the soil is a black box!

...our knowledge come from lab analyses
What is the expectation of each stakeholder
Improve the analytical capacity of global soil laboratories
Remember

**PT = proficiency testing**
compare your results to known characteristics

**ILC = Inter Laboratory Comparisons**
compare your results to results of other participants
GLOSOLAN PT 2022

~ 200 labs  > 100 countries

Accuracy & precision

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Sharing of the participating laboratories compare to the members registration to GLOSOLAN PT 2022

- AFRILAB: 3,2%
- SEALNET: 33, 16%
- EURASOLAN: 38, 19%
- LATSOLAN: 25, 12%
- 32, 16%
- 40, 20%
Different combinations:

- **Precision**
- **Accuracy**

true value

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High performing labs

‘good’ data for relevant conclusions/decisions
High performance lab

Good performance
(but some problems)

Low performance lab

[Graphs showing performance data for different laboratories and soil parameters: C_WB, N_Kj, P_Ols]
High performance lab

Good performance (but some problems)

Low performance lab
<table>
<thead>
<tr>
<th>High performance lab</th>
<th>Good performance</th>
<th>Low performance lab</th>
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<tbody>
<tr>
<td>Good performance (but some problems)</td>
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### Soil Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Graph 1</th>
<th>Graph 2</th>
<th>Graph 3</th>
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<tbody>
<tr>
<td>C_WB</td>
<td><img src="C_WB" alt="Graph 1" /></td>
<td><img src="C_WB" alt="Graph 2" /></td>
<td><img src="C_WB" alt="Graph 3" /></td>
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<tr>
<td>N_Kj</td>
<td><img src="N_Kj" alt="Graph 1" /></td>
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<td>P_Ols</td>
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<td><img src="P_Ols" alt="Graph 3" /></td>
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<td>P_B1</td>
<td><img src="P_B1" alt="Graph 1" /></td>
<td><img src="P_B1" alt="Graph 2" /></td>
<td><img src="P_B1" alt="Graph 3" /></td>
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DID YOU TAKE ACTIONS?

AVEZ-VOUS AGIS ?

Good performance
(but some problems)

Low performance lab
Problem facing from the PT activities

• Some lab managers lack of skill to check the quality of the results produced
• Transportation of the PT soil samples across the country boarder
• The low performance labs do not know how to proceed further to get the advice to improve their lab performance
• The lab managers do not know the benefit of the participation of the GLOSOLAN PT
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Preparing and sending samples from FAO Rome..

...extremely difficult & costly!

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Two suggestions:

Firstly: GLOSOLAN PT...
GLOSOLAN PT: for good performing labs/ performants
GLOSOLAN PT: for good performing labs/ performants

GLOSOLAN PT: need budget/besoin d’un budget...
Second suggestions:

From our GLOSOLAN PT experience, several labs don’t have internal quality control...
Organise PTs WITHIN Regions

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Discussion points

• Who can be a PT provider support for the GLOSOLAN PT /Regional PT?
• Which parameters/packages that you like to join us?
• Would you like us to support for identify your root cause to improve the performance of your laboratory?
Thanks for your kind participating the discussion