

## **Online Consultation for Developing the FAO Code of Conduct for the Management of Fertilizers**

### *Contribution of the Spanish National Association of Fertilizers Manufacturers (ANFFE)*

ANFFE is an organization representing the main Spanish manufacturers of fertilizers and foreign producers with activity in Spain. It was founded in 1977 and our mission is, among others, the promotion of an adequate management of fertilizers and the use of quality products, to achieve a sustainable agriculture. Current members are: Asturiana de Fertilizantes, Eurochem Agro Iberia, Fertiberia, Fertinagro Biotech, Fertisac, ICL Fertilizers (Iberpotash), Mirat Fertilizantes, Profersa, Repsol, Timac Agro Spain, Ube Corporation Europe and Yara Iberian, as well as Incro, an engineering company dedicated to the design of fertilizer plants. The companies of the Association have 18 production plants in Spain, with a production capacity of 7.3 million tons of products, directly employing more than 2,800 people and generating a very significant number of indirect jobs.

During more than 40 years of activity, ANFFE has developed a great deal of activities, including the preparation and diffusion of relevant information on the fertilizer sector. Of particular interest are the national fertilizer market statistics, which are sent periodically to the Spanish Ministry of Agriculture for the publication. Likewise, activities and reports related to quality, safety, environment and rational use of fertilizers are carried out. The Association promotes the efficient and responsible production, distribution and use of plant nutrients to enable sustainable agricultural systems, which contribute to a world free of hunger and malnutrition.

ANFFE wants to thank the opportunity to participate in the online consultation and to share our views on this topic. The key issue for us is how to promote effective and efficient use of fertilizers to achieve food security while minimizing nutrient losses and we are willing to cooperate with FAO on this important task.

### **Given the global scope of the CoCoFe, do you think the objectives are appropriate? If not, how would you add to them or modify them?**

We believe it is a good idea to develop a Code of Conduct for the Management of Fertilizers (CoCoFe), aimed to promote the responsible and judicious use of fertilizers, but we think that some modifications in the objectives should be introduced and new objectives should be added:

1. *maintaining or increasing global food production;*

We suggest modifying objective 1 as: **“Increasing global food production”**.

A reference to the objective of closing the yield gap in areas with declining soil fertility or inadequate use of fertilizers is missing. Long-term projections emphasize the need to increase the agricultural production to meet the requirements of the fast-growing world population. Part of this additional demand can be addressed by reducing food losses and wastes. But maintaining current global food production would not be sufficient, so it will have to increase significantly to ensure food security worldwide.

2. *maximizing the efficient use of plant nutrients to enhance sustainable agriculture;*

We suggest rephrasing objective 2 as: **“Optimizing the use efficiency and effectiveness of plant nutrients to ensure sustainable agricultural production”**.

Effectiveness in increasing crop yields is essential for a sustainable agriculture and if efficiency is achieved with a loss of crop yield, it cannot be considered sustainable. Fertilizer management has to be both efficient and effective in a sustainable agriculture model.

3. *minimizing the environmental impacts from the use of fertilizers including pollution by loss of nutrients via runoff, leaching, greenhouse gas emissions and other mechanisms;*

We suggest modifying objective 3 with the following wording: **“Preventing misuse of fertilizers to minimize environmental impacts due to nutrient losses and increasing the environmental benefits provided by the use of fertilizers”**.

There is no need to list the different ways of nutrient loss in objective 3. In addition, fertilizers, especially mineral fertilizers, are essential for achieving a more efficient and sustainable agricultural production and food security worldwide. This has to be highlighted, together with a reference to the positive environmental consequences of their use, such as the positive balance in CO<sub>2</sub> and energy with the use of fertilizers and because its use avoids deforestation. More information: <http://www.anffe.com/informaci%F3n%20de%20inter%20E9s/documentos%20de%20inter%20E9s/POSTER%20Fertilizantes%20y%20cambio%20clim%20E1tico.pdf>

4. *minimizing environmental and human health impacts from pollutants such as heavy metals in fertilizers;*

We suggest the following wording for objective 4: **“Minimizing environmental and human health risks from pollutants and contaminants in fertilizers”**.

Human health, environment and food safety should be ensured not only taking into account heavy metals, but also other pollutants such as organic contaminants and pathogens (E. coli, salmonella, etc.). In Europe, as nutrient recycling initiatives from organic sources, like compost, animal manure, sewage sludge etc. are increasing, it is necessary to limit also the presence of those organic contaminants and pathogens. So a general mention to pollutants and contaminants would be enough.

5. *maintaining and increasing food safety.*

We would suggest modifying objective 5 with the following wording: **“maintaining and increasing food quality and nutrition security”**.

Fertilizer management practices can influence nutritional quality of food products, so it would be convenient to add a reference to the question of food quality and nutrition security.

6. New objective 6.

We suggest including a new objective with the following text: **“Managing fertilizers to maintain or increase soil structure and fertility”**

Fertilizers (mineral and organic) play a key role in preserving healthy soils and preventing soil degradation, providing nutrients and organic matter to the soil. Nutrient management is essential for keeping productive soils by replacing nutrients removed by consecutive harvests and maintaining soil organic matter levels. Although it is a very important point, there are no objectives referring to it.

## **Aim of the CoCoFe and second document to be developed later by the FAO**

In the document it is stated that *“The aim of the CoCoFe is to assist member countries design policies and regulatory frameworks for the sustainable use of fertilizers. The focus is more on discouraging fertilizer overuse whereas a second document, to be developed later, will address scenarios with low or no fertilizer use under the topic of integrated soil fertility management.”*

The objective of “discouraging fertilizer overuse” could be misinterpreted, transmitting the wrong idea that low or no fertilizer use would be sustainable and going against the fact that fertilizers are essential for the nutrient needs of the crops and key to achieve good yields and high quality crops. On the other side, underuse of fertilizer is more widespread geographically and its bad implications on crop productivity, human health and farm income are bigger. We believe that overuse and underuse are equally important challenges and they both reflect unsustainable practices that should be addressed in the Code of Conduct. Encouraging optimum fertilizer use should be the focus, rather than discouraging fertilizer overuse. The focus may be on overuse or underuse depending on the country or the farming system within a country. As a consequence, we suggest rewording CoCoFe’s focus as “**Encouraging efficient and effective fertilizer use**”.

The possible “overuse” is in general due to inadequate nutrient management. Application rate is an important component of an efficient and effective fertilizer management, but also the other 3 areas (source, time and place) are very important. CoCoFe should focus on implementing fertilizer best management practices in those four areas: right source, right rate, right time and right place.

Moreover, we strongly oppose the elaboration of “*a second document, to be developed later, will address scenarios with low or no fertilizer use under the topic of integrated soil fertility management*”. Nutrients are essential for soil fertility. Scientific studies indicate that yields are impossible to maintain if the exported nutrients are not replaced, leading to soil depletion. Increased production level is needed for a growing population and even in a best case, with 100% recycling of nutrients and 0% losses, the amount of nutrient will never grow. Moreover, the nutrients cycle cannot be closed, because part of the nutrients are fixed and will not continue to move in the cycle.

On the other side, there is not enough manure, compost, and other kind of organic materials to provide nutrients. Besides, as these products have lower nutrient content, it means the addition to the soils of large amounts of materials with low nutrient content and which are not free from other components, some of them harmful and polluting.

In addition, it has been demonstrated that carbon levels decline mostly in farming practices where no fertilizers are used. In those cases, the yields are lower, resulting also in fewer crop residues that are raw materials for humus formation. Nitrogen fertilization limits this decline and carbon levels remain higher than without fertilization.

### **How should be the CoCoFe be structured to have the maximum positive impact?**

The Code of Conduct should be applicable and include general principles and broad recommendations to be considered for designing strategies to manage fertilizers sustainably. The principles should be universal and the basis for guidelines that would have to be elaborated by national and regional authorities, providing more practical recommendations to farmers and their advisors and adapted to the local farming conditions.

It should assist policy makers, providing guidance at the regulatory level, to outline the roles and responsibilities of the multiple stakeholders involved in various aspects of fertilizer management, including governments, industry, universities, NGOs, traders, farmer organizations, etc. It should be supported by an Advisory Committee, composed of representatives of the scientific and academic community, experts on crop nutrition and farmers’ and industry organizations.

The CoCoFe should be focused in optimizing an efficient and effective use of plant nutrients and could be structured in different chapters to:

- enhance sustainable agricultural production,
- increase food production,
- minimize environmental impacts,
- implement possible options with a benefit to the environment, maintaining the yields and the quality of crops.

**Who would be the best audience for the CoCoFe to meet our objectives and how could we broaden and diversify this audience to increase its influence?**

The CoCoFe should be developed and disseminated with the cooperation of different stakeholders. The primary audience would be government, policymakers and regulators, who are responsible for designing national policies, strategies and regulatory frameworks in relation to agriculture and fertilizers. The secondary audience would be scientists and the fertilizer industry, who are involved in developing fertilizer recommendations, fertilizer products, decision-making support tools, etc. The tertiary audience would be farmers and their advisors (fertilizer advisors, extension services, etc.), who would design practical recommendations or manuals.

**What should the scope of the CoCoFe be? Which nutrient input sources should be included; only synthetic fertilizers, or also manure, biosolids, compost, etc.? Should other products such as bio-stimulants, nitrification inhibitors, urease inhibitors, etc., be included as well?**

The responsible and judicious use of fertilizers can only be promoted by taking into account all options and products that are available to farmers. The scope of CoCoFe then should include all kind of sources used to provide nutrients to feed plants: mineral, organo-mineral and organic fertilizers, including manure, compost, etc. A Code of Conduct restricted to mineral fertilizers would be counterproductive, conditioning stakeholders, as sustainable fertilization practices require integrating organic and mineral sources, using organic sources available on the farm or nearby and supplementing them with mineral fertilizers to reach the yield required. The Code of Conduct should cover all macro and micronutrients, as any deficiency in one nutrient can impact the use efficiency and effectiveness of the others. Moreover, any substance applied to agricultural land for the purpose of increasing nutrient availability to plants, including those that improve nutrient use efficiency, such as inhibitors, polymer coatings and biostimulants, should also be included.

**Will the CoCoFe assist in promoting responsible and judicious use of fertilizers? Why or why not? What other suggestions do you have to help the CoCoFe meet our objectives?**

The CoCoFe could promote responsible and judicious use of fertilizers only if it is based on rigorous scientific findings and include principles applied to fertilizer management that has been discussed with different stakeholders. It should be translated in practical crop specific recommendations and be adaptable to regional and local conditions. Its audience, scope and aim has to be clearly defined, agreed and well supported by the different stakeholders. The principles of 4R Nutrient Stewardship, which have been developed based on extensive consultation with several stakeholders, could serve as a starting point for the development of CoCoFe, using a process of wider stakeholder engagement.

**What would be a good way to measure or quantify the progress of distribution and adoption of the CoCoFe?**

After the implementation, some indicators could be used to monitor the CoCoFe: number of countries having translated the Code of Conduct in their national fertilizer strategy; development of decision-making support tools consistent with CoCoFe's principles; farmers receiving advice compatible with CoCoFe's principles; etc.

**Keeping in mind that the CoCoFe will serve as a guiding framework for all Member States, what should be included in order for the code of conduct to help address different stakeholders?**

The Code of Conduct should encourage multi-stakeholder dialogue at the national level and partnership towards commonly agreed national or sub-national objectives.