



zinc nutrient initiative

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4th International Zinc Symposium A Huge Success

The International Zinc Symposium: Improving Crop Production and Human Health, held every three years, is an international scientific conference to review the latest knowledge and best agricultural practices in addressing zinc deficiency and its impact on global crop production and human health. In October, the zinc symposium, held in São Paulo, Brazil, had 160 registrants from 38 countries. Keynote speakers included Dr. Ismail Cakmak, an expert in the field of soil fertilization from Sabanci University in Turkey, Maria Elena Ugaz from UNICEF Peru, and 2015 IFA Norman Borlaug award winner Michael McLaughlin from CSIRO and Adelaide University in Australia.



Conference sessions included: Human Nutrition and Social Aspects; Plant Physiology, Genetics, and Molecular Biology; Fertilizer Zinc and Crop Biofortification; and Zinc in Soils and the Environment. There were over 30 presentations and 20 poster presentations. The award for best poster presentation was given to Peter Bui Ngigi, from Ghent University in Belgium for his poster: “Assessment of Zinc Intake, Status and Influencing Factors in Kenya.”

“The Symposium is an excellent forum for agronomists and other key stakeholders to highlight the zinc deficiency problem in crops and humans, and identify solutions for this with zinc,” noted Dr. Andrew Green, Director of the Zinc Nutrient Initiative for the IZA.

The 2015 Zinc Symposium was co-organized by IZA and IFA with support from HarvestPlus. Sponsors included Votorantim, Adob, The

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Dr. Michael McLaughlin



Peter Bui Ngigi accepting award for poster presentation from Dr. Mark Aarts.

Mosaic Company, Brandt Consolidated, K+S Kali, Produquimica, and Valagro. Since IZA's involvement in these events commenced in 2009, and the subsequent launch of the Zinc Nutrient Initiative, over 140,000 tonnes of zinc are now used in this sector. For more information, contact [Dr. Andrew Green](#).

New Fact Sheet: Zinc Fertilizer and the Environment

ZNI has published a new fact sheet on the fate of fertilizer zinc added to soil. This fact sheet was written by Professor Mike McLaughlin and Dr. Fien Degryse from the Fertilizer Technology Research Centre at Adelaide University. A mass balance model was developed to examine potential scenarios for how zinc application in fertilizers causes accumulation of zinc in soil, and how this relates to critical toxicity concentrations for zinc in soil. The model shows that even if a farmer applied zinc at normal rates without change or reduction for over 100 years, the zinc concentrations would still not reach levels considered to be environmentally problematic. These results are confirmed by long-term field trials as well.

To download this fact sheet, click [here](#). For more information on zinc fertilizers, visit the [learning annex](#) on our website.

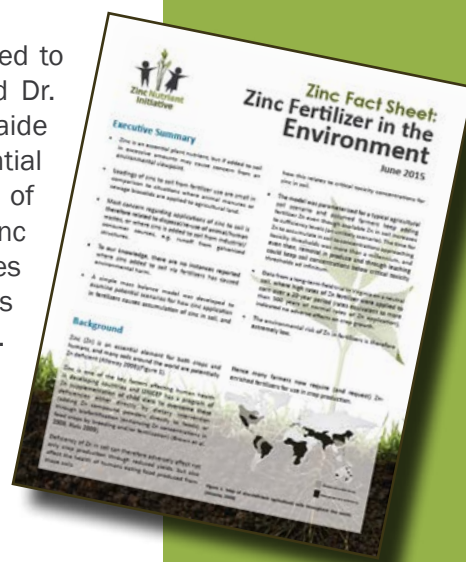
High Level Roundtable Meeting held in India on Zinc Deficiency

IZA, in collaboration with the Fertiliser Association of India (FAI), organized a high level roundtable meeting on zinc in crops and human health in New Delhi. Key participants included representatives from the Indian Council of Agricultural Research (ICAR), international organizations, and the fertilizer industry.

Key conclusions that emerged from the Roundtable include:

- Urea should be included under the Nutrient Based Subsidy Scheme (NBSS). Zincated urea should be approved by the Government of India. It has been included in the Fertiliser Control Order (FCO), but due to a minor price disparity, it is not being produced or marketed by the fertilizer industry in India.
- Quality of zinc fertilizers is a concern (e.g. low to no zinc) in various states. Stake-holders including state governments need to do more to ensure farmers receive quality zinc fertilizer.
- Zinc fertilizers are not always readily available to farmers during the peak season. The fertilizer industry has a responsibility make quality fertilizers easily accessible to farmers when they need it most.
- ZnO suspension (39.5% Zn) is already included in the FCO. ZnO itself should also be included. ZnO is suitable for acidic/lateritic soils having low pH.
- The critical level of zinc in Indian soils is currently 0.6 ppm; this should be more accurately revised to 0.8 or 1.0 ppm. If the revision takes place, it would mean that zinc deficiency levels are more widespread than currently thought.
- More needs to be done to increase the awareness level of extension and promotional workers, and above all, to farmers in order to increase use of zinc fertilizers in India.
- Research efforts should be made to improve the zinc fertilizer use efficiency (i.e. utilization of the nutrient), which is very low (e.g. 1-5%) in some cases.

For more information, contact [Dr. Soumitra Das](#).



Connect with
ZNI and join the
ongoing global
discussion about
zinc in fertilizers,
crops, and
human health.



IZA and NATESC Workshop on Zinc Fertigation Critical for Farming in Upland China

Fertigation is becoming an important agricultural water and nutrient management practice for Upland farming in China, where water shortage poses a critical threat for food and nutrition security. Fertigation has been used in over 500 million ha in 2014, contributing to increases of crop yield, water and fertilizer use efficiency. IZA and China's Ministry of Agriculture organized a national workshop on "Zinc Fertilizer Use in Upland Farming and Fertigation" in Dunhuang, Gansu in September.

Over 130 agricultural researchers, extension professionals and fertilizer representatives attended the workshop. Speakers included Dr. Xie Jianhua, Vice Director General, NATESC; Dr. Du Sen, Director of Water Conservation Agri-Tech Department; and Dr. Fan Mingxian, Director IZA's ZNI-China program. Dr. Fan reported impressive results from research and demonstrations as well as new developments in zinc fertilizer technology.

The workshop included a visit to demonstration sites to observe zinc fertilizer effects on corn, grapes, and vegetables through soil and fertigation applications. For more information, please contact [Dr. Ming Fan](#).

Workshop on ZnO Fertilizer Highlighted Growth in Zn Fertilizer Consumption in China

To promote sustainable development of zinc chemical uses in agriculture, China Special Fertilizer Office and the China Zinc Industry Association sponsored a National Workshop on "ZnO uses as fertilizer: Perspectives and Regulations" in Weifang, Shandong in September.

Over 150 zinc chemical industry and fertilizer industry leaders attended the workshop, chaired by Mr. Wang Yanlong, president of China Zinc Industry Association and Shandong Weifang Longda Zinc Chemical Group, a major Zinc Oxide Producer and IZA member company.

"We see the Zinc fertilizer program contributing to healthy demand growth for zinc chemicals in China," said Yanlong. "Total zinc fertilizer consumption increased to over 40,000 tons of zinc and total zinc sulphate production reached 400,000 tons in 2014; this trend will continue with the development of proper policy and regulations on the use of zinc chemicals in agriculture." For more information, contact [Dr. Ming Fan](#).

One-Day Conference held in Brazil for Agribusiness Sector

Instituto Agronômico de Campinas (IAC), with support from IZA Member Votorantim, organized a one-day conference aimed at the agribusiness sector. The audience included farmers, agronomists and the soil fertility industry. Key discussion points included the main challenges of the sector and the essentiality for the continuity of the business, especially during difficult times. One of the solutions was to reduce the cost of reform of the acreage and increase productivity of sugarcane above 100 t/ha by raising the zinc dose to the soil from 5 kg/ha to 10 kg/ha. Votorantim plans to promote similar events in different regions of Brazil where sugarcane crops are prominent. For more information, contact [Dr. Andrew Green](#).



Dr. Ming Fan presenting on "Zn requirement in Agriculture and ZnO Fertilizers."

University Offering Free Online Course on Micronutrients

Wageningen University is offering an open online course on micronutrients and malnutrition, a follow-up to an initial successful course on Nutrition and Health. The self-paced online course focuses on undernutrition and micronutrients, including zinc. The course includes an introduction to the chemistry of vitamins and minerals and a discussion of the impact of malnutrition on global disease burden.

The course lasts seven weeks and is free of charge. The instructors belong to the Division of Human Nutrition of Wageningen University. Over 75,000 students signed up for Nutrition and Health Part 1, which has already run twice. A third online course on Food Safety is planned for June 2016. To learn more about these online courses, click [here](#).



★ IZA Member Highlight: Bohigh Zinc Product Co. Ltd.

Bohigh Zinc Product Co., a manufacturer of modern zinc products in China, was established in 2001 and is headquartered in the Shanghai Hongqiao Development Zone. Bohigh has the most advanced equipment and technology in the Chinese zinc sulphate producing industry, with annual production capacity of 80,000 tons, making the company the biggest modern zinc sulphate manufacturer in China. Bohigh zinc sulphate has been exported to more than 38 countries worldwide. It has been used mainly in feed, fertilizer and mineral processing. Bohigh has established a complete quality management system, complying with all quality management system standards, and has both ISO9001 and FAMI-QS certificates. A member of IZA since 2011, Bohigh actively supports the ZNI program in China.



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Bohigh's Major Zn products:

- **Zinc Sulphate Monohydrate: $ZnSO_4 \cdot H_2O$ (Powder and Granule) 23%Zn**
- **Zinc Sulphate Heptahydrate: $ZnSO_4 \cdot 7H_2O$, 34.5% Zn**
- **Zinc Carbonate Basic: $ZnCO_3 \cdot 2Zn(OH)_2 \cdot H_2O$**
- **Activated Zinc Oxide: ZnO**

New Members

IZA is pleased to welcome three new ZNI Affiliate Members: Rio Tinto Minerals, Stanley Fertilizer Co., Ltd., and Jiangsu Huachang Chemical Co., Ltd.



seaweed fertilizer. The company was founded in 1992 and has an annual production capacity of over 5 million tons. Stanley's high tower compound fertilizer production base is the largest in China. For

more information, visit: www.stanleygroup.cn.

RioTinto

Rio Tinto Minerals is a global provider in industrial mineral supply and science, providing nearly 50% of the world's supply of refined borates. As part of the Rio Tinto Group, an international mining and resources company, Rio Tinto Minerals serves more than 1,000 customers in 100 countries who rely on borates to create a diverse range of products. For more information, visit: riotintominerals.com.

Jiangsu Huachang Chemical Co., Ltd. is located in Zhangjiagang City, Jiangsu Province in the Yangtze River delta in China. In 2013, the ecological fertilizer production base with the annual output of 1 million tons was put into operation. The company's areas include agrochemicals, basic chemicals, fine chemicals and biochemical products. For more information, visit: www.huachangchem.cn.

Stanley Fertilizer Limited produces compound fertilizer, nitro compound fertilizer, release controlled fertilizer, and



ZNI Members enjoy a number of exclusive benefits, including:

- Access to communications materials such as fact sheets, brochures, and flyers
- Your company logo displayed on our website, in global/local presentations, and in our quarterly newsletter
- Comprehensive zinc fertilizer training program led by IZA's ZNI team with over 50 years of collective technical expertise

To download the full Membership Benefits brochure, click [here](#).

ZNI Affiliate Members

