



Launch of the International Network on Soil Fertility and Fertilizers-formerly INFA

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



GLOSOLAN
GLOBAL SOIL LABORATORY NETWORK



Launch of the International Network on Soil Fertility and Fertilizers (INSOILFER)

17th July
2023

13:00 - 14:30 CEST

Online Meeting



Insoilfer

Goals:

- Adoption and implementation of sustainable and balanced soil fertility management.
- Over 1200 registered participants, the
- Keynote speaker presentations promote soil
- Technical presentation introducing the network, outlining its objectives, and
- Application of activities underuse, misuse, and
- The record of the INSOILFER launch, the event agenda, and the presentations are available on the website
- Reduction of the environmental and health impacts of unsustainable fertilizer use and soil management practices.
- Evaluation and improvement of the safety and quality of fertilizers.
- Promotion of the soils for nutrition policy at national and global levels.



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Why the network?

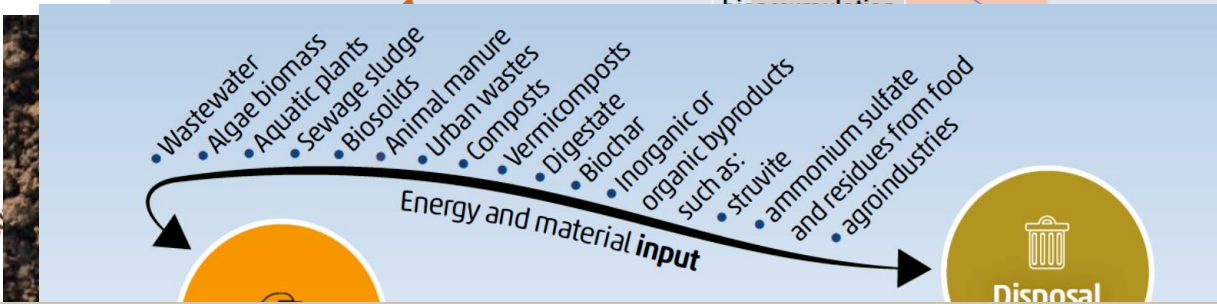
Fulfill the SDG's

The society demands safer and more nutritious food

Food production without externalities derived from unsustainable crop practices



Soil nutrition and crop health hazards
7th Meeting of the **Global Soil**



Agroecology

is a systems approach based on a variety of technologies, practices and innovations, including local and traditional knowledge and modern science.

Organic farming

is agricultural production without the use of synthetic chemicals or genetically modified organisms, growth regulators, and livestock feed additives.

Conservation agriculture

follows three principles (minimal soil disturbance, permanent soil cover and crop rotations) to improve soil conditions, reduce land degradation and boost yields.

Agroforestry

includes both traditional and modern land-use systems where trees are managed together with crops and/or animal production systems in agricultural settings.

Zero tillage

is a technique used in conservation agriculture to maintain a permanent or semi-permanent organic soil cover that protects the soil allowing soil microorganisms and fauna to take on the task of "tilling" and soil nutrient balancing.

Sustainable soil management could produce up to 58% more food

Altered metabolism and reproductive hormone levels, reduced thyroid hormones, altered growth regulator signaling

Secondary pneumonia, cancer, thelioma

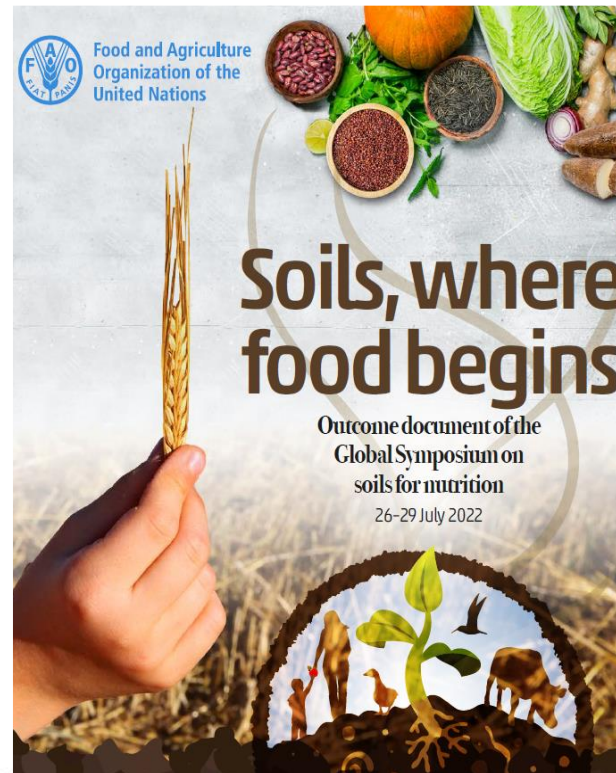
tubular

The Recommendations of the Global Symposium on Soils for Nutrition

Outcome Document



26–29 July 2022



1

Map and monitor soil nutrients and soil fertility and deepen the knowledge about the soil nutrient budget

2

Develop innovative approaches and alternative products to optimize soil nutrient content, enhance fertilizer use efficiency, and reduce externalities associated with soil fertility management

3

Assess the quality and safety of all nutrient sources applied to soils to avoid or reduce environmental contamination and health problems

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The Recommendations of the Global Symposium on Soils for Nutrition



26–29 July 2022

- 4** Advocate for the **adoption of SSM practices** since it still represents the most cost-effective solution to increase soil nutrient content
- 5** Consider **driving forces** such as water availability, climate change, poverty and the fertilizer crisis and promote a “soils for nutrition” agenda
- 6** Advocate for the inclusion of soil fertility and soil health in the **legal framework** of countries in relation to the One health approach, linking human nutrition, environmental health, and soil health.

Launch the International Network Soil Fertility and Fertilizers (INSOILFER) to address nutrient imbalances and promote the adoption of soils for nutrition concept for making soils healthy and fertile by 2030 as a contribution to the transformation of agrifood systems.



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Now...what is next?

Operability

- First meeting of the working groups
- Website construction
- Collaboration with other networks and institutions



Insoilfer
International Network on
Soil Fertility and Fertilizers

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INSOILFER Working Group Meetings

27-29
November
2023

- Endorsement of goals and work plan
- Governance: Chair, 3 Vice-Chairs
- Technical Committees
- Reference institutions
- Potential collaborations and joint working groups

Day
1

WG1 Meeting
Soil fertility and nutrient
monitoring system

Day
2

WG2 Meeting
Sustainable soil fertility and
fertilizer management

Day
3

WG3 Meeting
Fertilizer safety and quality assessment
Debriefing meeting

7th meeting of the **Global Soil Laboratory Network (GSLN)**

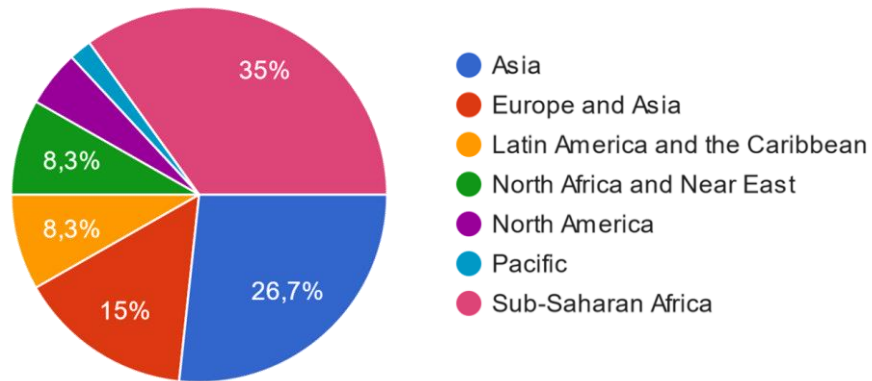


Insoilfer

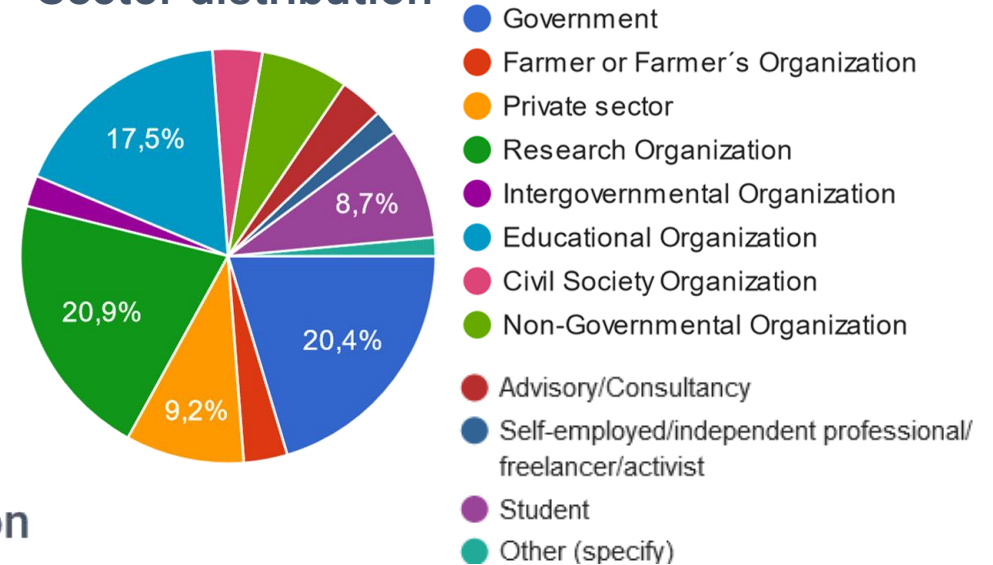
International Network on
Soil Fertility and Fertilizers

The membership of INSOILFER

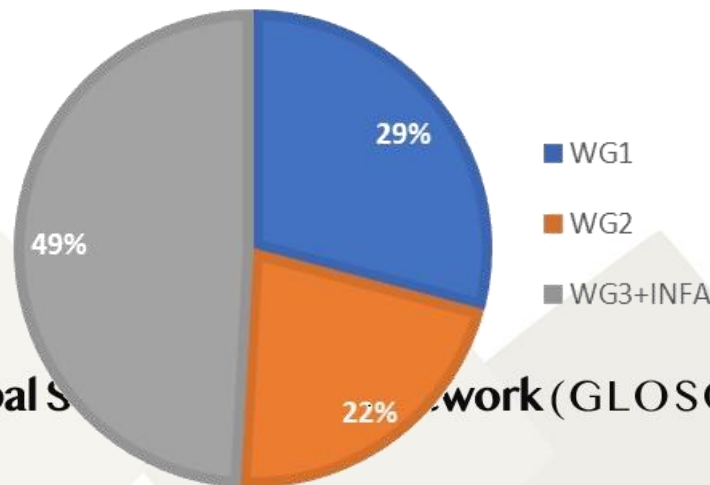
Regional balance



Sector distribution



WG distribution

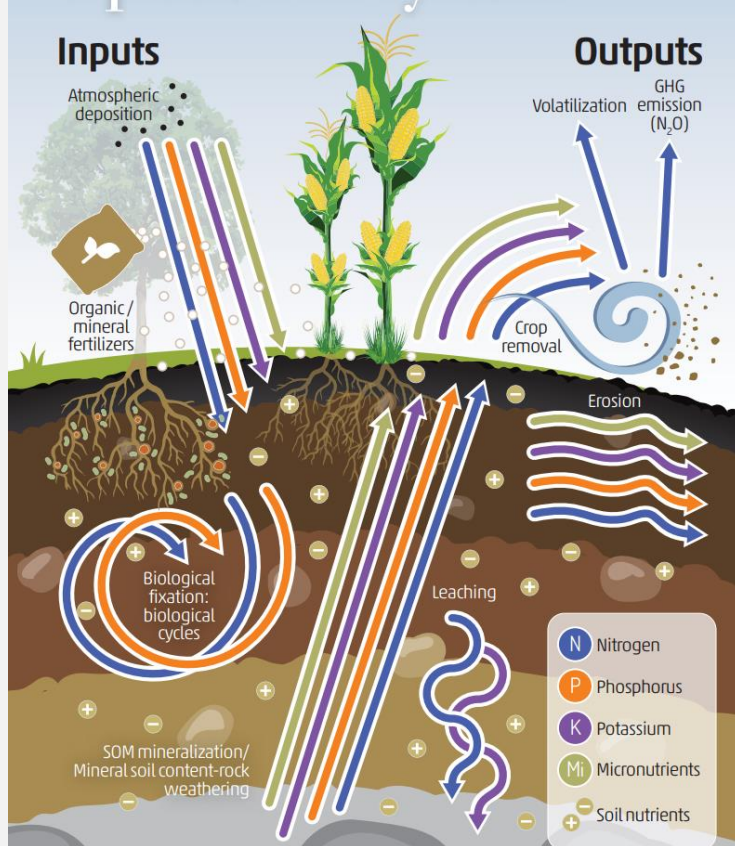


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WG1. Soil fertility and nutrient monitoring system

Nutrient budgets for a plant-soil system



Improving the knowledge of the dynamics of the soil nutrient budget

- Obtaining reliable, updated, and readily available information on soil nutrient dynamics.
- Key indicators for monitoring nutrient movement to serve as the basis for nutrient balance development and mapping

Supporting the decision-making on soil nutrient management, nutrient budget, and climate change mitigation

Soil nutrient and fertility monitoring systems, innovation development of tools for the monitoring and evaluation of soil fertility

Promoting collective ownership, openness, and innovation in creating novel data-sourcing pipelines

and analytical tools to make progress on the knowledge of soil fertility and fertilizers management.

Motivations

The formation of WG1 responds to **recommendations** of the GSOIL4N Outcome Document, including "Monitor soil nutrients and soil fertility and deepen the knowledge about the soil nutrient budget."

Sustainable management and restoration of soil fertility requires a **solid understanding** of soil nutrient flows, stores, inputs and outputs, and the soil's physical, chemical and biological properties that regulate nutrient availability

Potential collaborations

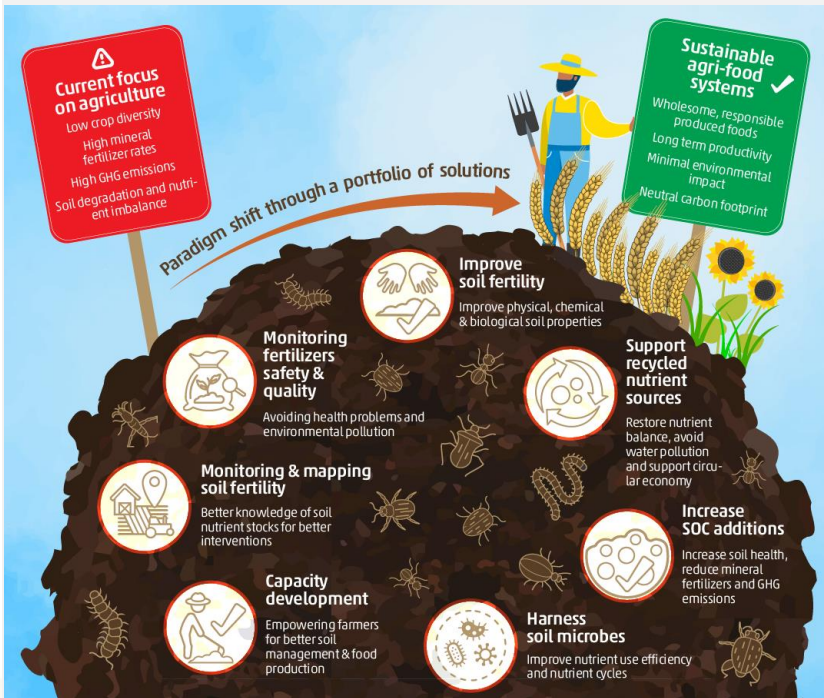
- INSII
- ITPS-soil mapping and monitoring
- GLOSOLAN (harmonization of methods for indicators)
- INSOP- Fertilizers' impacts on environmental pollution
- NETSOB- Fertilizers impacts on biodiversity

GLOSOLAN) | 21-23 November 2023



WG2. Soil fertility and fertilizer management

Promote that sustainable soil management (SSM) and sustainable fertilization practices are widely known and disseminated at the farm scale, emphasizing innovations that optimize nutrient use efficiency



- ✓ With particular emphasis on innovations that optimize nutrient use efficiency.
- ✓ Linked to human nutrition and soil health

Identification, compilation, and promotion of **successful field-tested and calibrated soil management practices proven to increase fertility, crop nutrition, and crop yields in different types of soils, crops, and climates**

Identification and promotion of practices that, in addition to maintaining yields and preserving soil fertility, are aimed at **reducing greenhouse gases and atmospheric pollution, especially of water**

Establishment of an **environmentally friendly and nutrition-sensitive (not exclusively yield-oriented) fertilizer recommendation system**

Motivations

Objectives respond to **recommendation 4 of the GSOIL4N Outcome Document**, which advocates for adopting SSM practices since they are the most cost-effective solutions to increase soil nutrient content and fertility.

There is no single solution to all soil fertility problems, but a portfolio of alternatives can be employed.

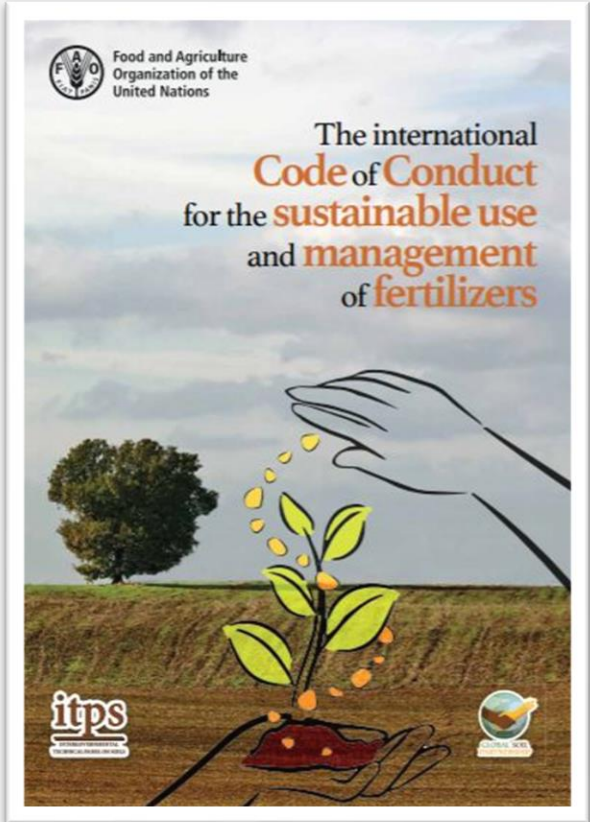
WG2 will direct its efforts towards developing and implementing a portfolio of solutions to avoid the underuse, misuse, and overuse of fertilizers, greenhouse gas emissions, and environmental pollution.

Potential collaborations

Soil Doctors Program
ITPS-fertility group
INSOP, NETSOB, INSAS, INBS
GLOSOLAN- harmonization of the soil test kit and field soil test and interpretation

WG3. Fertilizer safety and quality assessment

Monitor and improve the quality and safety of organic and inorganic fertilizers, and other nutrient sources



INFA becomes WG3-INSOILFER

The International Network on Fertilizer Analysis (INFA) has become the WG3.

Harmonizing methodologies and protocols for the quality and safety assessment of organic and inorganic fertilizers

Quality and safety assessment of fertilizers and alternative nutrient sources: biofertilizers, biostimulants, recycled nutrient sources

Building and strengthening the national capacities of laboratories

Fertilizer quality assessment



Objectives respond to recommendation 7 of the GSOIL4N Outcome Document:
The quality of fertilizers and their bioavailability ensure that fertilizers and recycled nutrients comply with **quality and safety standards**.

Potential collaborations

- INSOP,
- NETSOB
- ITPS-Soil assessment and lab harmonization
- GLOSOLAN

WG3 Activities

Organic and inorganic fertilizers

INSOP
Heavy metal SOP harmonization
Permissible limits
GLOSOLAN-Ring Tests



If your laboratory performs fertilizer analysis, join INSOILFER!



- Total nitrogen by the Kjeldahl method
- Total nitrogen by the combustion method
- Total Phosphorus- Acid digestion
- Total Potassium - Water-Soluble
- Sample preparation

Customs procedures toward the Ring Test in 2024

- Quality assurance
- Fertilizer sample preparation
- Webinar series
- Ring Test -2024 (harmonized SOPs)

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Thank you for your attention!
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