



Food and Agriculture  
Organization of the  
United Nations

## Item 2: Current scenario of INFA and work plan

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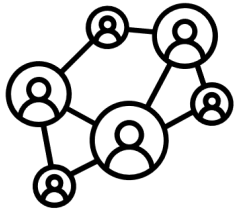


**2<sup>nd</sup> meeting of the International Network on Fertilizer Analysis (INFA)**

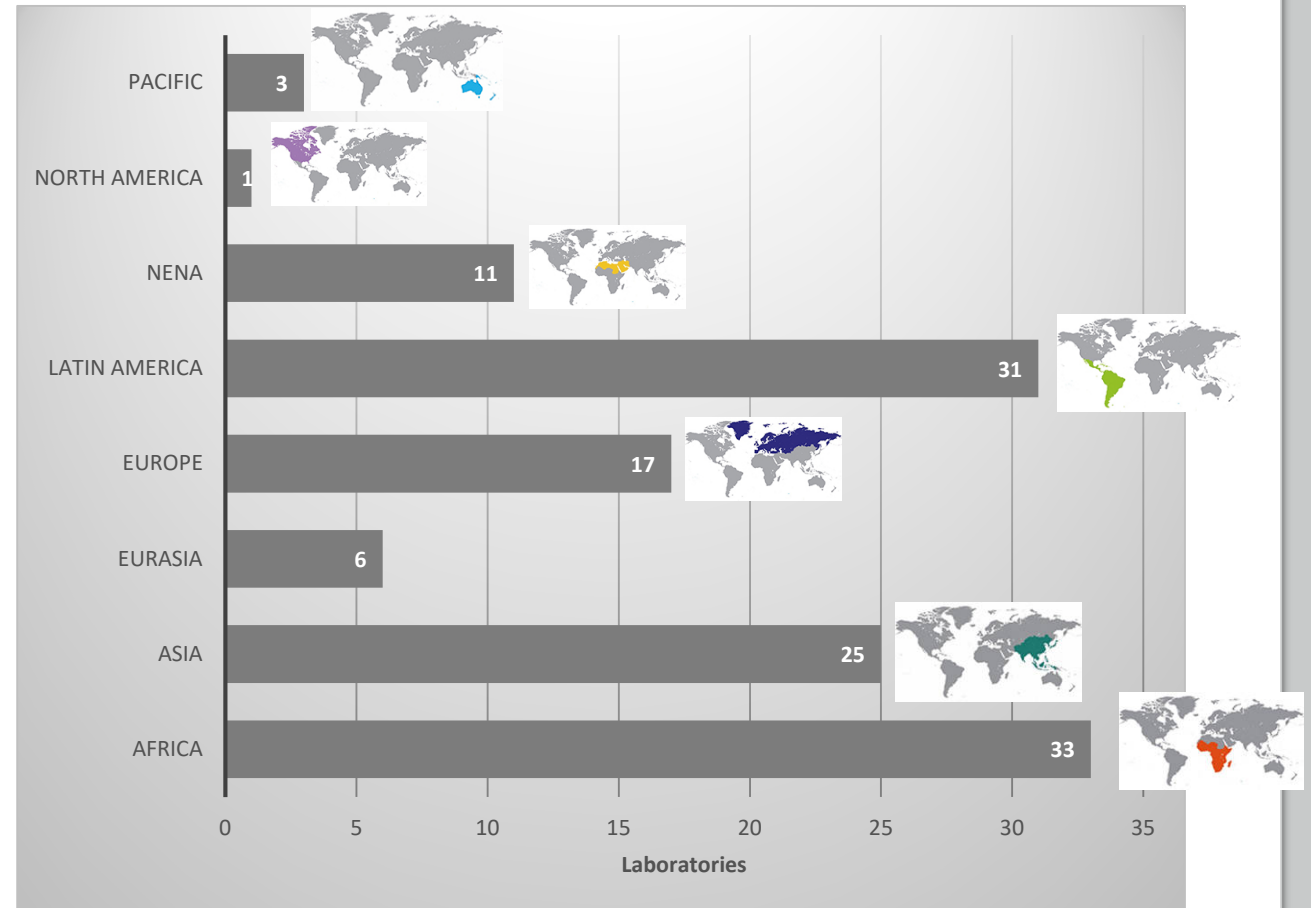
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# Where are we?



- There are currently 133 laboratories registered as members.
- More participation needed in North America, Pacific and Eurasia.

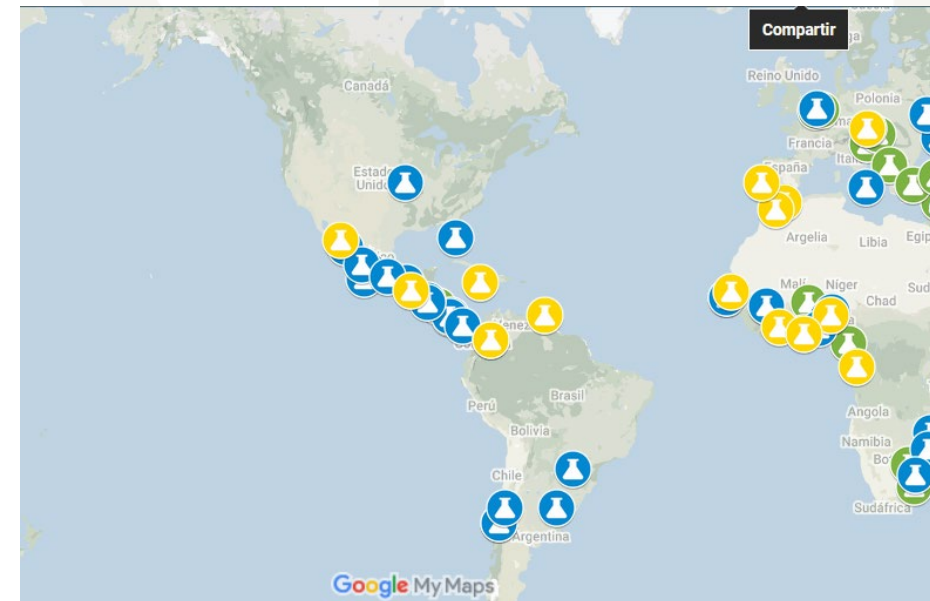




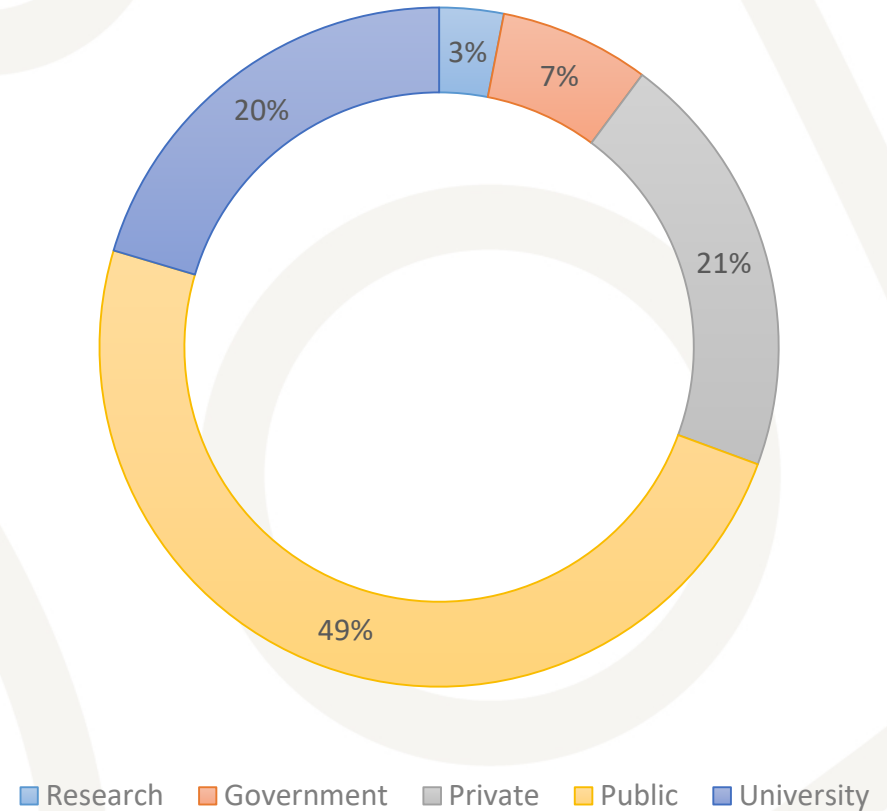
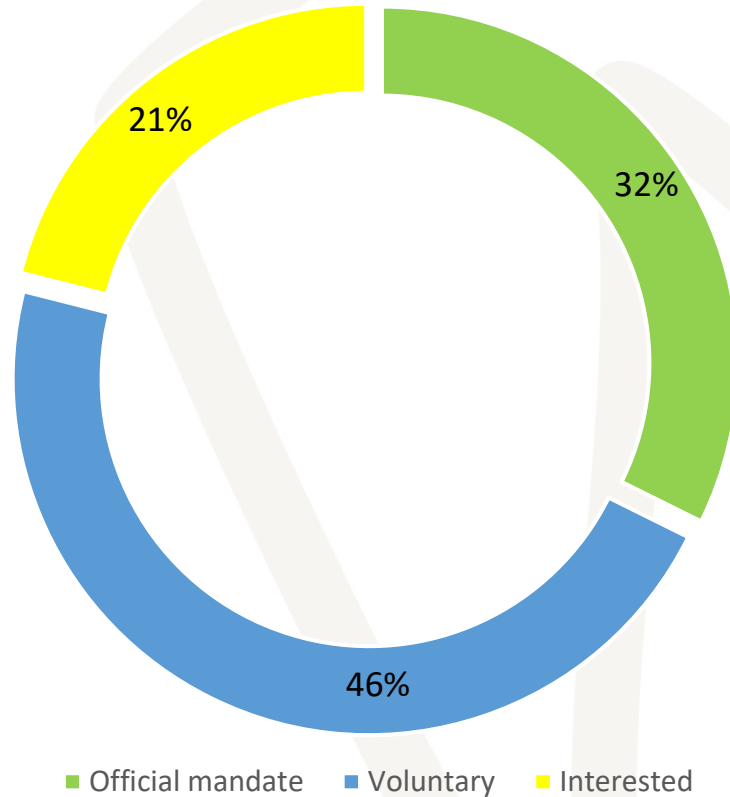
# Interactive global map of laboratories

## ✓ Laboratories

- See INFA interactive map (<https://www.google.com/maps/d/u/0/viewer?mid=1tvVsvsILkBmB4kaGmiZOwuOEFpVtxegD&ll=-3.81666561775622e-14%2C0&z=1>)
- **Green**: Laboratories that have the official mandate of their government to do fertilizer analysis
- **Blue**: Laboratories that do fertilizer analysis on a voluntary basis
- **Yellow**: Laboratories which do not perform fertilizer analysis yet, but are interested in the topic



# Type of laboratories

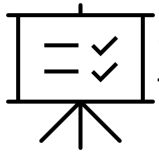


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# Survey: Fertilizer quality assessment

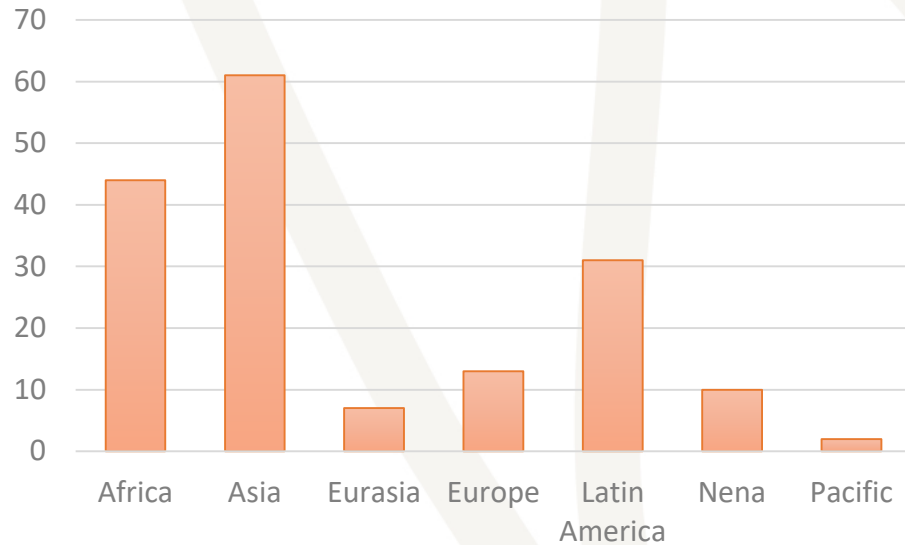


Objective:

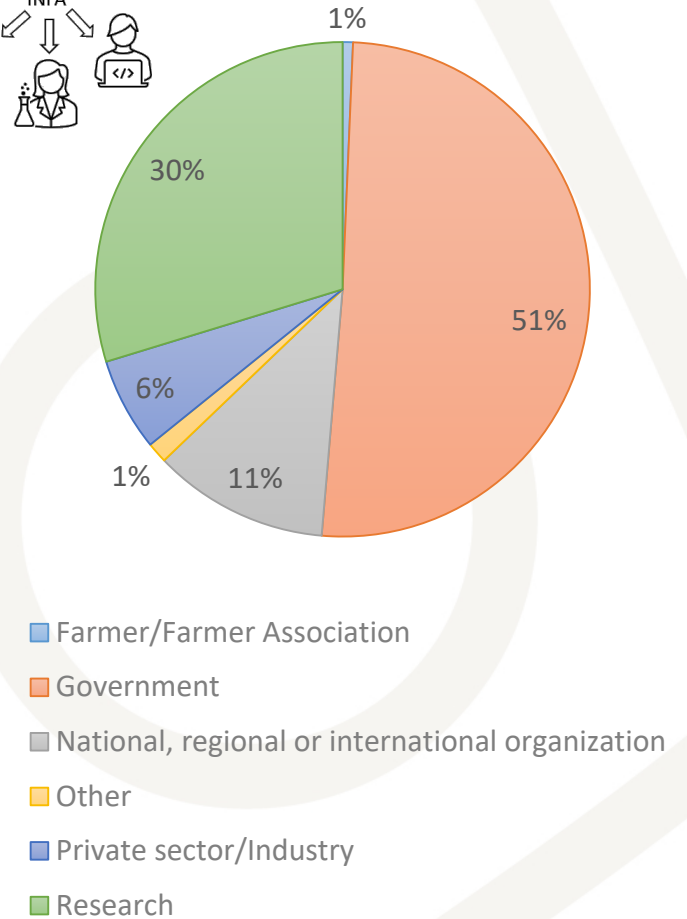
To collect information on how fertilizers quality is assessed worldwide.



Regions



Category



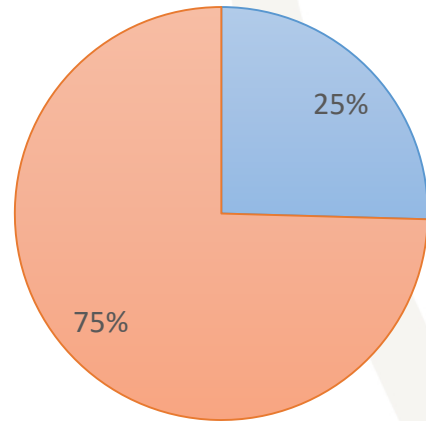
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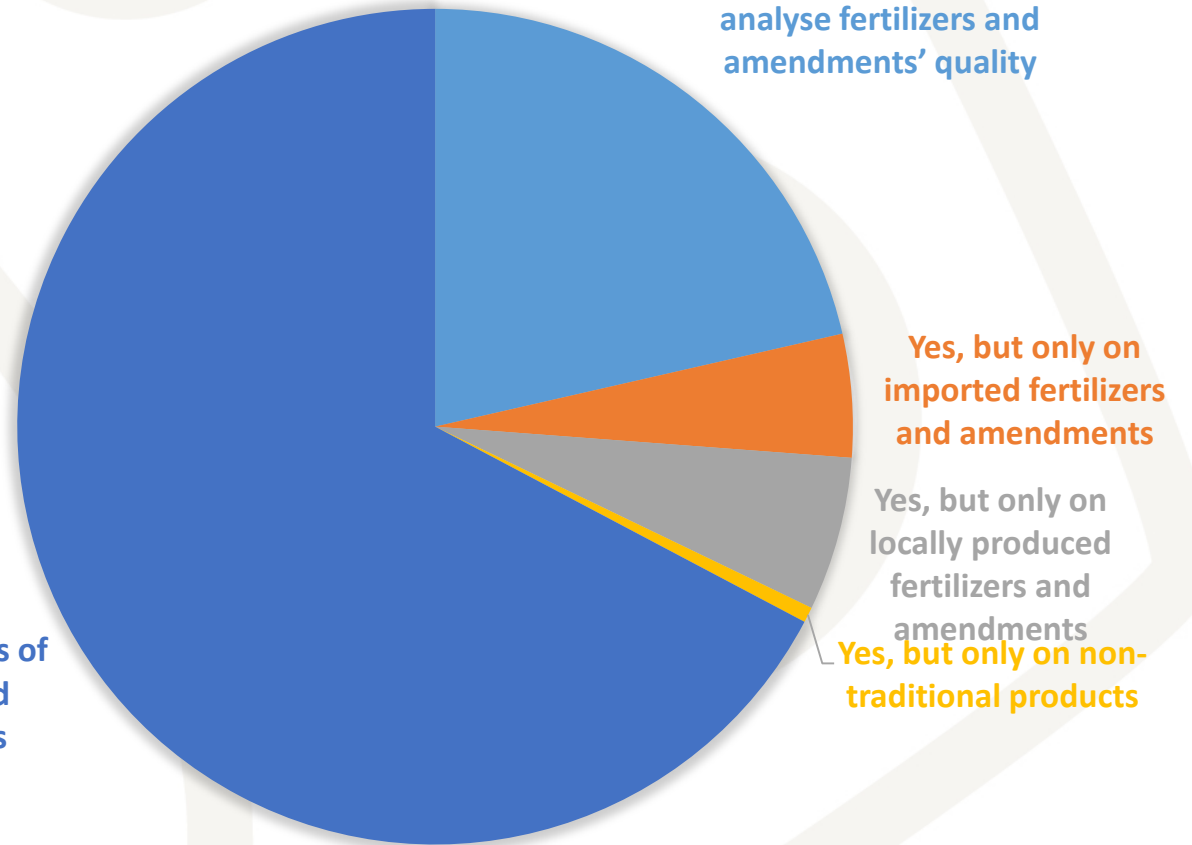
# Fertilizer quality assessment: the legal framework



Is the quality of fertilizers assessed in your country?



■ No ■ Yes



Not at all but we would like to get the competency to analyse fertilizers and amendments' quality

Yes, but only on imported fertilizers and amendments

Yes, but only on locally produced fertilizers and amendments

Yes, but only on non-traditional products

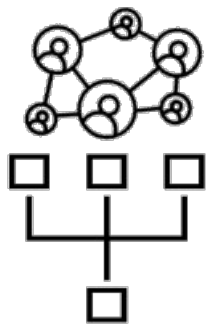
Yes, for all types of fertilizers and amendments

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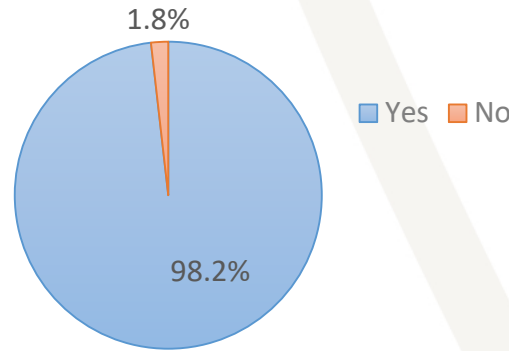


GLOBAL SOIL PARTNERSHIP

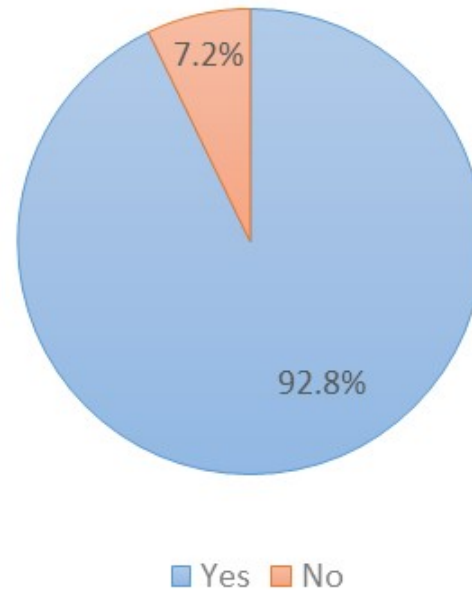


# Fertilizer quality assessment: standards use

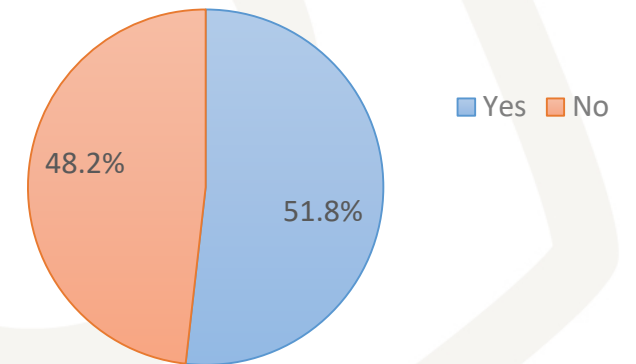
Do you think that global standards on fertilizers quality assessment needed?



If global standards on fertilizers quality assessment would be made available for free, would you adopt them?



Do you think that regional standards on fertilizers quality assessment would work better than global standards?



We have an opportunity area!

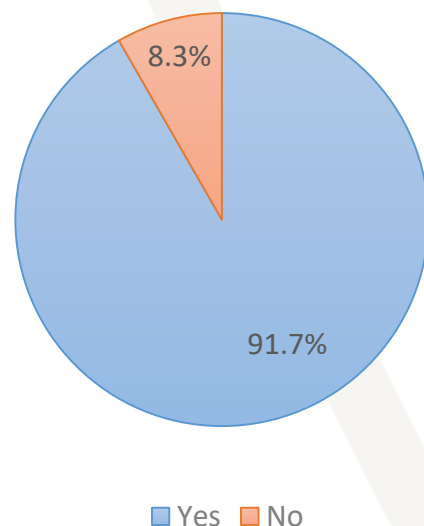
industry



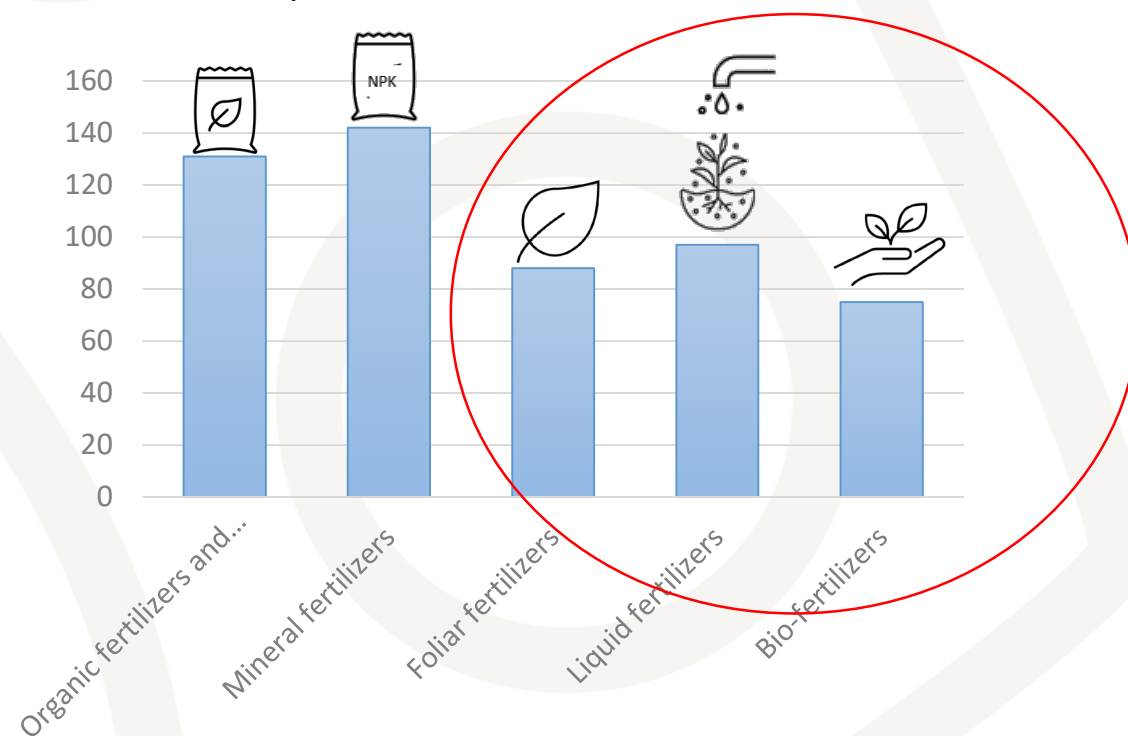
# Fertilizer quality assessment: technical aspects



Do you think that the capability to assess the quality of fertilizers needs to be improved in your country on a national level?



Can you please tell us on what type of fertilizers quality controls are performed?





Harmonization of protocols

Building capacities

Standards

Regulation

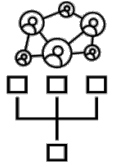
Policies and implementation

Technical aspects

Raising awareness

Communication

IMPROVING CAPACITIES TO ASSESS THE QUALITY OF FERTILIZERS



## Harmonization

- Harmonization of protocols and methodologies for fertilizers analysis.
- Proficiency tests to check efficiency.
- Interlaboratory comparison tests.
- Developing ring tests at national scales
- Simple, fast, accurate methods.
- Protocols to assess the concentration and quality of products.
- Determine the variability in order to define tolerance ranges in the quality of raw materials, physical mixtures, etc.
- Regular ring tests.



## Standards

- Harmonization of standards.
- Acquire different types of fertilizers as standards for comparison and quality control .
- Development and adoption of regional/local standards.

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## Building capacities: people

- Trainings: fertilizer testing and technology.
- Actors in the field.
- Provide guidance to users.
- Trainings for labs staff.
- Support aspects of quality control.
- Develop quality control capacities of national structures.



## Building capacities: infrastructure

- Improve, update and frequent maintenance of labs.
- Supporting equipment of standardized labs.
- Provide modern analyzers and training courses



## Regulation

- Requisite legislation and implementation of fertilizer laws.
- Review legislation on quality control and standards.
- Periodically testing locally produced fertilizers.
- More stringent inspection arrangements at the point of entrance to the country.



## Policies and implementation

- Global assessments and agreements.
- Allowing regional control body to regulate activities.
- Laboratories regionalization.



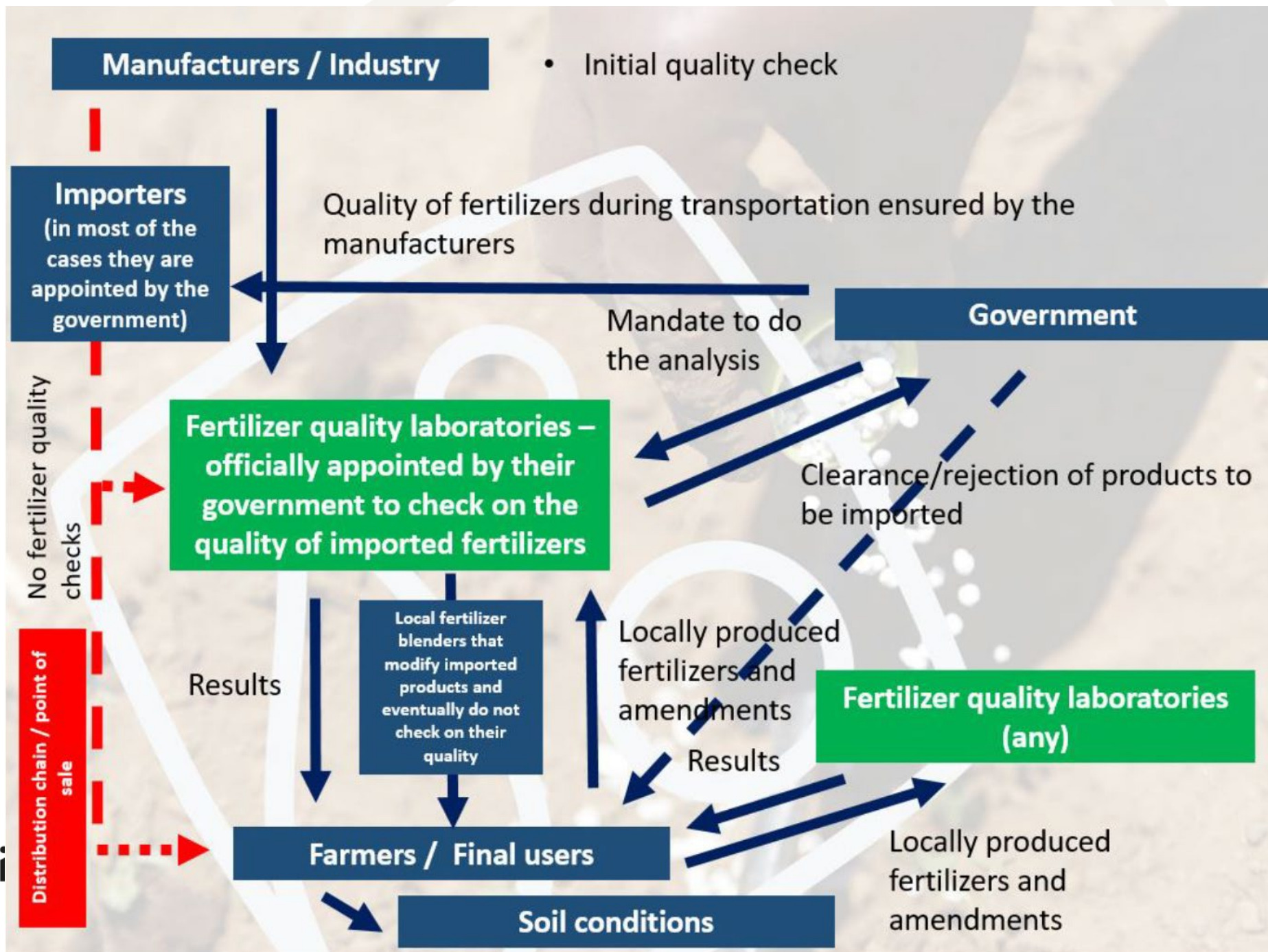
## Raising awareness and communication

- Raising awareness that assessment of fertilizers quality is necessary.
- Share experiences.
- Initiators in regional networks.
- Incorporate all relevant stakeholders.
- Interact with people that manage fertilizers: manufacturers, producers, vendors, and know their needs.

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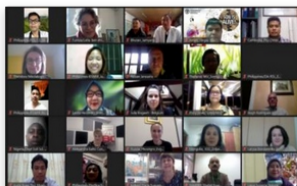


2<sup>nd</sup> meeti



# The website of INFA

## Latest stories



### Launch of the network on fertilizers

INFA - International Network on Fertilizer Analysis

The meeting was attended by numerous people from almost 100 countries and was successful in establishing the network and defining its main areas of work in relation to both, the work of GLOSOLAN and the Code on Fertilizers .

[Learn More](#)

## INFA interactive map

The map reports in different colors the three types of laboratories INFA is working with:

- Green: Laboratories that have the official mandate of their government to do fertilizer analysis

<http://www.fao.org/global-soil-partnership/glosolan/fertilizers-analysis-international-network-on-fertilizer-analysis/en/>

Food and Agriculture Organization of the United Nations

ENHANCED BY Google

English

## Global Soil Partnership

Home Overview Partners Regional partnerships ITPS Technical networks Areas of work Pillars of action Resources

### GLOSOLAN

“Soil: if you cannot measure it, you cannot manage it”

GLOSOLAN homepage	<b>International Network on Fertilizer Analysis (INFA)</b>
Soil Analysis	The International Network on Fertilizer Analysis (INFA) was established in December 2020 <b>to build and strengthen the capacity of laboratories in fertilizer analysis and harmonize fertilizer quality standards.</b> INFA operates under the Global Soil Laboratory Network (GLOSOLAN). It was established in response to requests from GLOSOLAN members and partners for the harmonization of fertilizer analysis methods, and in relation to the implementation of the <b>International Code of Conduct for the Sustainable Use and Management of Fertilizers.</b>
Fertilizers analysis – International Network on Fertilizer Analysis	
National Fertilizer Regulatory Systems	The work of INFA supports the implementation of the Sustainable Development Goals, the Agenda 2030 for Sustainable Development and the FAO mandate on food security and nutrition. For more information please contact <a href="mailto:Vinisa.SaynesSantillan@fao.org">Vinisa.SaynesSantillan@fao.org</a> .
Equipment	
Regional Soil Laboratory Networks	<input type="checkbox"/> <b>How can I register my laboratory in INFA?</b>
National Soil Laboratory Networks	<input type="checkbox"/> <b>Is there any registration fee or annual renewal cost related to the participation in INFA?</b>
	<input type="checkbox"/> <b>Which laboratories can be registered with INFA?</b>
	<input type="checkbox"/> <b>Who are the national and international partners of INFA?</b>



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# The International Network on Fertilizer Analysis

Investing in harmonized  
fertilizer quality standards for  
Sustainable Soil Management

INFA is an International Network on Fertilizer Analysis, which aims to build and strengthen the capacity of laboratories in fertilizers analysis and to harmonize fertilizer quality standards in order to promote the sustainable use of fertilizers worldwide.

## What is INFA and why does it matter?

The design and implementation of solutions to avoid the misuse of fertilizers and impacts on soils, atmosphere, and water is a challenge, because once some nutrients reach these pools, extraction approaches are complex, expensive, or simply not feasible. At this point, preventive solutions are better alternatives to improve the knowledge of what, when and how we add amendments to the soil. Laboratory analyses are the first step in assessing the quality of fertilizers and amendments that have major impacts on soil quality. For this reason, the Global Soil Laboratory Network (GLOSOLAN) has been requested by its members and partners to also strengthen the capacity of laboratories carrying out fertilizer analysis. In December 2020, INFA was established as a sub-network of GLOSOLAN and in support to the implementation of the International Code of Conduct for the Sustainable Use and Management of Fertilizers. The work of INFA supports the implementation of the Sustainable Development Goals, the Agenda 2030 for Sustainable Development and the FAO mandate on food security and nutrition.

## INFA

- **Strengthens** the performance of laboratories analyzing fertilizers through the use of standardized methods, protocols, classification and definitions;
- **Promotes the harmonization** of fertilizer analysis methods and protocols;
- **Advocates for the enhancement of national capacities** through technical cooperation;
- **Cooperate** with national and international institutions and associations already working on the topic;
- Now includes **almost 100 laboratories worldwide** that are doing or interested to do fertilizer analysis.



# Highlights: INFA flyer

## Start small, think big: Why join the network?

Joining the INFA network will strengthen your laboratory by improving its performance. You will participate in decision-making process for the development of global standards and best practices. You will learn from champion laboratories and others facing similar challenges. You will have free access to technical advice, training programmes, capacity building and educational materials. Your laboratory will be a part of an over-arching system that is committed to sustainable soil management (SSM) and can make a significant impact globally.

## A unique opportunity to invest in quality fertilizer laboratory data for a sustainable and food secure world

Investing in more efficient laboratories and harmonized data has national, regional and global implications.

INFA is an efficient and effective way to:

- Provide reliable evidence to support better decision-making both in the field and at policy level;
- Contribute to the development of international standards and indicators;
- Contribute to the reduction of soil, water and air pollution and greenhouse gas emissions caused by the misuse of fertilizers;
- Contribute to the efficient use of nutrients in farming systems;
- Contribute to the availability, stability and safety of food;
- Assist companies manufacturing laboratory equipment to improve their products;
- Identify research gaps and increase investment in research.

## How do I join the network?

All laboratories that have received an official mandate from their government to carry out fertilizer analysis, that carry out fertilizer analysis on a voluntary basis, or that do not yet perform fertilizer analysis but are interested in the topic, are invited to join the INFA. Once your application has been processed, your laboratory will be indicated on the INFAs interactive map. All laboratories receive a certificate of registration when they register with INFA. Please note that there is no registration fee or any annual cost to join INFA.

## Why GSP?

The GSP is a globally recognized mechanism composed of over 320 partners from 195 countries.

**Our key objectives are to promote Sustainable Soil Management and improve soil governance to guarantee healthy and productive soils, and support the provision of essential ecosystem services towards food security and improved nutrition, climate change adaptation and mitigation, and sustainable development.** Capacity development is at the heart of the GSP mandate, as countries can reach the SDGs only by strengthening their local capacities.



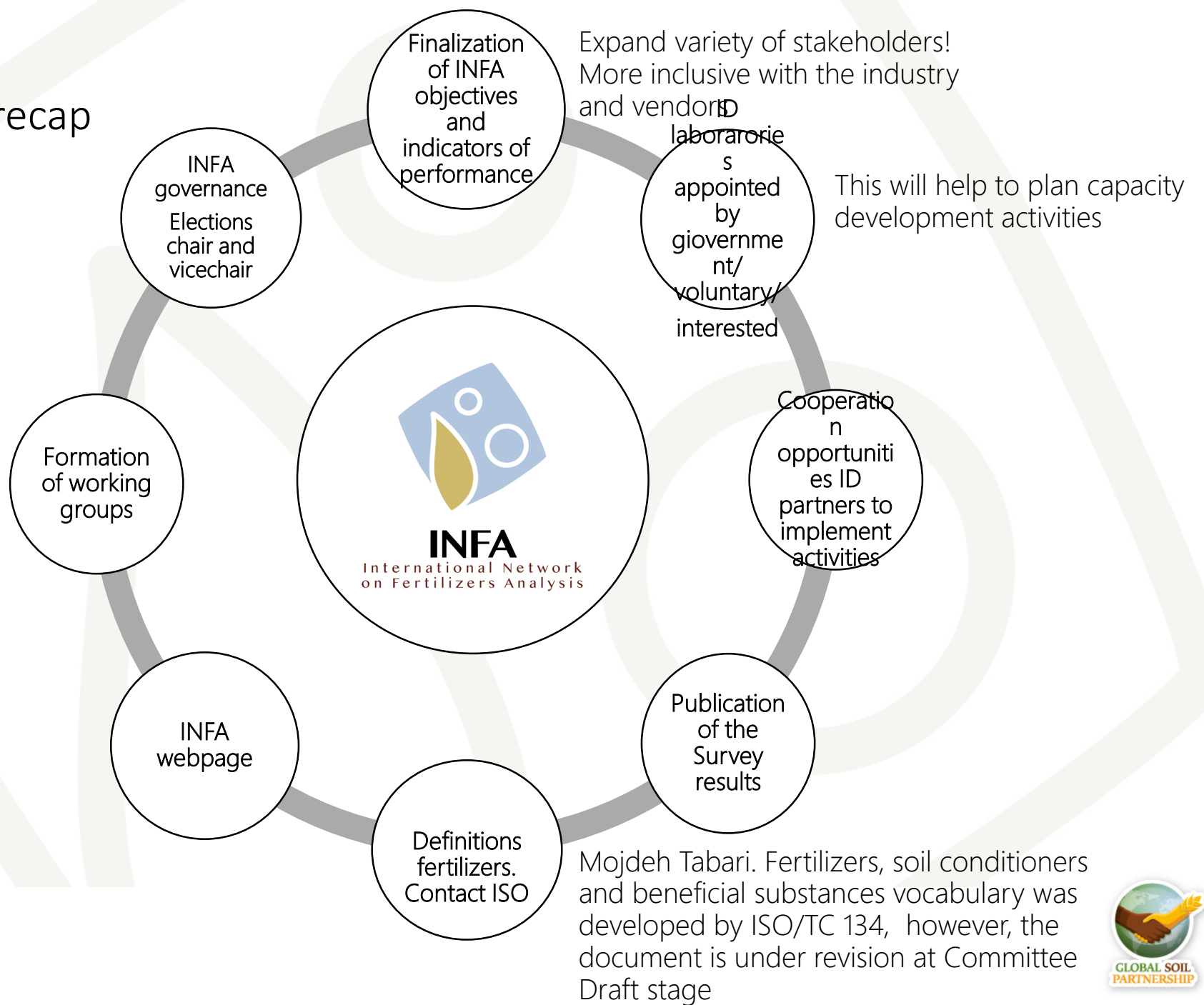
For more information  
[www.fao.org/global-soil-partnership/glosolan/fertilizers-analysis-international-network-on-fertilizer-analysis/en/](http://www.fao.org/global-soil-partnership/glosolan/fertilizers-analysis-international-network-on-fertilizer-analysis/en/)  
To join or support the INFA network please contact [Vinisa.SoymesSantillan@fao.org](mailto:Vinisa.SoymesSantillan@fao.org)

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# Priorities for the work plan recap

- Keep growing! We need more presence in Asia and Eurasia
- Not overlapping efforts: partner!
- Expand the variety of stakeholders
- Formation of working groups
- Develop a detailed anual work plan





# Definitions Fertilizer Code

**Animal manure:** materials from livestock production operations used for fertilization purposes, including manure, urine, slurry, straw and other bedding materials.

**Biofertilizer:** a broad term used for products containing living or dormant micro-organisms such as bacteria, fungi, actinomycetes and algae, alone or in combination, which on application help in fixing atmospheric nitrogen or solubilize/ mobilize soil nutrients.

**Biostimulant:** product that stimulates plant growth through the synthesis of growth-promoting substances and/or plant nutrition processes independently of nutrient content, with the aim of improving one or more of: the plants' nutrient use efficiency or uptake; plant tolerance to abiotic stress; or, crop quality traits.

**Compost:** a mixture of decaying organic matter, as from leaves and manure, used to improve soil structure through the addition of carbon and provide nutrients.

**Digestate:** material remaining after various digestion processes have been applied to biomass or waste products such as livestock manures, sewage sludge and urban wastes.

**Fertilizer:** a substance that is used to provide nutrients to plants, usually via application to the soil, but also to foliage or through water in rice systems, fertigation, hydroponics or aquaculture operations. Further elaborated in Article 1.4.

**Fertilizer additives:** substances added to or modifications of fertilizers, or products added to the soil, designed to increase fertilizer use efficiency through a variety of actions including, but not limited to, reductions in fertilizer solubility and nutrient release, coatings of fertilizer granules, inhibition of nitrification or urea hydrolysis, or stimulation of soil microorganisms.

**Green manure:** plants that are grown in order to provide soil cover and to improve the physical, chemical, and biological characteristics of soil.

**Inorganic fertilizer:** a nutrient-rich fertilizer produced industrially by chemical processes, mineral extraction or by mechanical grinding. Note that though urea is technically an organic material, it is referred to within this Fertilizer Code as an inorganic fertilizer.

**Nitrification inhibitor:** substance that inhibits biological oxidation of ammoniacal nitrogen to nitrate.

**Organic fertilizer:** a carbon-rich fertilizer derived from organic materials, including treated or untreated livestock manures, compost, vermicompost, sewage sludge and other organic materials or mixed materials used to supply nutrients to soils.

**Recycled nutrient:** plant nutrients applied to and taken up by growing plants that can be returned to the plant nutrient cycle after consumption by humans or animals, as by-products of food processing, or as plant residues returned to the soil.

**Sewage sludge:** solid materials removed from the wastewater stream originating from a public sewage system. May or may not be subject to additional treatment to reduce volume, pathogens, odours, and nutrient content.

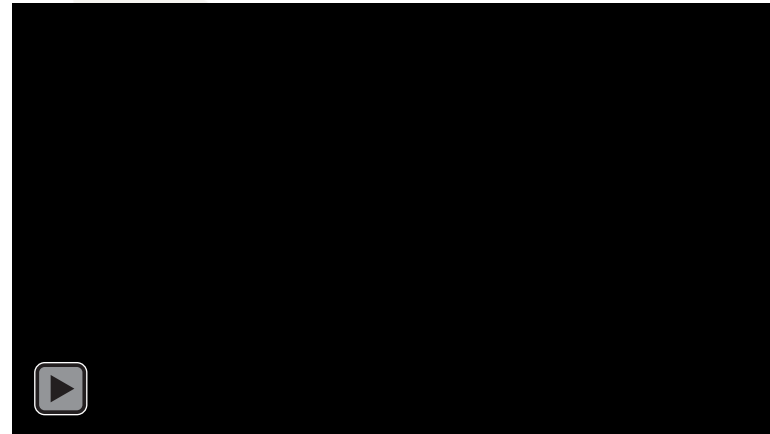
# Formation of working groups: suggested topics

## ✓ SOP's harmonization:

### Priorities:

1. Mineral
2. Organic
3. Liquid
4. Foliar
5. Biofertilizers
6. Nanofertilizers

- Which parameters will be harmonized first?



- ✓ Standards harmonization
- ✓ Standards development
- ✓ Regulation and legislation
- ✓ Capacities development

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A stylized graphic on the left side of the image, consisting of a blue shape with a white outline of a leaf and two white circles, set against a background of brown soil.

Thank you for your attention!  
[Vinisa.SaynesSantillan@fao.org](mailto:Vinisa.SaynesSantillan@fao.org)

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