November 2015

Knowledge grows

Our Position On

Fertilizer Use

Introduction and background information

Almost half of today´s population depends on mineral fertilizer for their food[i]. However, a rapidly growing population - estimated to reach more than 9 billion in 2050 - combined with changing diets will lead to a sharp increase in demand for food in the next decades. The FAO estimates that food production has to increase by 60% by 2050[ii].

Mineral fertilizers are essential crop nutrients, which provide minerals throughout the food chain.
The nutrients in mineral fertilizers are exactly the same as those found naturally in the soil, and they are essential elements for crops, animals and human beings. When plants are harvested these nutrients are components of the crops, and are therefore removed from the soil. If new nutrients are not added to replace those removed, the soil becomes depleted. This in turn leads to soil degradation, with reduced crop yields and crop quality. By adding nutrients the soil is kept fertile, and it has the ability to provide healthy food.

It is of great importance to use fertilizers correctly. Wrong application could cause growth in unwanted areas, for example, leakage of nutrients into rivers and sea can cause algae bloom. There are several examples of incorrect fertilizer application, mainly related to the wrong amount, the wrong nutrients, or at the wrong time.

Yara International's position

Balanced fertilization is a crucial element in best farming practices, and essential to increased agricultural output.

Yara is a proponent of nutrient management systems and tools designed to achieve better fertilizer use efficiency in the agricultural sector. Nutrient management means that fertilizer demand is calculated based on soil analysis, yield expectations, desired crop quality and climate. Yara firmly endorse that organic nutrients available at a farm should be used first. Mineral fertilizers should then be added based on the calculated nutrient gap. Nutrient management also contains guidelines for the correct choice of fertilizer products and application methods.

The use of precision tools and technology should be encouraged to enable farmers to add just the nutrients needed, in the right amount at the right time, thereby greatly reducing negative environmental impact while optimizing the yield.

Through best farming practices – i.e. balanced fertilization, nutrient efficiency and precision farming – it will be possible to close the gap between today´s agricultural output and the needed agricultural output estimated by the FAO, thereby feeding the world while minimizing environmental impact.

Fertilizer use also plays a key role from a land use efficiency perspective. To protect biodiversity and to combat climate change, land use management needs to be optimized. For more information about fertilizers, climate change and land use efficiency, please see our position papers on "Agriculture & Climate" and "Land use efficiency" on www.yara.com.

[i] *Erisman et al. (2008) "How a century of ammonia synthesis changed the world", Nature geoscience, VOL 1, OCTOBER 2008*
http://www.nature.com/ngeo/journal/v1/n10/abs/ngeo325.html

[ii] *Alexandratos, N. and J. Bruinsma. 2012. World agriculture towards 2030/2050: the 2012 revision. ESA Working paper No. 12-03. Rome, FAO.*

About Yara

Yara's knowledge, products and solutions grow farmers and industrial customers' businesses profitably and responsibly, while nurturing and protecting the earth's resources, food and environment.

Our fertilizers, crop nutrition programs and technologies increase yields, improve produce quality, and reduce environmental impact from agricultural practices. Our industrial and environmental solutions reduce emissions and improve air quality from industry and transportation, and serve as key ingredients in the production of a wide range of goods.

Founded in 1905 to solve emerging famine in Europe, Yara today has a global presence with more than 12,000 employees and sales to more than 150 countries. www.yara.com

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