

INFA-II/21/Report



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# Report of the Second Meeting of the International Network on Fertilizer Analysis (INFA)

Virtual meeting, 29-30 June, 2021

INFA-II/21/Report

**REPORT OF THE SECOND MEETING OF THE INTERNATIONAL  
NETWORK ON FERTILIZER ANALYSIS (INFA)**

Virtual meeting, 29 -30 June, 2021

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS  
Rome, 2021

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# 1. Introduction

Because of the COVID-19 pandemic, the Second Meeting of the International Network on Fertilizer Analysis (INFA) was organized virtually using the Zoom Video Communications© platform, from 29 - 30 June 2021 (see agenda in Annex I). It was attended by over 200 participants from 70 countries (see list of participants in Annex II). The aims of the meeting were to follow-up on the commitments established on the [Launch of INFA](#) including the appointment of the Chair and vice-Chair, the endorsement of the performance objectives and indicators and to define the topics for the working groups.

## 1.1. Endorsement of the Agenda and opening of the meeting

**Ms. Vinisa Saynes** (INFA Coordinator, GSP Secretariat) began with the endorsement of the agenda and briefly reviewed the agenda for the two days, including the election of a Chair and a vice-Chair.

**Ms. Rosa Poch** (Chair of the Intergovernmental Technical Panel on Soils) opened the meeting by describing the achievements of INFA since its establishment in late 2020, including the rapid increase around the world of laboratories joining the network. Ms. Poch emphasized that the first step towards the sustainable use of fertilizers was the analysis of their quality, which directly impacted soil quality. She recalled that the establishment and actions of INFA were a vehicle for the implementation of the [Voluntary Guidelines of Sustainable Soil Management \(VGSSM\)](#) and [The International Code of Conduct for the Sustainable Use and Management of Fertilizers \(The Fertilizer Code\)](#).

Ms. Poch stated that the main objectives of the meeting would be to elect a Chair and a vice-Chair, and discuss the formation of the working groups. She emphasized that the strength of INFA would be in the active participation of all members in the network as well as the large amount of members. These two factors would have a positive impact on capacity building as well as help to influence decision makers. Dr. Poch ended her speech by recalling the importance of the contribution of each INFA member in helping to achieve the sustainable use of fertilizers, and thanked them for their presence and support, wishing them a productive second meeting.

**Ms. Nopmanee Suvannang**, Chair of GLOSOLAN also welcomed the attendees to the meeting. She began by explaining that due to the pandemic it was more important than ever to have reports from qualified and certified medical laboratories that could provide reliable and comparable results. Fertilizer-testing laboratories would most likely have to meet the same requirements, as the process of importing, exporting, selling or shipping fertilizers required that reliable and comparable quality test results were delivered from certified laboratories. Ms. Suvannang said that fertilizers were essential in agriculture, and one of INFA's primary functions would be in providing the framework to create opportunities for collaboration among members in providing reliable and comparable assessments of fertilizer quality. These analyses could then contribute to addressing global challenges such as food insecurity, malnutrition and poverty. It was important that INFA established a common position and joint actions focused on the harmonization of methods and protocols to ensure the quality of data and information regarding the safety and effectiveness of fertilizers. Ms. Suvannang stated that in the face of a rapidly increasing world population, agricultural productivity would need to double or even triple with the consequent increase in the use of fertilizers. INFA had a fundamental

role to play in improving global decision-making with respect to sustainable soil management and in addressing the problem of excessive or inadequate fertilizer use through the promotion of harmonized methodologies. By the nature of its functions and potential scope, INFA would also have a key role to play in warning about the economic, social, and environmental impacts of unsustainable fertilizer use. Ms. Suvannang expressed the point that any efforts in these areas should not be duplicated and welcomed the participation of INFA in sharing its experiences with respect to harmonization of methodologies. She concluded by wishing everyone a fruitful second meeting.

## 2. Recap and commitments of INFA

**Mr. Ronald Vargas** (GSP Secretary) presented the topic “Why do we need an International Network on Fertilizers Analysis (INFA)? Recap and commitments”. Mr. Vargas briefly explained the objectives and scope of the [Global Soil Partnership \(GSP\)](#) and its areas of work, as well as the origin of INFA’s formation. He then spoke about the relationship between fertilizers and global challenges such as food security, soil health, climate change, and planetary modification processes, such as biogeochemical cycles. He emphasized the importance of INFA in moving towards the sustainable use of fertilizers and in the implementation of the VGSSM and [The Fertilizer Code](#). Mr. Vargas reiterated the three main commitments of INFA: (1) to standardize methods and protocols for the analysis of fertilizers; (2) to strengthen the performance of fertilizer laboratories; and (3) to harmonize fertilizer quality standards.

He concluded by briefly discussing the expected results in relation to governance and the implementation of the network's activities by defining the topics to be addressed by the working groups.

## 3. Current scenario of INFA and work plan

**Ms. Vinisa Saynes** provided an update of the following topics:

- **Number of laboratories.** There were 133 laboratories registered as members of INFA with more participation in Africa, Asia and Latin America and the Caribbean.
- [Interactive map of laboratories](#). The global map classified laboratories into three categories:
  - (1) Laboratories that had the official mandate of their government to carry out fertilizer analysis, representing 32% of the members;
  - (2) Laboratories that carried out fertilizer analysis on a voluntary basis, representing 46% of the members and,
  - (3) Laboratories which at the moment did not participate in fertilizer analysis, but showed interest in the topic, representing 21% of the members.
- **Fertilizer Quality Assessment Survey.** Graphs with the most relevant results were presented.
- **Working groups.** The priority topics to be addressed by the working groups included the harmonization of protocols and methodologies for fertilizer analysis; proficiency tests to assess measurements efficiency; SOPs for mineral fertilizers (macronutrients and trace elements), organic, foliar and liquid, biofertilizers and nanofertilizers; harmonization and

development of standards; policies and implementation; development of regional and national networks; building capacities through training and courses for laboratory technicians and actors in the field, support for the acquisition of new equipment; regulation, legislation and raising awareness, and dissemination and communication.

- [INFA brochure](#). The document highlighted and summarized key information about INFA; why it was created, the goals and scope of the network and how to join. It represented a valuable tool for raising awareness of the importance of fertilizer quality assessment and the sustainable use of fertilizers.
- Ms. Saynes mentioned that there were several ongoing and future INFA activities, including the definition and classification of fertilizers; growing the network further and gaining a larger presence in Asia and Eurasia; fostering cooperation with other institutions and organizations while avoiding any overlapping efforts; expanding the variety of stakeholders to make INFA more inclusive and foster the participation of key stakeholders such as the industry and fertilizer organizations; the formation of working groups and the development of a detailed annual workplan.

## 4. Experience from GLOSOLAN and articulation with INFA

**Mr. Filippo Benedetti** (GSP Secretariat) shared how INFA had emerged out of a request from the members and partners of GLOSOLAN to strengthen the capacity of laboratories carrying out fertilizer analysis, and in order to support the Fertilizer Code. He further discussed the origin and formation of GLOSOLAN, the objectives of the global network, the Value Chain of GLOSOLAN and why soil analysis mattered. Mr. Benedetti also provided the encouraging information that currently GLOSOLAN had almost 700 laboratory members from more than 150 countries.

GLOSOLAN's four areas of work were described:

- (1) Quality assessment and quality control;
- (2) Harmonization of standard operation procedures (SOPs);
- (3) Equipment, and
- (4) Fertilizer quality assessment.

He explained the operative framework of GLOSOLAN at the national level (National Soil Laboratory Networks), regional level (AFRILAB, EUROSOLAN, NENALAB, ASPAC, SEALNET and LATSOLAN) and global level.

Finally, Mr. Benedetti explained how INFA would be articulated with GLOSOLAN and emphasized that INFA should follow the three principles governing GLOSOLAN:

- (1) All INFA members matter and everyone should have the opportunity to play an active role in the network;
- (2) Together we are stronger: when possible, it will be important to develop common strategies and work plans at different scales; and
- (3) Create a tendency: the main goal of INFA should be that of building the capacity of all its member laboratories.

## 5. Governance of INFA

### Endorsement of objectives, foreseen impacts, and indicators of performance

**Ms. Vinisa Saynes** explained that INFA's objectives and indicators of performance had been previously reviewed by the members of the network through a participative process (by email) before the meeting. An updated version which included the suggestions of INFA members was presented and both documents were endorsed.

The network members reached consensus on the content of the governing documents included below:

The **purpose** of INFA was to improve the capacity of laboratories in fertilizer analysis. This would be facilitated by the harmonization of the standards from specific regions used to assess the quality of fertilizers, in support of reaching environmental quality and the implementation of the International Code of Conduct for the Sustainable Use and Management of Fertilizers, the Sustainable Development Goals, and the FAO mandate on food security and nutrition.

The **objectives** of the network were:

- To harmonize fertilizer analysis methods and protocols to facilitate the comparability of fertilizer data across laboratories, countries and regions;
- To strengthen the performance of laboratories analyzing fertilizers through the use of standardized methods, protocols, classification and definitions;
- To advocate the enhancement of national capacities through technical cooperation.

The foreseen **impacts** of the network would be:

- The provision of reliable evidence to support better decision-making both in the field and at policy level;
- To foster the adoption of the International Code of Conduct for the Sustainable Use and Management of Fertilizers;
- The enrichment and sustaining of the implementation of GLOSOLAN workplan;
- The facilitation of the exchange of knowledge between laboratories;
- The enhancement capacities of laboratories to perform fertilizer quality assessment;
- The encouragement of the technical communication between countries and regions, together with the promotion of collaboration, partnership and exchange;
- The enhancement of participative decision-making processes;
- The stimulation of the discussion towards the identification of common needs for all stakeholders associated with the quality and use of fertilizers;
- The development of shared strategies and work plans to address the main challenges;
- The downscaling of the global initiatives and activities to the regional and national contexts;
- The use of soil analysis in the laboratory to evaluate nutrient content and chemical properties, and to formulate recommendations of fertilization;
- The contribution to the development of international standards and indicators of fertilizer quality;



- The contribution to the reduction of soil, water and air pollution and greenhouse gas emissions caused by the misuse of fertilizers;
- The contribution to the quality and efficiency of the use of fertilizers in farming systems;
- The strengthening of the capability of extension services;
- The contribution to food security, sustainability and the provision of safe, healthy food;
- The support for companies manufacturing laboratory equipment to improve their products;
- The contribution to the improvement of national regulations on fertilizer import, quality assessment and use;
- Economic and environmental benefits that could derive from the sustainable use of fertilizers including carbon storage in soils and improved soil health;
- The identification of research gaps in the use and quality of fertilizers and increased investment in research.

The performance of the network would be assessed using the following **indicators**:

- Number of laboratories joining INFA;
- Number of countries joining INFA;
- Number of Standard Operating Procedures (SOPs) developed, translated, adopted and implemented;
- Number of laboratories adopting the methods developed under INFA;
- Number of analyses conducted following the SOPs developed by INFA;
- Number of proficiency testing programmes for fertilizer testing by interlaboratory comparisons (ring tests);
- Number of laboratories participating in the ring test;
- The average number of outsider values as a result of the ring test;
- The coefficient of variation in the ring test;
- Number of laboratories that get accredited or certified or that pass the ring test;
- Number of experts sent to the laboratory to check the data analysis (audit process);
- Number of training sessions conducted at national and international levels;
- Number of trained staff members;
- Number of laboratory facilities upgraded or enhanced to assess basic fertilizer quality parameters as identified by INFA (including inventories of upgraded or enhanced equipment);
- Number of national fertilizer regulations profiles developed;
- Number of regional fertilizer analysis networks established;
- Number of participants in the INFA surveys;
- Number of participants in the INFA meetings;
- Number of active network partners;
- Development of standard reference materials.

#### **Election of Chair and vice-Chair of INFA**

*Moderator: Ms. Natalia Rodríguez, GSP Secretariat.*

**Ms. Natalia Rodríguez** then presented the previously reviewed TORs for filling the positions of Chair and vice-Chair of INFA. The TORs were endorsed with the following content:

#### **Terms of Reference for the Chair and vice-Chair of INFA**

The Chair of the International Network on Fertilizer Analysis (INFA) would:

- i. Ensure that the Global Soil Laboratory Network (GLOSOLAN) work plan on fertilizer analysis was executed under the INFA network, complying with the Global Soil Partnership pillar 5 implementation plan;
- ii. Chair the INFA meetings, and oversee the implementation of the network as per its workplan;
- iii. Maintain active communication between INFA and GLOSOLAN, as well as with the GSP Secretariat and the Pillar 5 Working Group, in relation to the execution of the INFA activities (included in the network work plan);
- iv. Maintain active communication with established organizations who developed and updated methods for fertilizers in cooperation with experts worldwide;
- v. Participate in the Pillar 5 Working Group at global level (see TOR for the Pillar 5 WG in the Pillar 5 Implementation Plan <http://www.fao.org/3/bs756e/bs756e.pdf>);
- vi. Oversee progress on downscaling INFA activities to the regional and national context;
- vii. Report (jointly with the GSP Secretariat and ITPS chair) to the GSP Plenary Assembly about the INFA progress;
- viii. Advocate for the mobilization of resources to execute the INFA activities as foreseen in the Pillar 5 Implementation Plan.

The appointment of the Chair of the INFA would take place during the annual meeting of the network. After election, the Chair would serve a term of two years, extendable via an INFA decision to a second term. The Chair would be, whenever possible, supported by a vice-Chair in all its activities and tasks.

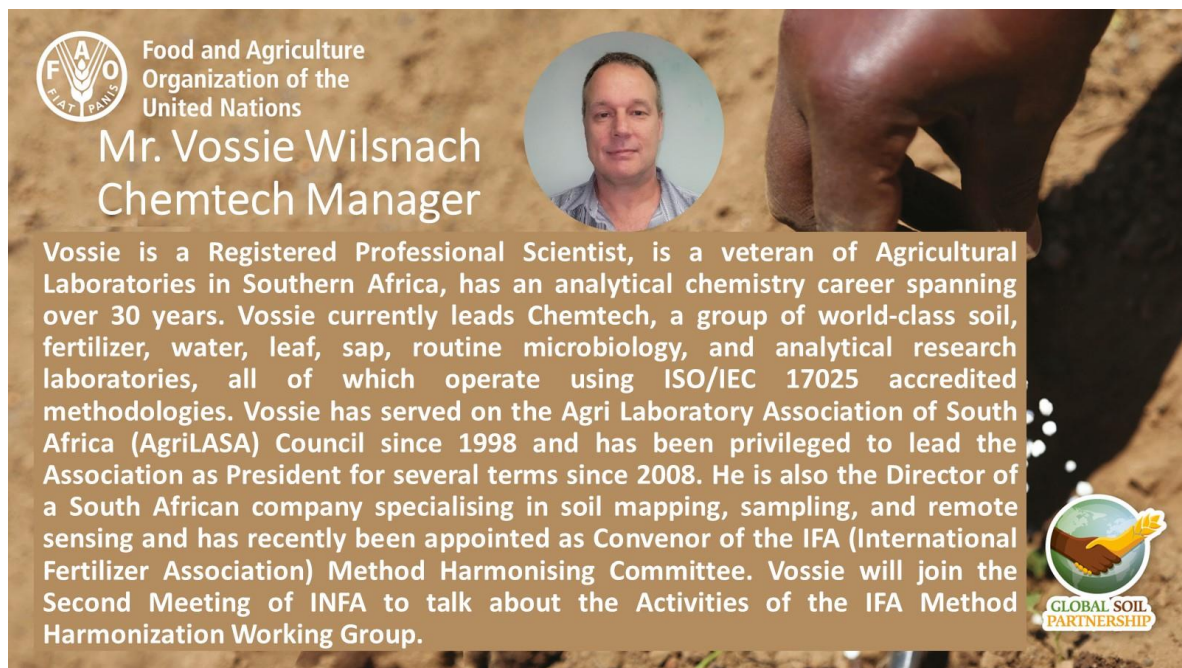
Ms. Rodríguez shared information regarding the roles of the Chair and vice-Chair with INFA members so that they could gain a clearer picture of the functions of these positions. Ms. Rodríguez requested that any INFA members interested in filling the positions of Chair and vice-Chair of INFA should send a cover letter and CV by email to the coordinator of INFA in order to be considered for the positions. Two nominations for Chair and three nominations for vice-Chair were received. Once the nominations were registered, the elections were conducted. The nominees were presented to the attendees and each had the opportunity to introduce themselves and share their ideas with the participants.

This was followed by a round of questions from the participants to the candidates. Once this process was concluded, the elections were carried out by means of an electronic poll, in which the members of the network voted first to elect the Chair and then the vice-Chair.

**Dr. Wesley Karl Feldmann** (Malawi) was voted in as the Chair of INFA, with **Dr. Gerardo Ojeda** (Colombia) as the vice-Chair of INFA.

## 6. Standardization of methods and protocols for the analysis and harmonization of fertilizer quality data

One of INFA's main objectives would be the standardization of methods and protocols for the analysis of fertilizer quality. As a starting network, care should be taken not to duplicate efforts but to make synergies. To open the discussion on this topic **Mr. Filippo Benedetti** presented **Mr. Vossie Wilsnach**, and moderated the session.



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**Mr. Vossie Wilsnach**  
**Chemtech Manager**

Vossie is a Registered Professional Scientist, is a veteran of Agricultural Laboratories in Southern Africa, has an analytical chemistry career spanning over 30 years. Vossie currently leads Chemtech, a group of world-class soil, fertilizer, water, leaf, sap, routine microbiology, and analytical research laboratories, all of which operate using ISO/IEC 17025 accredited methodologies. Vossie has served on the Agri Laboratory Association of South Africa (AgriLASA) Council since 1998 and has been privileged to lead the Association as President for several terms since 2008. He is also the Director of a South African company specialising in soil mapping, sampling, and remote sensing and has recently been appointed as Convenor of the IFA (International Fertilizer Association) Method Harmonising Committee. Vossie will join the Second Meeting of INFA to talk about the Activities of the IFA Method Harmonization Working Group.

**GLOBAL SOIL  
PARTNERSHIP**

**Mr. Vossie Wilsnach**, Convenor of the IFA Method Harmonizing Working Group, gave the presentation “Activities of the IFA Method Harmonization Working Group”. Mr. Wilsnach provided general information regarding IFA’s objectives, members, activities and publications before talking about the positioning of the Method Harmonization Working Group (Sustainability, Market Intelligence, and Public Affairs Committees and the Scientific Program). He continued by discussing the group’s vision, structure and purpose, (with the establishment of global harmonized analytical methods, international standards and regulations to provide direction to national and international laboratories), and the frequency of meetings (annually, with two virtual and one physical meeting, with the next physical meeting in Moscow, October/November, 2021). Mr. Wilsnach also shared the published recommendations, such as the “Determination of moisture of fertilizers” and the most recent “Analytical methods for slow and controlled-release fertilizers”.

He also discussed some of the ongoing projects, including “Determination of water-soluble and NAC-soluble phosphate” and “Determining available phosphate, EDTA method”. Finally, Mr. Wilsnach shared some recommendations on the following five issues:

#### Protocols

From the start, determine the protocols to:

- Identify new projects;
- Follow for each project;
- Determine milestones;
- Gain feedback and output.

#### Resources:

(Don't take on too many projects at one time)

- Increased focus and resources;
- High throughput.

#### Leadership:

(Identify project leaders for every project)

- Knowledgeable, energetic and available.

#### Communication:

(Frequent communication and updates on progress)

- Keep all members informed.

#### Time:

Keep discussions to the point and facilitate them to manage time effectively.

## 7. Harmonization of fertilizer quality standards

Another of the objectives of INFA is the harmonization of standards for fertilizer quality assessments. However, standardization should also be present at various stages of the fertilizer value chain. To discuss this and other related topics **Mr. Yuxin Tong** (GSP Secretariat) presented the next speaker, **Ms. Aleksandra Bereza-Stachowiak**, from Baltic Control and moderated the session.



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**Aleksandra Bereza-Stachowiak**  
Senior Project Coordinator at  
Baltic Control


Aleksandra Bereza-Stachowiak, Senior Project Coordinator at Baltic Control A/S leading global inspection, testing and certification company. As a Senior member of the UN Department at her organization, her daily duties focus on supervision over ensuring the quality of goods in accordance with Customer requirements and coordinating inspections for various Clients all around the world, yet, it is FAO that she is most dedicated to. In her career she gathered broad experience in the reference to quality assessment. Aleksandra will join the Second Meeting of INFA to share information about Assessing the quality of fertilizers for FAO fertilizer procurement across the world.

 GLOBAL SOIL  
PARTNERSHIP

**Ms. Aleksandra Bereza-Stachowiak** presented the topic “Assessing the quality of fertilizers for FAO fertilizer procurement across the world”, explaining that Baltic Control was a leading global inspection, testing and certification company **and** TIC member, having over 40 years of experience, operating through a global network of offices. Ms. Bereza described the factors to consider in pre-shipment inspection (*e.g.* quality, quantity and origin, visual condition of the cargo, packing, marking and labelling, and the collection of samples during PSI according to ISO/GAFTA standards), the analysis conducted in the laboratory (*e.g.* physical and chemical analysis), the factors to consider for loading supervision (*e.g.* container / truck fitness for loading, container sealing) and unloading supervision. Ms. Bereza finished by specifying the type of physical analysis (*i.e.* moisture, particle size) and chemical analysis (*i.e.* nitrogen, neutral ammonium citrate soluble phosphate (as  $P_2O_5$ ), water soluble phosphate) considered important when assessing the quality of fertilizers.


## 8. Strengthening the performance of fertilizer laboratories using standardized methods and protocols.

**Ms. Rosa Cuevas** (GSP Secretariat) then welcomed and presented the next speaker **Mrs. Nopmanee Suvannang**, (GLOSOLAN Chair) to talk about “Proficiency Tests and Interlaboratory Comparisons”.


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**Mrs. Nopmanee Suvannang**  
**GLOSOLAN Chair**

Nopmanee has more than 30 years of experience on soil laboratory and long term collaboration with Southeast Asia country and her concern is about data comparability and data quality improvement. In 2017, she was elected by soil laboratory managers in various regions to serve as the First Chair of the Global Soil Laboratory Network (GLOSOLAN) and actively participate and support on the network activities. Because of her strongly involvement and experience, she was reelected to be the second term of Chair until now. Nopmanee will share her experience in Proficiency Tests and Interlaboratory Comparisons in the Second Meeting of INFA.


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**Mrs. Nopmanee Suvannang** explained that using the 4R framework (better fertilizer rate, time, place and type), offered a better way to reduce the negative environmental impacts caused by improper fertilizer use. In order to facilitate the exchange of scientific data, methodologies and research applications among various stakeholders in the support of national/country-level research, it was necessary for a laboratory to provide comparable and reliable fertilizer testing results. Ms. Suvannang clarified that if the same fertilizer sample was sent to any fertilizer testing laboratory, it was expected to yield the same results, and provide the same or similar fertilizer quality and recommendations, etc. If a laboratory aimed to have consistency, and comparable and reliable data, it should develop harmonized and validated testing methods, with well trained and knowledgeable laboratory staff and internal and external quality control. Ms. Suvannang explained the concept of interlaboratory comparisons and described the steps of the process including the preparation of the report. Ms. Suvannang also mentioned the advantages and disadvantages of proficiency tests and certifications, explaining in detail the process of a typical proficiency test and the steps to conduct it, as well as that of data analysis.

## 9. Formation of working groups

During the meeting, the following priority topics to be addressed by the working groups were defined by the participants:

Harmonization of protocols and methodologies for fertilizer analysis

- Proficiency tests to check efficiency.
- Interlaboratory comparison tests.
- Developing ring tests at national scales.
- Identify and implement 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.

#### Building capacities: people and infrastructure

- Training: fertilizer testing and technology.
- Actors in the field.
- Provide guidance to users.
- Training for lab staff.
- Support aspects of quality control.
- Develop quality control capacities of national structures.
- Improve, update and support the 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 entry to the country.

#### Raising awareness and communication

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

## 10. Updated INFA Workplan

Based on the activities and discussions during the meeting, the INFA work plan was updated (2021-2022) and is reported in Table 1.

*Table 1. INFA work plan 2021-2022.*

Activity	Responsible party	Deadline
Diversifying <b>INFA objectives and foreseen impacts</b> . In order to make the network more	GSP Secretariat and INFA members	July-August 2021 continuous activity

inclusive and diversify its impact, it is necessary to include more key stakeholders (manufacturers, retailers, fertilizer associations, and policy actors). A first attempt has already been made, but it is necessary to insist on and seek out new and more effective channels of communication in order to reach them.	coordinated by Chair and vice-Chair (C-CV)	
<b>Upload objectives</b> , indicators of performance and foreseen impacts on the INFA website.	GSP Secretariat	July 2021
<b>Upload recordings of the second meeting</b> on the INFA website.	GSP Secretariat	July 2021
Develop and share the <b>Report of the Second Meeting of INFA</b> with C-VC and GSP Secretariat.	GSP Secretariat and INFA C-VC	July 2021
Writing and publication of the report on the results of the <b>survey on fertilizer quality assessment</b> .	GSP Secretariat	July 2021
Identification of INFA members who want to participate in the different <b>working groups</b> and <b>define a coordinator for each group</b> for organizational and reporting purposes.	INFA C-VC	July 2021
Develop a work schedule for each working group and include it the overall work plan.	INFA C-VC INFA members	July 2021
<b>Identification of those laboratories</b> officially appointed by their government to do fertilizer quality analysis. Finalization of the preliminary list compiled by the GSP Secretariat in 2020, clearance from countries, publication of information on the INFA website.	GSP Secretariat and country representatives	August 2021
<b>Identification of those laboratories</b> performing or interested in performing fertilizer analysis for GLOSOLAN.  Compilation of a list to be included on the INFA database. Publication of information on the INFA website.	GSP Secretariat and GLOSOLAN members	Continuous activity 2021
<b>Cooperation opportunities:</b> Identification of partners that can help implementing different activities (e.g. fertilizer associations).	GSP Secretariat and INFA C-VC and partners	Continuous activity



Compilation of information and material already available on the topic.		
Contact ISO to ask whether INFA can rely on the fertilizer definitions reported in ISO 8157. Definitions for each class of fertilizers are needed in the network.	GSP Secretariat	July 2021
Review terms and definitions developed by GLOSOLAN to adopt and harmonize the terminology.		
Development of the <b>INFA webpage</b> <a href="http://www.fao.org/global-soil-partnership/glosolan/fertilizers-analysis/en/">http://www.fao.org/global-soil-partnership/glosolan/fertilizers-analysis/en/</a>	GSP Secretariat	July 2021 Continuous activity
Contact the focal points of countries not participating in INFA to request the nomination of a laboratory.	GSP Secretariat	August 2021
Nomination of a Reference Laboratory in each country.	INFA members	August 2021
Reporting at the GSP Plenary Assembly. Develop a joint presentation.	GSP Secretariat and INFA C-VC	September 2021
Reporting at the Annual GLOSOLAN Meeting that will be held 23 - 25 Nov 2021.	GSP Secretariat and INFA C-VC	November 2021
Organization of the Third INFA Meeting.	GSP Secretariat and INFA C-VC	Continuous activity
Towards a SIMPLE (Soil Import Legislation) equivalent database for fertilizers	GSP Secretariat and INFA C-VC INFA members	Continuous activity

The presentations, highlights and photo gallery of the Second Meeting of INFA are available at the link below:

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

## 11. Venue and time of the next meeting

The 3<sup>rd</sup> INFA meeting will take place in June 2022.

## Annex I: Agenda



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# Agenda

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

Virtual meeting  
29-30 June 2021 - 02:00 PM CEST



## 29 June 2021

14:00 – 14:10 CEST | Opening, endorsement of the agenda.

*Ms. Rosa Poch, ITPS Chair*

*Ms. Nopmanee Suvannang, GLOSOLAN Chair*

14:10 – 14:25 CEST | Item 1: Why do we need an International Network on Fertilizers Analysis (INFA)? recap and commitments.

*Mr. Ronald Vargas, GSP Secretary*

14:25 - 14:45 CEST | Item 2: Current scenario of INFA and work plan

*Ms. Vinisa Saynes Santillán, INFA Coordinator.*

14:45 - 15:00 CEST | Item 3: Experience from GLOSOLAN and articulation with INFA

*Mr. Filippo Benedetti, GSP Secretariat.*

15:00 – 15:45 CEST | Item 4: Governance of INFA.

- Endorsement of objectives, goals, and indicators of performance.
- Endorsement of TORs for INFA Chair and vice-Chair
- Election of Chair and vice-Chair.

*Moderator: Ms. Natalia Rodríguez, GSP Secretariat.*

15:45 – 16:30 CEST | Item 5: Plenary Discussion

16:30 CEST | Closure of the day

## 30 June 2021

14:00 – 14:30 CEST | Item 6: Standardization of methods and protocols for the analysis of fertilizers and harmonization of fertilizer quality data.

- **Context**

*Ms. Vinisa Saynes Santillán, INFA Coordinator.*

- **Activities of the IFA Method Harmonization Working Group**

*Mr. Vossie Wilsnach, Convenor of the IFA Method Harmonizing Working Group. Omnia Group.*

- **Group discussion and working groups definition.**

*Moderator: Mr. Filippo Benedetti, GSP Secretariat.*

14:30 – 15:00 CEST | Item 7: Harmonization of fertilizer quality standards.

- **Context**

*Ms. Vinisa Saynes Santillán, INFA Coordinator.*

**Assessing the quality of fertilizers for FAO fertilizer procurement across the world.** *Ms. Aleksandra Bereza-Stachowiak, Baltic Control A/S.*

- **Group discussion and working groups definition.**

*Moderator: Mr. Yuxin Tong, GSP Secretariat.*

15:00 – 15:30 CEST | Item 8: Strengthening the performance of fertilizer laboratories using standardized methods and protocols.

- **Context**

*Ms. Vinisa Saynes Santillán, INFA Coordinator*

**Proficiency Tests and Interlaboratory Comparisons.** *Ms. Nopmanee Suvannang, GLOSOLAN Chair.*

- **Group discussion and working groups definition.**

*Moderator: Ms. Rosa Cuevas, GSP Secretariat.*

15:30 – 16:30 CEST | Item 9: Plenary Discussion and Decision Making

*Moderator: Ms. Carolina Olivera, GSP Secretariat.*

16:30 CEST | Closure of the meeting

## Annex II. List of participants

Country/Region	Full name	Organization
<b>AFRICA</b>		
Côte d'Ivoire	Guy Fernand YAO	Centre National de Recherche Agronomique (CNRA)
Egypt	OPPO F9	Soils, Water and Environment Research Institute Agricultural Research Center (SWERI) (ARC)
Eswatini	Senzo Ntshakala	Ministry of Agriculture
Gabon	Rolf Mabicka Obame- lase	Université des Sciences et Techniques de Masuku
Gabon	Neil Yohan Musadji	Université des Sciences et Techniques de Masuku
Gambia	Abdou Rahman Jobe	Soil and Water Management Services Unit, Ministry of Agriculture
Ghana	Francis Tetteh	CSIR-Soil Research Institute
Kenya	Anne Muriuki	Kenya Agricultural & Livestock Research Organisation
Lesotho	Malefetsane Khesuoe	Department of Agricultural Research
Madagascar	Vonimirana Rasolofoniaina	Minister de l'Environnement et du Développement Durable
Malawi	Luca Desideri	Farming and Engineering Services Limited
Malawi	Wesley Feldmann	Farming and Engineering Service – Agrilab
MALI	Souleymane Dambe	USTTB/LPCM/LSEP
Mozambique	Momade Ibraimo	Instituto De Investgacao Agraria de Mocambique (IIAM)
Niger	Maidagi Maman	INRAN
Nigeria	Koleola Abidemi Adedayo	Federal University of Technology Minna, Niger State
NIGERIA	Oderinde Tosin	NIGERIA INSTITUTE OF SOIL SCIENCE
Nigeria	Williams Egbe	National Fertilizer Development Center (NFDC), Kaduna, Nigeria
São Tomé e Príncipe	Antónia Neto	CIAT
SENEGAL	Anna Ndiaye	Ceres Locustox
Sénégal	Ramatoulaye Ndiaye	Institut Sénégalais de Recherches Agricoles
South Africa	Ramakgwale Mampholo	Ministry of Agriculture, Land Reform and Rural Development
South Africa	Vossie Wilsnach	IFA/Omnia
Togo	Gbénonchi Mawussi	Université de Lomé
Uganda	Beatrice Sadina	The National Agricultural Research Organisation
Uganda	Lydia Mugala	Ministry of Agriculture Animal Industry and Fisheries
Zimbabwe	Armwell Shumba	Chemistry and Soil Research Institute
Zimbabwe	Tonderai Chihota	Superfert
<b>ASIA</b>		

Bangladesh	Zainal Abedin	Soil Resource Development Institute
Cambodia	Chenda Lai	ITC
Cambodia	Pinnara Ket	Institute of Technology of Cambodia
China	China+Hong Wang	CAAS
India	Dr Vinod Gaur	M/s Agri Biochem Research Lab
India	Mr Neil Shah	M/s Pushpa J Shah
India	Pushpajeet Choudhari	ICRISAT
Indonesia	Erny Yuniarti	ISRI
Indonesia	ISRI_Lenita	ISRI
Indonesia	Laili Purnamasari	Indonesian Soil 24uwait24h Institute
Indonesia	Linca Anggria	Indonesian Soil Research Institute
Iran	Gerold Bödeker	FAO
IRAQ	Iman Sahib Salman	Ministry Of Agriculture
Iraq	Nooruldeen Ali	University of Baghdad
Jordan	Nabeel Bani Hani	NARC
Kuwait	Sasini Isathali	24uwait institute for scientific research
Kuwait	Shabbir Ahmad Shahid	Kuwait Institute for Scientific Research
Mongolia	Ariuntsetseg Dugar	Mongolian university of life science
Myanmar	Aung Kyaw Thu	Department of Agricultural Research
Myanmar	Ma Kywae	department of agricultural research
Myanmar	Ni Tint	Department of Agricultural research
Nepal	Kamal Sah, Nepal	Nepal Agricultural Research Council
Pakistan	Sohail Aslam	Govt. H/S Kot Khaira, Jhang
Philippines	Adrienne Mae Zabate	Regional Soils Laboratory XI
Philippines	Aileene Millare	Department of Agriculture-Regional Field Office 1
Philippines	Allan Octat	CMU
Philippines	Angelita Marcia	Bureau of Soils and water Mgt.
Philippines	Bergil Bernaldo	Bureau of Soils and Water Management
Philippines	Carleen Calimpon	Department of Agriculture RFO 7
Philippines	Charlie Palilio	Bureau of Agriculture and Fisheries Standards
Philippines	Chelly Alovera	Central Mindanao University
Philippines	Cyd Cherisse Gayonan	Central Mindanao University
Philippines	Edna Samar	Bureau of Soils and Water Management
Philippines	Elly Paul Tomas	Department of Agriculture Regional Field Office 12
Philippines	Elvira Bayalas	Bureau of Soils and Water Management
Philippines	Emma Tayad	Dept. of Agriculture
Philippines	Gerame Calapre	Department of Agriculture RFO VII
Philippines	Gloria Urriza	Bureau of Soils & Water Management
Philippines	Jamie Ann Tumolva	Bureau of Soils and Water Management
Philippines	Jay El Bautista	Department of Agriculture
Philippines	John Rey Labajo	Soil and Plant Analysis Laboratory, Central Mindanao University
Philippines	Lidayway Honrade	Department of Agriculture-4A- RSL
Philippines	Ma Aussielita Lit	ASTS
Philippines	Mabelle Oblianda	Department of Agriculture IV A Regional Soils Laboratory
Philippines	Maribel Mananguit	Department of Agriculture RFO CAR
Philippines	Marjorie Jean Tao	Bureau of Soils and Water Management
Philippines	Moraine Sumague	Department of Agriculture – Bureau of Agriculture and Fisheries Standards



Philippines	Morena Arnigo	Dept.of Agriculture IVA Regional soils Laboratory
Philippines	Nora Talain	DA-Regional Soils Laboratory 4A
Philippines	Perla Estabillo	Department of Agriculture- Bureau of Soils and Water Management
Philippines	Rainear Mendez	Central Mindanao University
Philippines	Veronica Migo	University of the Philippines Los Banos
Sri Lanka	Renuka Silva	Department of Agriculture
Syria	Syria_Riham Zahalan	General commission for scientific agricultural research GCSAR
Thailand	Chanida Charanworapan	Land Development Department
Thailand	Hathairat Pichainarong	Land Development Department
Thailand	Jutharat Yimchaluay	Land Development Department
Thailand	Onanong Chomsiri	LDD
United Arab Emirates	Alanoud Alrashdi	ADAFSA
United Arab Emirates	Bayan Athamneh	EAD
United Arab Emirates	Eldaly Maghazi	Abu Dhabi Agriculture Food Control Authority
United Arab Emirates	Mouza Alshehhi	ADAFSA
Uzbekistan	Jakhongir Uljabaev	JV "Ifoda Agro Kimyo Himoya" LLC
Vietnam	Nhung Nguyen Thi Hong	Center for Agricultural Analysis and Service
المتحدة العربية الإمارات	Habiba Al Yafei	Abudhabi Quality and confirmation Council

#### EUROPE AND EURASIA

Azerbaijan	Fikrat Feyziyev	Agrarian Service Agency
Belgium	Joeri Defiliet	EuroChem
Belgium	Vito Tirez	VITO
Croatia	Sanja Slunjski	University of Zagreb Faculty of Agriculture
Denmark	Aleksandra Bereza-Stachowiak	Baltic Control A/S
Eesti	'Ülle Tali	EE
Estonia	Egon Hirvesoo	Agricultural Research Centre
Hungary	Nébih Ágnes Nagy	NEBIH
Italy	Adele Muscolo	University
Kosovo	Valmire Havolli	KIA
Netherlands	Winnie van Vark	Wageningen University & Research / WEPAL
North Macedonia	Biljana Jordanoska Shishkoska	University " St. Kliment Ohridski" – Bitola, "Scientific tobacco Institute "- Prilep , Macedonia
Portugal	Filipe Pedra	INIAV, IP.
Republik of North Macedonia	Hristina Poposka	Institute of agriculture, Skopje
Romania	Cioroianu Traian Mihai	National Research & Development Institute for Soil Sciences, Agrochemistry and Environment Protection, Bucharest – ICPA
Serbia	Andjelka Tomasevic	Institute of Pesticides and Environmental Protection, Belgrade
Serbia	Branislav Jović	Faculty of Science, University of NOvi Sad
Turkey	Atilla Polat	Soil, Fertilizer and Water Resources Central Research Instutu
Turkey	Huriye Bayram	International Agricultural Research and Training Center/IARTC-UTAEM
Turkey	Mehmet Burak Taşkin	Ankara University Faculty of Agriculture
Turkey	'önder'özal	IARTC

Turkey	Sevinç Madenoğlu	Ministry of Agriculture and Forestry, GD of Agricultural Research and Policies (TAGEM)
Turkey	Hanife Mert	Ankara Uni
Turkey	Vecihe Incirkuş	Soil fertilizer and water resources central research institute
Ukraine	Arkadiy Levin	National Scientific Center «Institute for Soil Science and Agrochemistry Research named after O.N. Sokolovsky»
Ukraine	Oksana Vydynivskaya	TerraTarsa Ukraine LLC
Ukraine	Olena Gavrylenko	LCBF
'Узбекистан	Shovkat Kholdorov	Soil composition and repository, quality analysis center

#### LATIN AMERICA AND THE CARIBBEAN

Argentina	Marcelo Beltran	INTA (National Institute of Agropecuarian Technology)
Argentina	Maria Carla Serafino	Senasa
Argentina	Miriam Ostinelli	INTA
Argentina	Walter Carciochi	Asociación Argentina de la Ciencia del Suelo
Brasil	Consolini Consolini	LFDA -SP
Brazil	Aline Moraes	LFDA-GO/MAPA
Brazil	Eliezer Augusto Baeta de Oliveira	LFDA-SP
Colombia	Claudia Katherine Ortiz Vaca	Ministerio de Relaciones Exteriores
Colombia	David Esquivel	Instituto Colombiano Agropecuario
Colombia	Gerardo Ojeda	Universidad Nacional Abierta y a Distancia UNAD
Colombia	Jhon Anderson Bartolo	Universidad de Caldas
Colombia	Laura Uribe	Laboratorio Tecnianalisis
Colombia	Luis Hernando Gomez Quijano	Ministerio de Agricultura y Desarrollo Rural
Colombia	Miguel Aponte	Instituto Geográfico Agustín Codazzi
Colombia	Rosalina Gonzalez	LA SALLE UNIVERSITY
Colombia	Yadira Pinzón	Instituto Colombiano Agropecuario
Colombia	Doris Fernandez Gonzalez	INSTITUTO COLOMBIANO AGROPECUARIO ICA
Costa Rica	Carlos Henríquez	Universidad de Costa Rica / Laboratorio de Suelos y Foliars del Centro de Investigaciones Agronómicas
Costa Rica	Denis Viquez Murillo	Servicio Fitosanitario del Estado – MAG
Costa Rica	Veda Obando	CORBANA
Ecuador	Luis Cacuango	Agencia de Regulación y Control Fito y Zoosanitario – AGROCALIDAD
El Salvador	Grecia Lídice de Chávez	CENTA
El Salvador	Morena Cárcamo	Laboratorio de FUSADES
El Salvador	Nidia Landaverde	Laboratorio de FUSADES
Honduras	Ana Martínez	Lab. Quimico agrícola-FHIA
Honduras	Karem Velásquez	Dicta
Jamaica	Cawayne Bryan	Ministry of Agriculture
Jamaica	Kellie-Ann Carrington-Clue	Agricultural Land Management Division
Jamaica	Pamella Mckenzie	Ministry of Agriculture
Mexico	Agustín García	Fertilidad de Suelos S. de R.L. (Fertilab)
Mexico	Mario Pérez	Secretaría de Agricultura y Desarrollo Rural
Mexico	Sol Ortiz	Secretaría de Agricultura y Desarrollo Rural
Mexico	Verónica Reynoso	SADER

Mexico	Verónica Bunge Vivier	Secretaría de Agricultura y Desarrollo Rural
México	Abigail De Anda	FERTILIDAD DE SUELOS
Mexico	Areli Cerón	SECRETARIA DE AGRICULTURA
México	Armando Guerrero-Peña	Colegio de Postgraduados
Mexico	Irma González	INIFAP-Campo Experimental Santiago Ixquintla
Mexico	Jorge Etchevers	Colegio de Postgraduados
Mexico	José Manuel Cena Velázquez	Universidad Autónoma de Chiapas
Mexico	Mario García Reynoso	Casa Cuervo
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Mexico	Juliana Padilla Cuevas	Colegio de Postgraduados
Nicaragua	Pedro Muñoz	INTA
Panama	Jose Villarreal	IDlap
Peru	Silvia Aguero	INSTITUTO DE BIOLOGIA DEL SUELO SAC
Trinidad and Tobago	Gabrielle de Souza	Ministry of Agriculture, Land and Fisheries
Uruguay	Gabriela Chao	MGAP-DGSA
Uruguay	Laura Lombardo	MGAP DGSA
Uruguay	Maria Mayans	Ministerio de Ganadería, Agricultura y Pesca
Uruguay	Maria Florencia Aizcorbe	Mgap
Venezuela	Carmen Ester Carrillo de Cori	Sociedad Venezolana de la Ciencia del Suelo
Venezuela	Francisca Sosa	Universidad Central de Venezuela
Venezuela	Magaly Ruiz	Sociedad Venezolana de la Ciencia del Suelo

#### NEAR EAST AND NORTH AFRICA

Iran	Karim Shahbazi	Soil and Water Research Institute
Iran	Taher Ahmadzadeh	KIMIA AB
Iraq	Saadi Mahdi Al-Ghrai	Ministry of Sci. and Technology
Iraq	Sadeq Dwenee	Ministry of science and technology
Lebanon	Sandra Yanni	American University of Beirut
Lebanon	Yara Khairallah	Lari
Morocco	Karima Bouhafa	INRA
Tunisia	Rafla Attia	Ministry of Agriculture
United Arab Emirates	Noura Alnuaimi	Abudhabi agriculture and food safety authority

#### NORTH AMERICA

United States	Hugh Rodrigues	Thornton Laboratories Testing & Inspection Svcs, Inc
United States	Job Fugice	IFDC

#### PACIFIC

Australia	Suba Munasinghe	Dual Chelate Fertilizer Pty Ltd
Fiji	Deeksha Krishna	FNU
Papua New Guinea	Janet Lipai	National Agriculture Research Institute
	Marvin Baekisapa	Solomon Islands National University

#### Other participants (affiliation and country unknown):

Beatriz Magno  
Biljana Jordanoska

BSWM\_Madz Golimtai  
Carmo Simões Mendoca Horta  
Shelly Lizana  
Veronica Migo

**From FAO:**

Mr. Ronald Vargas, Secretary of the Global Soil Partnership, FAO  
Ms. Vinisa Saynes Santillan, INFA Coordinator at the GSP, FAO  
Mr. Filippo Benedetti, Assistant GLOSOLAN coordinator at the GSP, FAO  
Ms. Rosa M. Poch, Chair of ITPS.  
Ms. Nopmanee Suvannang, GLOSOLAN Chair  
Ms. Natalia Rodríguez, GSP, FAO.  
Ms. Carolina Olivera, GSP, FAO.  
Ms. Rosa Cuevas, GSP, FAO.  
Mr. Yuxin Tong, GSP, FAO.  
Ms. Giulia Scialdone.  
Ms. Isabelle Verbeke  
Ms. Julia Mousquer, GSP, FAO.  
Ms. Magdeline Vlasimsky, GSP, FAO.  
Mr. Sebastian Brahene, GSP, FAO.  
Mr. Yi Peng, GSP, FAO.  
Mr. Bofei Li, GSP, FAO.