Food and Agriculture Organization of the United Nations

22-24 November 2022

Latin American Soil Laboratory Network (LATSOLAN)

Summary of the main activities and progress of the network

2022

Ms. María Cristina Suárez Marte

LATSOLAN-Chair

6th Meeting of the Global Soil Laboratory Network (GLOSOLAN)

GLOSOLAN

GLOBAL SOIL LABORATORY NETWORK

GLOBAL SOIL PARTNERSHIP

LATSOLAN is linked with ASLAC-FAO Region

CARIBE

1. Cuba
2. Dominican Republic
3. Jamaica
4. Haiti
5. St. Lucia
6. Trinidad & Tobago

6

SOUTH AMERICA

1. Colombia
2. Venezuela
3. Ecuador
4. Perú
5. Bolivia
6. Brasil
7. Paraguay
8. Uruguay
9. Chile
10. Argentina

10

MEX and CA

1. México
2. Guatemala
3. El Salvador
4. Honduras
5. Nicaragua
6. Costa Rica
7. Panamá

7

1. Antigua and Barbuda
2. Aruba
3. Bahamas
4. Barbados
5. Belize
6. Cayman Islands
7. Dominica
8. French Guiana, Guyana, Suriname
12. Grenada
13. Guadeloupe
14. Martinique
15. Puerto Rico
16. Saint Barthélemy
17. St. Kitts & Nevis
18. St. Vincent and the Grenadines
19. Turks & Caicos Islands
20. Virgin Islands

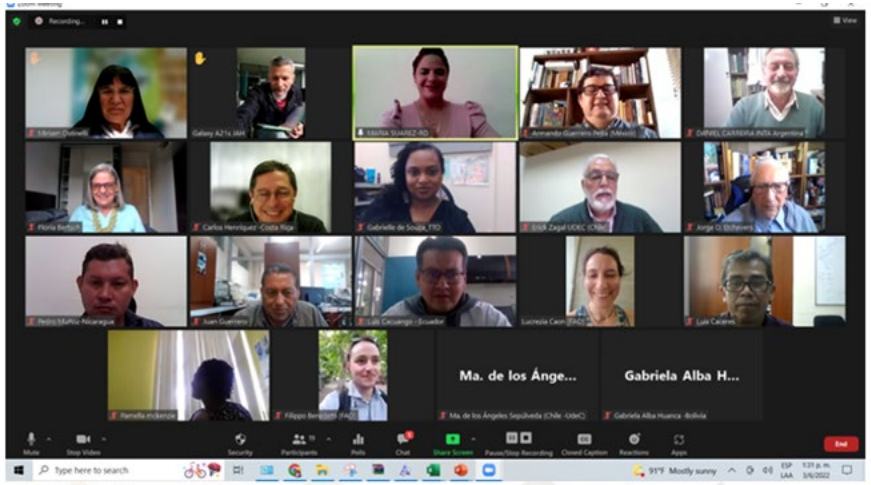
Organización de las Naciones Unidas para la Alimentación y la Agricultura

ALIANZA MUNDIAL POR EL SUELO

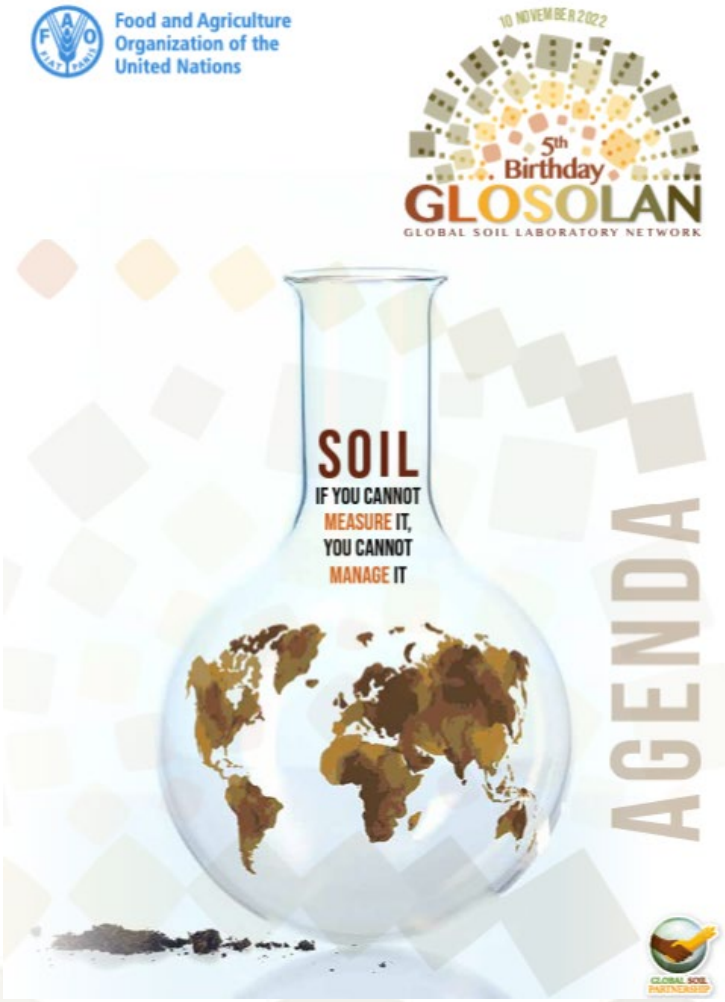
Informe de la Novena Asamblea de la Alianza por el Suelo de Latinoamérica y el Caribe, (ASLAC)

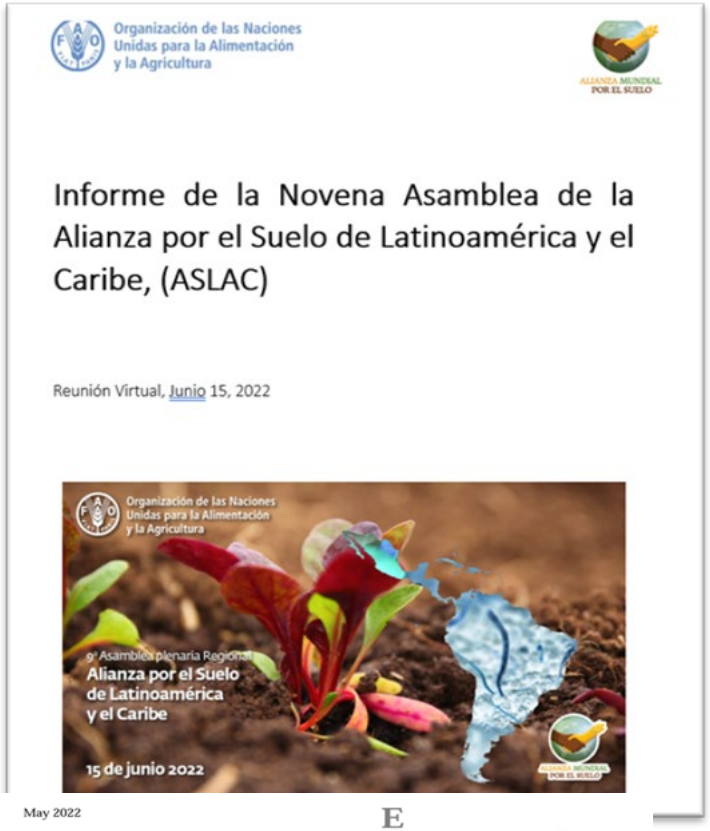
Reunión Virtual, Junio 15, 2022

Highlight activity



3rd Meeting of 2022 of the LATSOLAN Steering Committee
Expanded to the National Reference Laboratories-LNR





6th Meeting of the **Global Soil Laboratory Network** (GLOSOLAN) | 22-24 November 2022

LATSOLAN

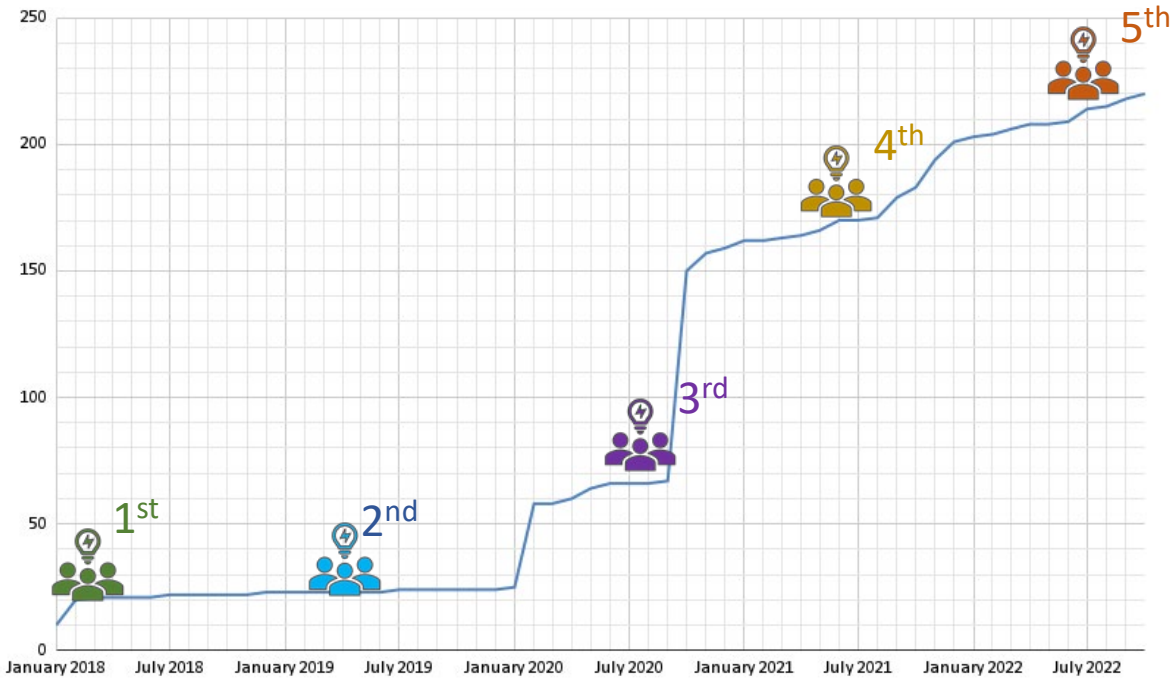
LATIN AMERICAN NETWORK OF SOIL LABORATORIES

5th LATSOLAN meeting

26-27 October 2022

4:00 – 6:00 PM CEST (Rome Time)

Draft agenda

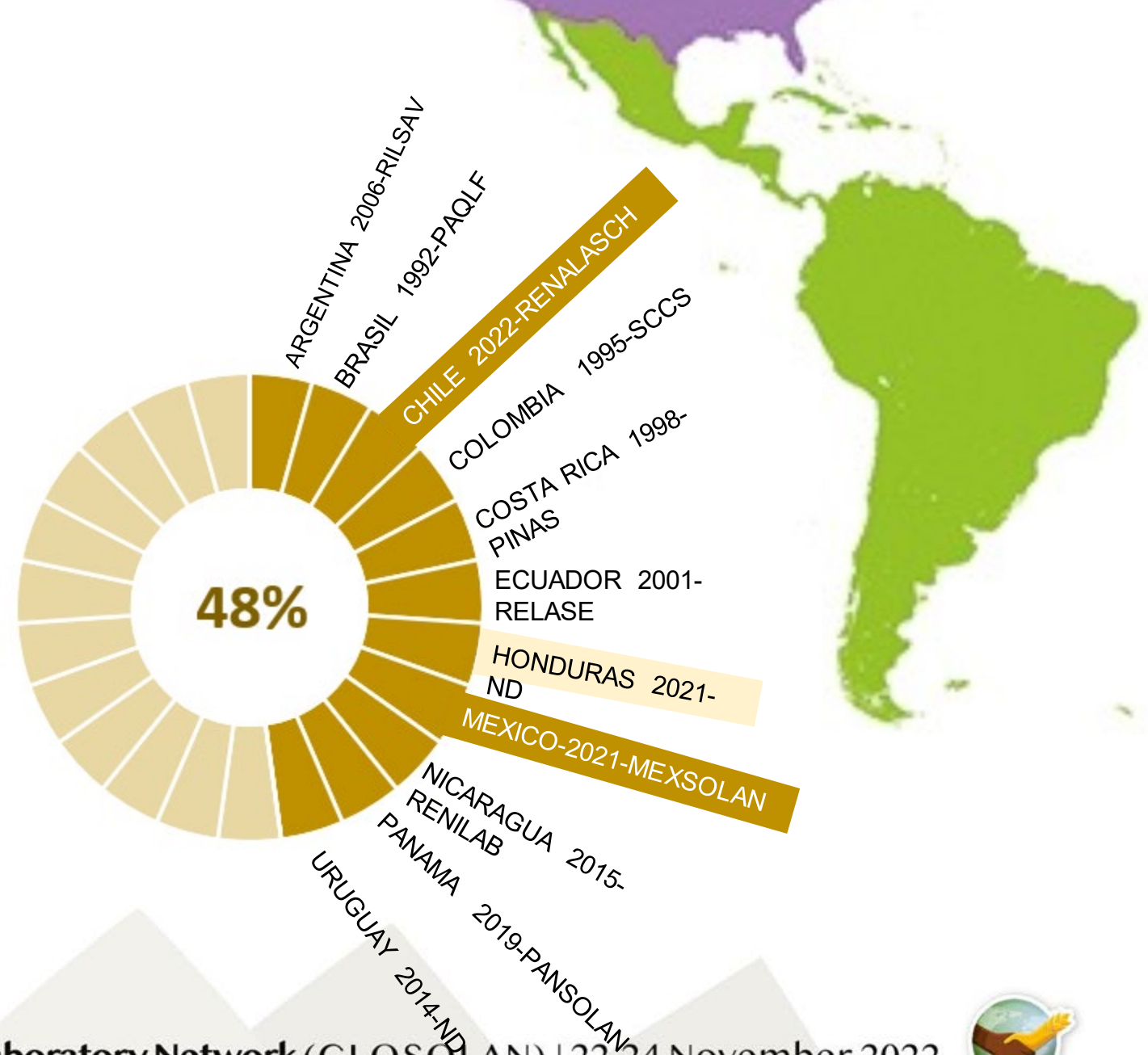


- ✓ GLOSOLAN proficiency test (PT) 2022: regional outcomes .
- ✓ Standard Operating Procedures (SOPs) that will be harmonized (they were not defined, so it was proposed to conduct a survey of the labs).
- ✓ Strengthen communication between NRLs and focal points.

GLOBAL SOIL PARTNERSHIP

PROGRESS IN THE NASOLANS ESTABLISHMENTS

- 11/23 LATSOLAN countries have national networks
- Most of the countries have not formally formed their NASOLAN
- In some countries we have several registered laboratories but without a network formed.
- In others they do not have enough laboratories



Participation of LATSOLAN in the PTs

- 8 Harmonized and own LATSOLAN SOPs
  15 countries participated
  23 labs
  3 Samples (ISP-51, ISP-52 and ISP-54)
  3 Repetitions
  250 grams of soils

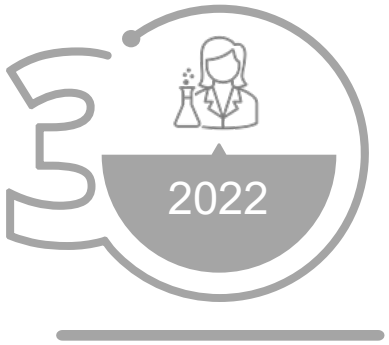
Harmonized SOPs:
pH, CT, COX, NT KJELDHAL, NT DUMAS, K, MG, CA

PT-2018		PT-2019
90% Satisfactory	18 Labs	90% Satisfactory
315 units analyzed		222 Units analyzed
94% Satisfactory	11 Labs	90% Satisfactory
216 Units analyzed		210 Units analyzed

- 9 harmonized and own GLOSOLAN SOPs
  16 countries participated
  22 laboratories
  3 Samples (ISP-54, ISP-55 and ISP-56)
  3 repetitions
  100 grams of soils

In general, repeatability in the interlaboratories was very good.
Acceptable performance in both rounds.

Participation of LATSOLAN in the PTs



- 15/23 Lab. of National Reference participate in the PT-2021-22
  20/23 Countries participate
  51/208 Lab. Registered in LATSOLAN participate in the PT-22 (LR or not)
  10 Grams of Soil per 10 samples
  3 Parameters by different methods.

PAIS	# LABs
1.ARGENTINA	6
2.BOLIVIA-NO LR	2
3.BRASIL	3
4.CHILE	3
5.COLOMBIA	3
6.COSTA RICA	5
7.CUBA-NO LR	1
8.REPUBLICA DOMINICANA	2
9.ECUADOR	2
10.EL SALVADOR-NO LR	1
11.GUATEMALA	0
12.HAITI	1
13.HONDURAS	1
14.JAMAICA	1
15.MEXICO	10
16.NICARAGUA	2
17.PANAMA	2
18.PARAGUAY	3
19.PERU-NO LR	1
20.ST. LUCIA	0
21.TRINIDAD & TOBAGO	0
22.URUGUAY	1
23.VENEZUELA NO LR	1
Total	51

LR participates

Does not participate

Participates but is not LR

Table 1. List of soil parameters to measure and methods to use

Soil parameter to measure	*Method to use*	*Units of measure*	*Amount of soil needed for the analysis in the GLOSOLAN SOPs*	*GLOSOLAN preference*
CARBON ***(please choose maximum two methods)***				
Soil organic carbon	*Walkley and Black*	*% (OC)*	*1 g*	*X*
Total carbon	*Dumas*	*g kg^{-1}*	*2 g*	*X*
Organic matter	*Loss of ignition 450-550°C*	*% (OM)*	*1 g*	
PHOSPHOROUS ***(please prefer to analyze available phosphorus by Olsen)***				
Available phosphorus	*Olsen*	*mg kg^{-1}*	*5 g*	*X*
	If the amount of soil you have left allows, please choose only one of the following methods			
	Bray I	*mg kg^{-1}*	*2 g*	*X*
	Bray II	*mg kg^{-1}*	*2 g*	*X*
NITROGEN ***(if the amount of soil you have soil left allows, please analyze it for nitrogen content)***				
Total nitrogen	*Dumas*	*% (TN)*	*1 g*	
Total nitrogen	*Kjeldahl*	*% (TN)*	*1 g*	

Survey Summary- June 2022
Steering Committee Meeting
Extended to National Reference Laboratories-3June2022

Functions of the Reference Labs

a. Attend GLOSOLAN/LATSOLAN meetings in order to contribute to decision-making	16 (76%)
a. Responds promptly to GLOSOLAN emails, providing requested information	16 (76%)
a. Promotes activities proposed by GLOSOLAN/LATSOLAN, motivating other labs in their country and region to join the network	15 (71%)
a. Implements SOPs published by GLOSOLAN and GLOSOLAN decisions	15 (71%)
a. Attend regional and global trainings or other GLOSOLAN/LATSOLAN initiatives	13
a. Reports on its activities to the WHA focal point in your country and to the GLOSOLAN Coordinator	12
a. Leads the establishment of its NATIONAL NETWORK OF SOIL LABORATORIES	10
a. Coordinates the implementation of the activities proposed by GLOSOLAN/LATSOLAN with the labs of his country	6
Organizes training and/or meetings with the purpose of transmitting the knowledge and skills acquired in GLOSOLAN/LATSOLAN to other labs	5 (23%)

GLOSOLAN SOPs implemented

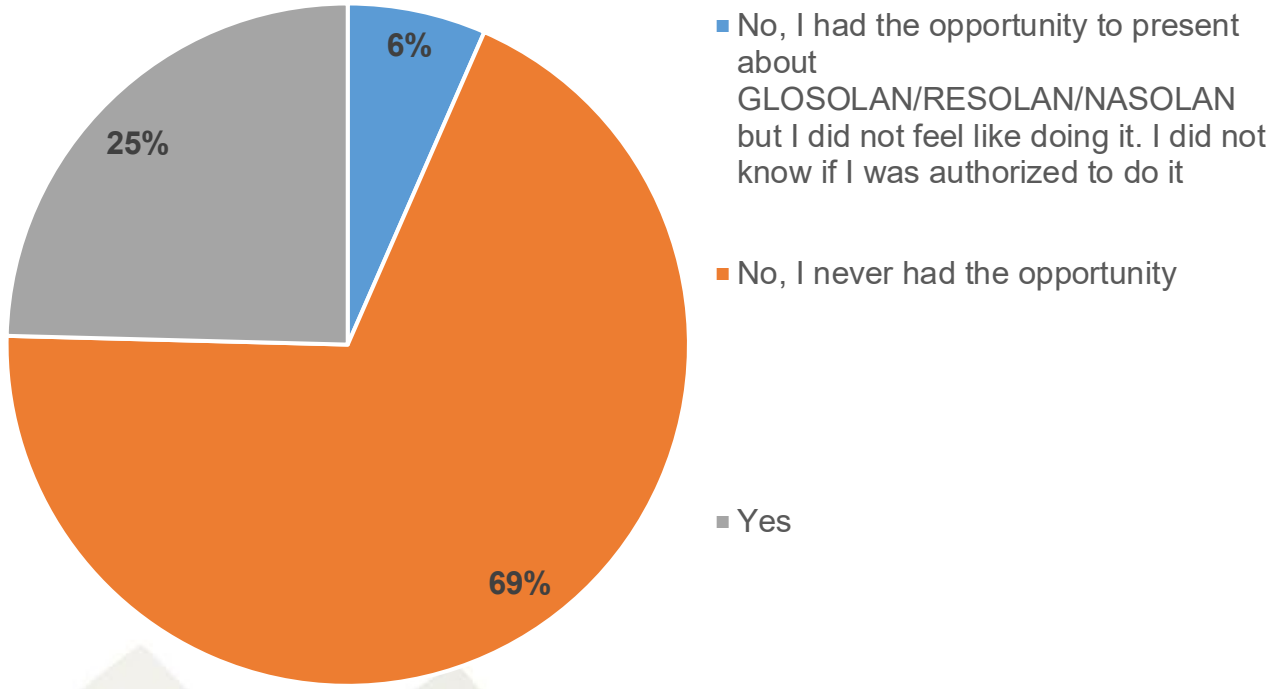
1.	SOP for pH	13
2.	SOP for soil N, Kjeldahl method	11
3.	SOP for organic soil C. Walkley-Black, titration and colorimetry	9
4.	SOP for soil EC, soil ratio, 1:5	8
5.	SOP for P available in Olsen	7
6.	SOP for handling and sample preparation for chemical and physical analysis	6
7.	SOP for total soil C, Dumas, dry combustion method	4
8.	SOP for P available in Bray I and Bray II	4
9.	SOP for P available in Mehlich I	4
10.	SOP for total soil N, Dumas, dry combustion method	3
11.	SOP for soil EC, in saturated paste extract	2
12.	SOP for sample preparation for internal quality control	2
13.	SOP for soil organic C, Tyurin spectrometry method	0

GLOSOLAN SOPs Training Preference

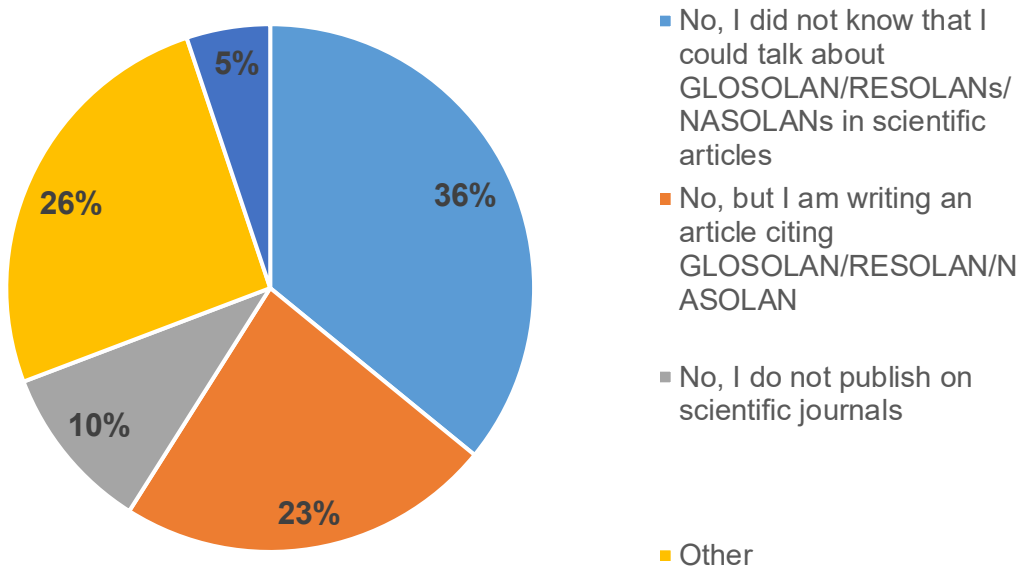
1.	SOP for sample preparation for internal quality control	17
2.	SOP for handling and preparation of samples for chemical and physical analysis	12
	SOP for organic soil C. Walkley-Black, titration and colorimetry	12
	SOP for soil N, Kjeldahl method	12
3.	SOP for soil EC, in saturated paste extract	11
	SOP for P available in Olsen	10
	SOP for total soil N, Dumas, dry combustion method	10
	SOP for total soil C, Dumas, dry combustion method	9
	SOP for P available in Mehlich I	9
	SOP for P available in Bray I and Bray II	8
	SOP for soil EC, soil ratio, 1:5.	8
4.	SOP for pH	7
	SOP for soil organic C, Tyurin spectromeric method	7

IMPORTANT: Responses from LATSOLAN members during the survey launched in September on laboratory activities.

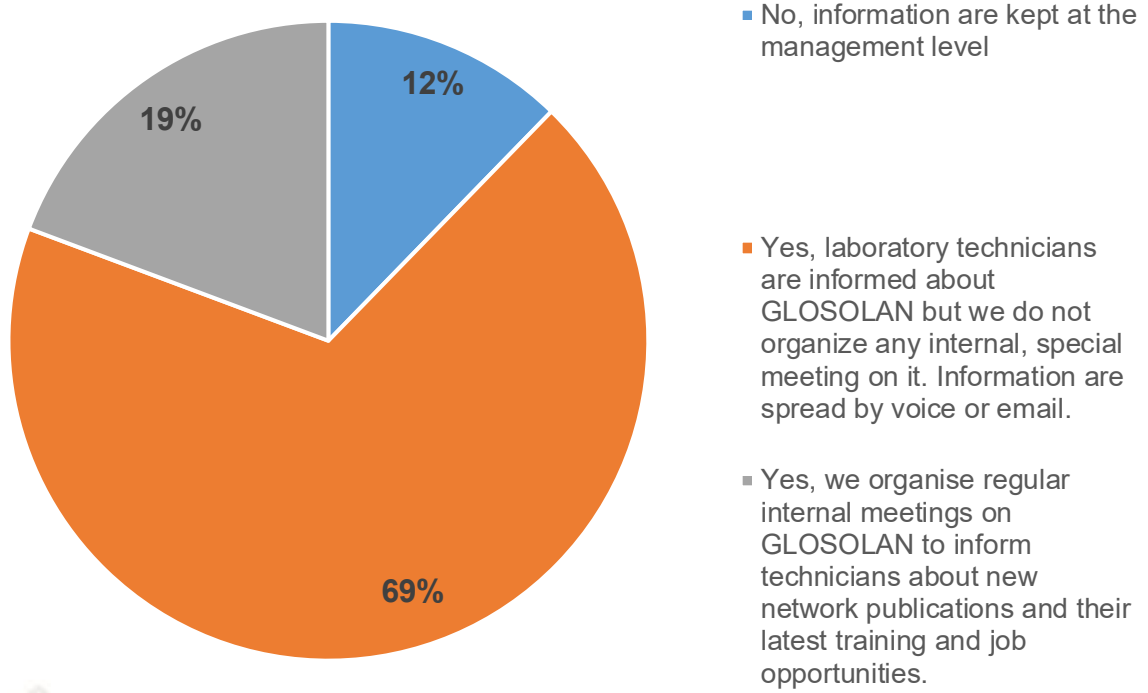
Have you ever advertised GLOSOLAN and RESOLANs/NASOLANs at international meetings/conferences?



Have you ever discussed GLOSOLAN and RESOLANs/NASOLANs in articles published on national and/or international journals?



Are technicians at your laboratory informed on GLOSOLAN activities?



Needs and challenges of LATSOLAN

- Creation of all NASOLANs
- Adoption of quality control (QC) procedures
- Motivate the participation of laboratories in PTs
- Adoption of health and safety measures in the laboratory;
- Improved infrastructure;
- Harmonization of Standard Operating Procedures (SOPs) and revision of harmonized SOPs;
- Provision of regular training on SOPs;
- Strengthen communication between NRLs and focal points;
- Manage financing-resources.

Food and Agriculture Organization of the United Nations

GLOSOLAN

GLOBAL SOIL LABORATORY NETWORK

Thank you for your attention

María Cristina Suárez
LATSOLAN-Chair

GLOBAL SOIL PARTNERSHIP