



zinc in fertilizers

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Chinese Ministry of Agriculture Makes Zinc Recommendation: Huge Success for IZA-ZNI Program

China's Ministry of Agriculture (MoA) recently released their "2012 Scientific Recommendation Guideline for Major Crop Production" which, for the first time, includes zinc fertilizer. Developed by the Soil Testing and Fertilizer Recommendation and Technology Expert Advisory Committee, specific recommendations for zinc fertilizer in soil and/or foliar applications are included for rice, rapeseed soil, cotton, apple, citrus fruit and grapes.



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The inclusion of zinc in the Chinese national fertilizer recommendation represents a huge success for IZA and the Zinc Nutrient Initiative (ZNI). These national recommendations are distributed to more than 400,000 MoA extension workers at the provincial, city, county, township and village levels; they provide direction to farmers on the proper fertilizer management for crop production.

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These national recommendations are distributed to more than 400,000 MoA extension workers at the provincial, city, county, township and village levels; they provide direction to farmers on the proper fertilizer management for crop production. In addition, there is an agreement between the MoA and about 100 fertilizer companies to produce fertilizer specifically formulated based on these recommendations. Thus, this will have a significant impact on the zinc fertilizer market in China in 2012 and beyond as this recommendation is transferred and promoted. This truly represents a market-changing event for zinc fertilizers in China, with an estimated potential market of 300,000 tpy of zinc metal in fertilizers.

IZA began working with the Chinese MoA in 2011 by signing an agreement to promote zinc fertilizers in China through a crop demonstration and education program. Following the success of this initial effort, the MoA recently signed an extension of this agreement with IZA through 2012-2013. (See page 2 for more

information about the Zn promotion project). With the recommendation for zinc, the ongoing effort with MoA will focus on promoting it's implementation and expanding it to other key crops such as wheat and corn. For more information about IZA's work with the China MoA, please contact [Dr. Ming Fan](#), Director, ZNI-China.

World Bank's Agronomical Program in Haiti to Include Zinc



World Bank recently announced their plan to include zinc in their agricultural program in Haiti. Following a recent presentation by IZA, World Bank's LAC Nutrition group was "inspired by the zinc story"—the ability of zinc to improve crop production and nutritional value. World Bank reported on IZA's presentation in their February [newsletter](#).

The aim of World Bank's [LAC Nutrition](#) group is to examine existing structures in Latin America and the Caribbean to determine which areas are severely lacking attention and to develop partnerships that will make those areas a priority. Micronutrient supplementation is one of the areas of top priority for Haiti.

56% of Haiti's population is at risk for zinc deficiency, the highest percentage of any country in Latin America and the Caribbean. Stunting, an effect of zinc-deficiency, is prevalent in 30% of Haiti's children. Zinc supplementation and zinc fertilization will reduce those numbers considerably. The LAC Nutrition team recognizes that improving the nutritional status of crops with zinc fertilizers is an investment with high returns. Zinc is essential, affordable, and efficient, which makes it an ideal tool help address two of Haiti's most critical issues: malnutrition and food security.



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Since 2010, World Bank has been actively supporting Haiti by funding and operating a number of programs, not only nutrition-based, but also for better education, technology, and agriculture. For information on ZNI's work with World Bank and the Haiti Project, please contact [Dr. Andrew Green](#).

China MoA signs 2-year Extension of Zn Promotion Project

As a result of an extremely successful zinc fertilizer research and demonstration effort that began in 2011, IZA and China National Agricultural Technology Extension and Service Center (NATESC), Ministry of Agriculture signed an agreement to extend the project for two years. The goal is to improve crop production, human health, and farmers' incomes in China through the use of zinc fertilizers. The first year of the project showed significant improvements in crop yield and economic return for the farmer; the goal of the extension is to further this effort with expanded crop trials, demonstration plots, training, and technology transfer.

In China's national "Guidance for Promoting Fertilizer Application" zinc is the only micronutrient advocated in all 6 of China's agricultural areas. Different fertilizer compositions were recommended for increased or decreased usage; zinc fertilizer is the only fertilizer that was consistently recommended for increased usage in all regions.

During the signing ceremony, Dr. Li Tieshen, Vice Director General, said, “NATESC is very glad to work cooperatively with IZA on the promotion of zinc fertilizer use in China, which is very important to correct zinc deficiency in Chinese crop production, and improve fertilizer application technology and efficiency.”



IZA-MoA Workshop in Xiamen, March 7, 2012

The signing ceremony followed a successful national workshop during which the latest developments of Zn fertilizer were announced. More than 150 agricultural researchers, extension professionals and fertilizer industry leaders attended the workshop, held March 7 in Xiamen.

Zinc Saves Kids receives donation from Beijing Xinhefeng

Beijing Xinhefeng Agricultural Products presented a check for 50,000 RMB (USD \$8,000) to IZA's Zinc Save Kids Program during a donation ceremony in Beijing. Wang Shi Cheng, President of Xinhefeng, said his company is committed to promoting zinc fertilizer use in China, producing zinc-rich agricultural products, and improving zinc nutrition and health of Chinese people, especially those in rural areas.

Dr. Andrew Green, Director of IZA's Zinc Nutrient Initiative, indicated that Xinhefeng was the first company in China to join IZA as an affiliate member through ZNI, and now “Xinhefeng also takes the lead as the first member company in China to participate actively in IZA's Zinc Saves Kids Initiative.” He said Xinhefeng's commitment to battling zinc deficiency will go a long way toward “benefiting food security and human health in China.”

Xinhefeng is a major micronutrient fertilizer producer and retailer in China and has been a member of ZNI since 2010.



Donation ceremony at Xinhefeng, March 9, 2012

Strategic conference illuminates problem of zinc-deficient soils in state of Jharkhand



Agriculture Secretary Arun Kumar Singh, IAS, delivering address at conference in Jharkhand

A conference held in Jharkhand state was “a way ahead in suggesting strategies to help farmers,” said Dr. Soumitra Das, Director-ZNI India. Co-organized by IZA and The Fertilizer Association of India (FAI), the symposium brought together representatives from the state government, academia and the fertilizer industry to address zinc deficiency in soils, crops and humans in the state of Jharkhand. This was the first of such meetings in this region.

The Symposium was attended by 140 participants representing the Departments of Agriculture and Health & Family Welfare, the State Government,

the State Agricultural University, UNICEF, ICAR & KVKs, the Fertilizer Industry and NGOs. All were there with a single purpose: to help farmers by calling attention to the need for zinc fertilizers to increase the yield and quality of their crops.

IZA's Work Well-Received in the Middle East

IZA's participation in a fertilizer forum in Egypt has led to the possibilities for future collaboration with the zinc fertilizer industry in the Middle East. A paper presented by ZNI's Dr. Soumitra Das was well received by the attendees who said they appreciated ZNI's achievements in the area of crop nutrition, quality, and yield.

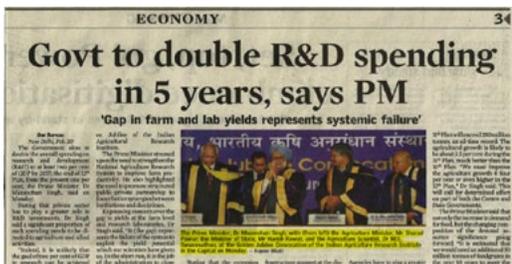
The [Arab Fertilizer Association](#) (AFA) invited IZA to participate in this annual forum in February in Sharm El-Sheikh, Egypt. About 500 delegates representing 166 organizations from 36 countries participated in the conference. For more information on IZA's participation in the AFA Annual Forum, please contact [Dr. Soumitra Das](#).



Dr. Soumitra Das presenting at AFA Annual Forum February 8, 2012

Indian Prime Minister Fighting to end “the scourge of malnutrition” in India

Dr. Manmohan Singh, the Prime Minister of India, addressed a gathering of about 2000 participants on February 20th. He pronounced his concern about the challenges of malnutrition prevailing in the country, saying:



Media release of Indian Prime Minister's address at IARI, New Delhi

“As we go forward, we have to keep in mind not only the increase in demand for food but the changing composition of that demand. It is estimated that we would need an addition of nearly 50 million tonnes of food grains in the next 10 years to meet domestic demand. Increased production of food grains is certainly an important plank of food security and our efforts to rid the country of the scourge of malnutrition.”

Dr. Singh also stressed the importance of private-public partnership, strengthening the extension system, and increasing the investment on agricultural research and development in India.

The highly televised event, hosted by The Indian Agricultural Research Institute (IARI), was attended by the “Father of the Indian Green Revolution,” Dr. M.S. Swaminathan, as well as senior representatives from DARE, ICAR, and the Ministry of Agriculture.

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ZNI helps develop national “Five Year Plan” for micronutrients in India

The main objective of a workshop held in Kolkata, India in February was to formulate the national strategic plan on furthering micronutrient studies and applications for the next five years. ICAR, Government of India invited IZA to present on ZNI’s activities with zinc fertilizer, and to help develop plans for three of their research priorities:

1. Soil-Plant-Animal-Human continuum study of micronutrients, including zinc
2. Soil application vs. foliar application study of micronutrients, including zinc
3. Testing of new micronutrient fertilizer products, including zinc fertilizers

For more information on ZNI’s involvement in this workshop, contact [Dr. Soumitra Das](#), Director, ZNI-India.



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Join the continuous international discussion about new developments in zinc fertilizers, zinc nutrition, and ZNI’s progress around the world.

IFFCO launches India’s largest Zinc Sulphate Plant

The new zinc sulphate monohydrate plant at IFFCO’s Kandla complex in Gujarat state is expected to be India’s largest, with the capacity to produce 100 tonnes daily, and 30,000 tonnes yearly. The plant was inaugurated by Dr. U.S. Awasthi, Managing Director of IFFCO on March 1st.



Inauguration of IFFCO’s new zinc sulphate plant in Kandla Port in west India, March 1, 2012

Through its nationwide marketing chain, IFFCO will supply farmers with the zinc fertilizer in five-kilogram pouches. This is a step forward in addressing the ever-increasing zinc deficiency in soils and crops in India, which adversely impacts crop productivity and human health. This would not only ensure national food security but also the nutritional security of the people. [IFFCO](#) is an Affiliate Member of ZNI and one of India’s leading fertilizer producers.

IFDC’s Zn-Core Urea Research Shows Success in Bangladesh

Initial laboratory and pilot-plant tests of Zn-core urea proved highly successful in Bangladesh, which can dramatically improve the quality of life for its people, especially those in poor farming communities. In 2011, The International Fertilizer Development Center (IFDC), with support from IZA, expanded studies in agronomic biofortification to utilize “core” technology as an effective, relatively inexpensive

way to deliver micronutrients to soil, particularly zinc. As cereal grains are a staple in the diets of much of the population in Bangladesh, IFDC implemented Zn biofortification in cereal crops and some vegetables.

Urea is the most commonly used nitrogen fertilizer Fluid-bed granulation. By replacing the urea core with Zn core, farming communities will have access to Zn-enriched fertilizer without needing to alter many of their methods, which has been a barrier to the adoption of zinc fertilizers in the past. Zn-core urea production exhibits increased nutrient content without a decline in yield, which benefits both farmers and farming communities. As stated in the case study released by USAID in March, “With core technology, and Zn biofortification in particular, we have the opportunity to dramatically affect the lives of 158 million Bangladeshis in the very near future.”

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Datapoints:

populations at risk for zinc deficiency

- In Asia, Bangladesh has the highest percentage of population at risk for zinc deficiency: 50%.
- Haiti has the highest percentage in Latin America: 56%
- Mozambique has the highest percentage of any country: 61%

(Source IZiNCG)

ZNI Welcomes New Members

Affiliate Members:

[Bayer CropScience](#) is one of the world’s leading innovators in science and research in three major areas: crop protection, environmental science, and biotechnology. Their products are formulated to increase value and agricultural productivity, which is perfectly suited to the overall goals of ZNI.



“Bayer CropScience is very pleased to join IZA and to be able to contribute to its Zinc Nutrition Initiative. We are strongly committed to world food security as part of our global strategy to help improve the quality of staple crops. By increasing the use of zinc in agriculture, we are addressing mineral deficiencies and what is known as the ‘hidden hunger,’ thus making our cooperation with IZA a perfect strategic fit,” says Dr. Lino Dias, Global Product Manager.



Agrichem do Brasil S.A. began in Australia, but is now a fully Brazilian company, working with growers all over South America. Agrichem's products are designed to fortify crops with clear liquids and suspension fertilizers, having a particular interest in cereal crops and zinc nutrients. About the decision to join ZNI, one representative from Agrichem said, "it was

unanimous that we will join this group that have been extending relevant services to the society, mainly to children..."

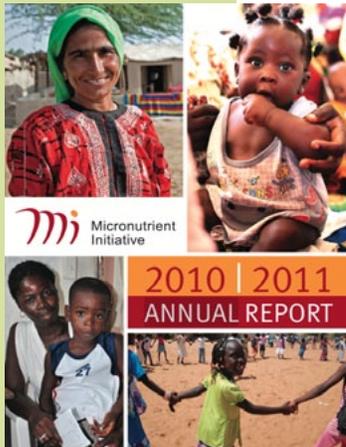
Associate Member:

The Asociacion Nacional de Comercializadores de Fertilizantes, A.C. (**Anacofer**) is an association of 13 companies that service the requirements of the Mexican fertilizer market; these companies produce, import, trade and distribute organic and inorganic fertilizers and associated raw materials.



Publications & Other Resources

There were several reports and articles published in the first quarter of 2012 that highlight developments in zinc nutrition in humans, crops, and soils. Below are some of these lucid, impactful publications—two of which were published by our Member Companies, **Micronutrient Initiative** and **IFA**.



- Micronutrient Initiative's Annual Report 2010-2011. Web. January 2012. To access, click [here](#).
- "Superpower? 230m Indian people go hungry every day." The Times of India. Print. 15 Jan 2012. To access, click [here](#).
- IFA Fertilizer and Agriculture Newsletter. Print and Web. January 2012. To access, click [here](#).
- "Alleviation of drought stress in winter wheat by late foliar application of zinc, boron, and manganese." Md. Rezaul Karim, et al. J. Plant Nutr. Soil Sci. 2012. To access, click [here](#).

ZNI's New Look

ZNI has a new logo and a new look. The logo was designed to illustrate the relationship between zinc deficiency in soils, crops, and humans. The plants represent the three main crops that ZNI is working with: rice, maize, and wheat. The boy and girl represent the hundreds of thousands of children whose lives can be saved by increasing zinc in their diets.

