



Food and Agriculture
Organization of the
United Nations

15th Working Session of the Intergovernmental Technical Panel on Soils (ITPS)

REPORT OF THE SOIL FERTILITY WORKING GROUP

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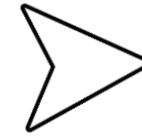
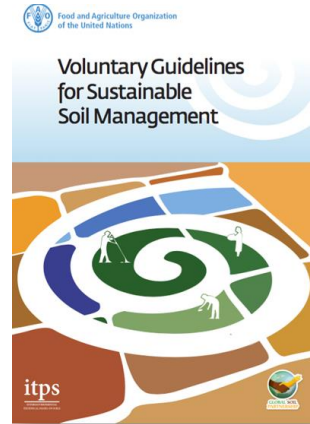
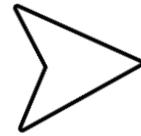
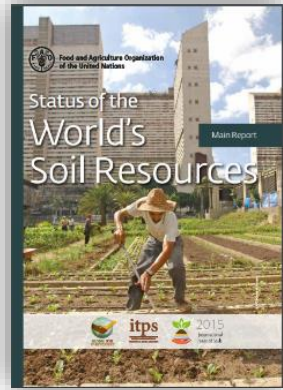
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INTERGOVERNMENTAL
TECHNICAL PANEL ON SOILS

15 - 17 November 2021 | Virtual meeting



Global Symposium on Soils for Nutrition 2022



Global Symposium on Soils for Nutrition
An important tool for implementing the Voluntary Guidelines, with special regard to nutrient imbalances.

MAIN SOIL THREATS 2015

1. Erosion
2. Loss of organic carbon
3. **Nutrient imbalance**
4. Salinization and sodification
5. Soil sealing and land grabbing
6. Loss of soil biodiversity
7. Contamination
8. Acidification
9. Compaction
10. Waterlogging

SSM PRACTICES 2017

1. Minimize soil erosion
2. Increase the organic matter content of the soil
3. **Promote soil nutrient cycling and balance**
4. Preventing, minimizing and mitigating salinization and alkalinization
5. Preventing and minimizing soil contamination
6. Preventing and minimizing soil acidification
7. Preserve and enhance soil biodiversity
8. Minimize soil sealing
9. Prevent and minimize soil compaction
10. Improve water management





Objectives

- 1** Examine the current scientific, technical, indigenous and traditional knowledge on the role of integral soil fertility management for nutrition, food production, human health, malnutrition, and climate change mitigation opportunities;
- 2** Present innovative, effective and replicable methodologies, technologies and practices that promote sustainable food production, with a view on upscaling these approaches to promote the sustainable management of soil fertility for crops and human nutrition;
- 3** Identify policies that maintain and improve soil fertility and nutrition and encourage the adoption of effective practices that facilitate sustainable intensification of food production systems to meet the Global Climate Agenda.

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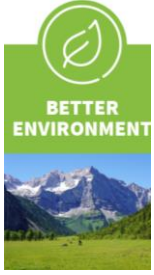
1 **Unlocking natural soils capacity for production.**
Can we produce crops sustainably without fertilizers?
Are soils rich enough to feed mankind?
How can soils fertility management contribute to a better production, for the achievement of a better nutrition?




2 **Nutritious, safe food starts in soils.**
How do soil micronutrients availability contribute to human health, through a more nutritious and safe food?
Safe and nutritious food start in soils.



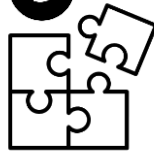
3 **Soils as a solution for safe and sustainable production.**
How does sustainable nutrient management in soils could avoid soil and water pollution and GHG emissions?
What are the effects of the overuse and misuse of fertilizers?



4 **Sustainable soil nutrition and governance for better life**
How can sustainable soil nutrition trigger economic and social benefits for smallholders with equity and equality?
Is soil nutrition included in legal frameworks? Is it articulated with soil fertility?
What is the role of land tenure and landmanagement?



5 **Which are the gaps?**
Instruments, fertilizer industries, fertilizer Quality.
Are there good practices that help us to exploit the natural capacity of soils?
Are monitoring systems including soil fertility components?



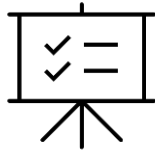
Fertilizer Code implementation activities: Video



Objective:

To engage people and disseminate the Code in a visual-friendly way.

Short, concise, direct, simple.



Content:

Present the three main issues related to fertilizer use and management across world:

- ✓ Underuse
- ✓ Overuse
- ✓ Misuse
- ✓ The consequences
- ✓ The solutions

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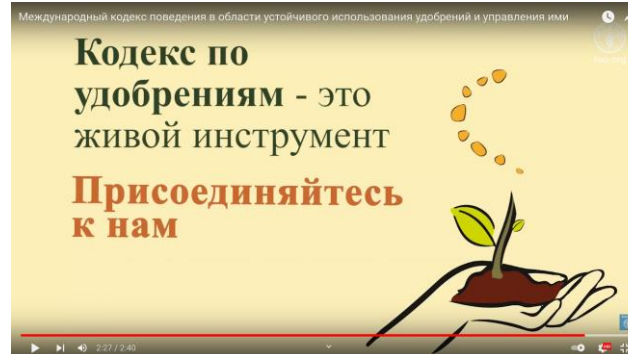


<https://www.youtube.com/watch?v=MILrme8hYQQ>

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The video was developed and translated in the six FAO official languages



Fertilizer Code implementation activities: National Survey on the Use and Management of Fertilizers

Objective:



A starting point to define priority areas for the Code implementation, gaps and main obstacles to sustainable fertilizer management.

If the survey is associated with the video, the effort is optimized!



Deadline for submission answers
December 10



Target audience:

- ✓ Regional Partnerships
- ✓ Focal Points
- ✓ FAO Offices
- ✓ Other key actors
- ✓ Participants of the launching of the Code
- ✓ Extension agents
- ✓ Technicians
- ✓ Researchers



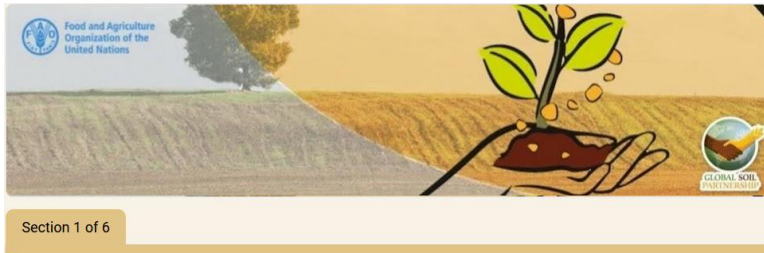
Appointed by focal points



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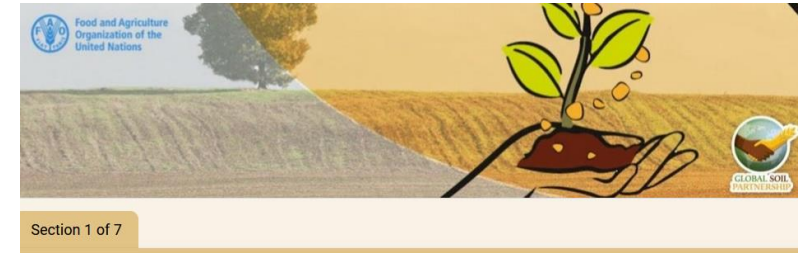
National Survey on the Use and Management of Fertilizers: developed and translated in the six FAO languages



Encuesta Nacional sobre el Uso y Manejo de Fertilizantes



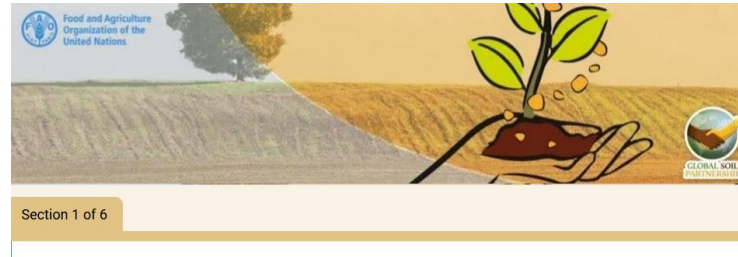
Enquête nationale sur l'utilisation et la gestion des engrais



National Survey on the Use and Management of Fertilizers



الاستبيان الوطني لاستخدام وإدارة الأسمدة



Национальное исследование по использованию удобрений и управления

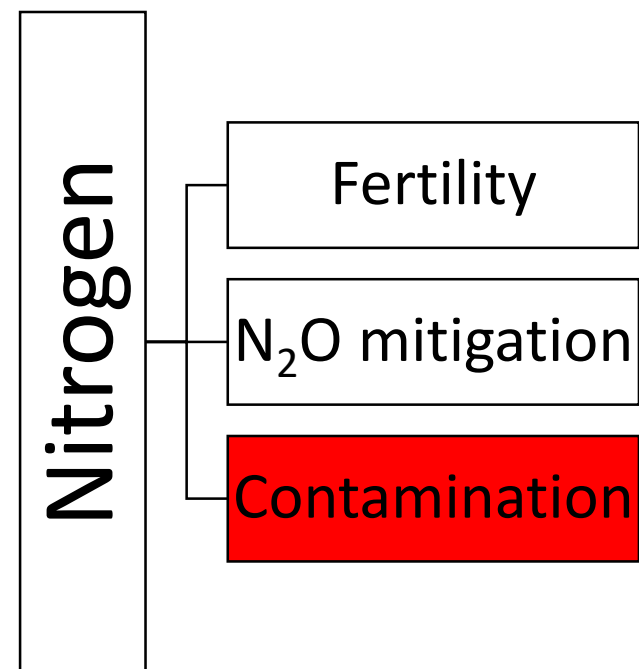


国家化肥使用和管理情况调查

Movement of Carbon and Nitrogen in agricultural systems



- Capture occurs at much slower rates in the case of nitrogen (N fixation).
- Mitigation strategies can be based on a corrective approach however a preventive approach is cost-effective.



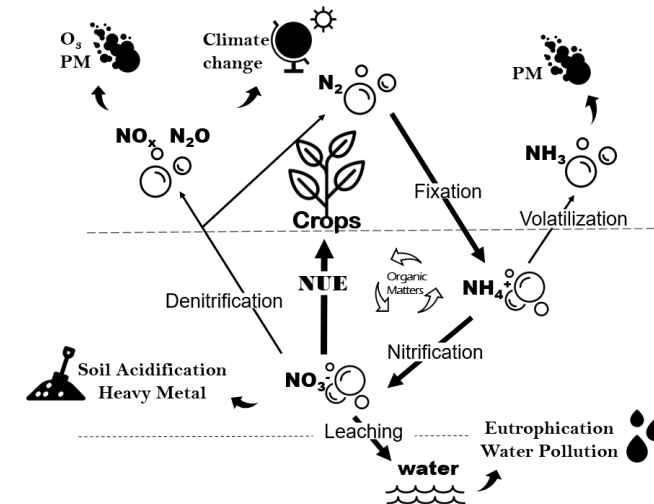
The sustainable use of nitrogen

10 Facts about Nitrogen



1. N is essential for plants
2. N is the most abundant element in the atmosphere, but it is not available for most organisms
3. N can be fixed by microorganisms that live in the soils and plant roots
4. N is a highly dynamic element in soils.
5. N can be artificially synthesized .
6. Anthropogenic sources have surpassed natural sources
7. N can cascade
8. Farming activities and overuse and misuse of N fertilizers can cause climate change
9. Overuse and misuse of N fertilizers can contaminate water, affect biodiversity, food and tourist industry, contaminate the air and make human and animals sick.
10. But... agricultural soils can also be the solution!

The N tools brochure



Management-based:

- **Type of fertilizers**
- **Rate and Time**
- **Placement methods**

Technology-oriented:

- **Sensors**
- **Index and Calculators**
- **Modelling**

INFA progress



Second Meeting: June, 2021:

- The objectives and indicators of performance for the network were endorsed
- Governance:
 - **Chair:** Dr. Wesley Feldmann (*Malawi*)
 - **Vice-Chair:** Dr. Gerardo Ojeda (*Colombia*)
- Working groups discussed and defined

The way forward:

- Reporting in the Annual Meeting of GLOSOLAN, 23-25 November, 2021.
- Third INFA meeting in June 2022.
- Proficiency Test 2022.

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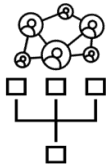


Working Groups



INFA
International Network
on Fertilizers Analysis

1



Harmonization of Methodologies for Fertilizers Analysis

- Standardization of fertilizer analysis methods
- Harmonization of fertilizer classification and definitions

2



Capacity Building/Strengthening

- Strengthen performance of fertilizer laboratories using standardized methods
- Provide training guidelines (literature + media)

3



Governance, Policy and Regulation

- Regulatory framework regarding fertilizer use and imports at the national, regional and global levels (database)
- Development of policy guidelines for fertilizer quality requirements

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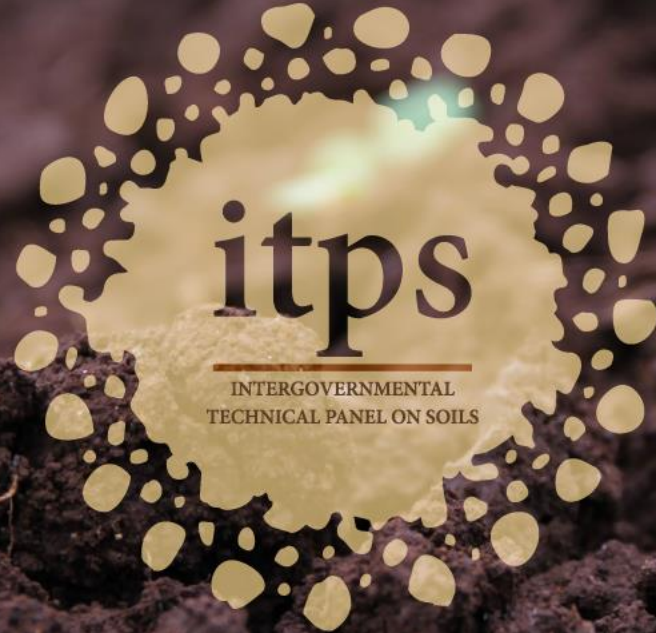


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PARTNERSHIP



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THANK YOU FOR YOUR ATTENTION!



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