



Crop Trials 2010:
Zinc Nutrient
Initiative program
plan for next year

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International
Congress on Nutri-
tion 2009: Held in
Bangkok, Thailand
with the theme of
"Nutrition Security
for All"

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Zinc Fact Sheets:
IZA teams up with
IRRI to update
the Rice Fact
Sheet, plus three
additional fact
sheets have been
completed

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Clinton Global Initiative Recognizes Partnership to Eliminate Zinc Deficiency

The "Zinc and Nutrition Initiative" partnership of the International Zinc Association (IZA) with UNICEF, the Micronutrient Initiative and the International Fertilizer Industry Association was recognized on 24 September by the Clinton Global Initiative in New York City. Don Lindsay (Chairman of IZA and President and CEO of Teck Resources Limited), Stephen Wilkinson (Executive Director of IZA) and Ann Veneman (Executive Director of UNICEF) were present to receive a certificate of recognition on stage with President Bill Clinton.



"The initiative announced today is designed to increase the intake of zinc by people in countries where it is most needed," said Don Lindsay in the press release about the event. "Research shows that the provision of zinc supplements for children and zinc addition to crops have significant health benefits," added Stephen Wilkinson.

The "Zinc and Nutrition Initiative" aims to improve global health and food security by making zinc available through dietary supplements and zinc-fortified fertilizers. It will be undertaken initially in Asia, Africa and Latin America and will be led by IZA with support from zinc and fertilizer industries, governments and other donor agencies, including UNICEF and the Micronutrient Initiative. *(continued as CGI on next page)*

IZA Hires New Director for Zinc Nutrient Initiative

Prior to joining the International Zinc Association, Greg Brouwer was an employee of Teck Resources Limited for 12 years. During his time with Teck, Greg worked at several mining operations and projects in Canada, the United States and Australia before moving to Vancouver to join the Project Development group. He is a registered Professional Engineer with The Association of Professional Engineers and Geoscientists of British Columbia. Greg has a B.A.Sc. in Mining and Mineral Process Engineering from the University of British Columbia, a Graduate Diploma in Business Administration from Simon Fraser University, and he will be graduating with MBA degrees from Cornell University and Queen's University in early 2010.



(CGI continued from front page) The initiative has the potential of saving at least 300,000 young lives per year and benefitting more than 6.3 million people throughout its course in countries such as China, India, Peru, Nepal, South Africa and Thailand.

The focus of the fertilizer program is to encourage the use of zinc-containing fertilizers for the purpose of improving crop yields and nutritional quality, therefore improving human health and food security. For more information on the Zinc and Nutrition Initiative, see the [press release](#) and/or [video](#) from the event.



Crop Trials 2010

Zinc deficiency is a commonly occurring micronutrient deficiency both in human beings and crop plants, resulting in severe health complications and losses in farmer profits. The major reason for the widespread occurrence of zinc deficiency in human populations is related to low dietary intake of zinc. Cereals represent the major source of daily calorie intake in the developing world. Cereal-based foods are, however, inherently very low in concentrations and bioavailability of zinc. Besides genetic biofortification (e.g. breeding), agronomic biofortification (e.g. application of zinc fertilizers) offers a quick approach to enhance grain zinc concentrations significantly at desirable levels and correct the zinc deficiency problem in soils.

IZA has developed collaborative work with Sabanci University and the China Agricultural University in order to a) demonstrate the effects of zinc fertilization on rice and wheat growth in different locations and b) increase the visibility of zinc fertilizer activities in selected target coun-



Training activities for farmers in China

tries including China, India, Thailand, South Africa and Brazil. The visibility activities cover video recording of the plant growth at critical growth stages (when zinc deficiency developed), organizing meetings and the preparation of brochures and manuals for farmers and agronomists. The planned national zinc symposiums will contribute to increasing the awareness of the roles of zinc in crop production and human health among the farmers, agronomists, nutritionists, decision makers and politicians. The future outputs of this project will be the development of brochures and manuals describing the importance of zinc in plant growth and the application methods of zinc fertilizers for the selected target countries.



Rice trials in Thailand

Targeted crops in the project include wheat, maize, rice and soybean crops. Field experiments have been designed with and without soil zinc applications. Zinc is applied in the form of $ZincSO_4 \cdot 7H_2O$ at a rate of 50 kg per hectare. The target countries and the selected crops are given below, along with the main collaborating institution:

- Thailand: Rice Trials; Chiang Mai University
- China: Wheat and Rice Trials; China Agricultural University

- India: Wheat and Rice Trials; Punjab Agricultural University
- Brazil: Soybean Trials; Fundação de Apoio à Pesquisa Agrícola - FUNDAG
- South Africa: Maize Trials; Omnia Fertilizer

In these target countries, at least two locations are being used for the trials. India and China are receiving additional focus with increased numbers of crop trials and locations. For example, seven locations are used for the wheat trials that have been established in the Punjab State, Haryana State and Uttar Pradesh States. Rice trials will be extended to Orissa State beside the Punjab State. In China, field trials for wheat, maize and rice are being conducted in Hebei, Shaanxi, Jiangsu, Jinlin, Sichuan and Anhui provinces.



Rice trials in China

The Fertilizer Institute's World Fertilizer Conference 2009

The Fertilizer Institute's World Fertilizer Conference took place in Washington, D.C. on 13-16 September 2009. Nearly 1,000 delegates from more than 50 countries attended. The conference included a series of keynote presentations, meetings and exhibits. IZA was in attendance and in addition to holding meetings with different groups, a table was organized at the conference to distribute materials and highlight the importance of zinc in fertilizers.



The Fertilizer Institute
Nourish, Replenish, Grow

The Fertilizer Institute's Fertilizer Outlook and Technology Conference 2009

The Fertilizer Institute's Fertilizer Outlook Conference was held in Tampa, Florida, USA in October 2009. IZA attended, and a presentation was made by Dr. Andrew Green on the Zinc Nutrient Initiative. Meetings were also held with different stakeholders at the conference.

International Congress on Nutrition 2009



The International Congress on Nutrition was held in Bangkok, Thailand in October. It included over 200 presentations and 400 posters, with an overall theme of "Nutrition Security for All". In collaboration with Padaeng and the International Zinc Nutrition Consultative Group (iZiNCG), a zinc session and a press conference were organized to highlight the zinc deficiency issue in humans, as well as treatment strategies, including the use of zinc in fertilizers. A booth was also organized to distribute materials on zinc deficiency in humans and crops.

"Zinc in Fertilizers" Symposium - Beijing, China



A symposium entitled "Zinc in Improving Crop Production and Human Health in China" was held on December 11, 2009 in Beijing, China to discuss available information on the essentiality of zinc in crop production and human health in China. More than 100 people participated in the event, which was organized in collaboration with China Agricultural University (CAU) and IZA. In-

ternational and national speakers, including Dr. Fusuo Zhang from CAU, Dr. Andrew Green from IZA and Dr. Ismail Cakmak from Sabanci University, made presentations addressing the importance of zinc in fertilizers for production of better yielding crops, the nutritional status of plants for healthy food and human consumption and zinc deficiency problems in Chinese soils and crops. For more information, please contact **Professor Fusuo Zhang**.

Zinc in Fertilizers Fact Sheets



IZA has recently partnered up with the **International Rice Research Institute (IRRI)** to produce a new version of the rice fact sheet. The revised fact sheet includes more in-depth information about the interaction

between rice, zinc and fertilizers for use on the fact sheet. The new rice fact sheet can be accessed **here**. IZA has also created three additional fact sheets on **wheat**, **maize** and general **FAQ's**.

Publications

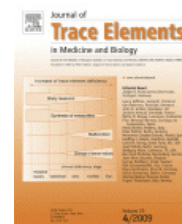
Soil Factors Associated with Zinc Deficiency in Crops and Humans

In the March 2009 issue of the journal - *Environmental Geochemistry and Health* - the article "Soil Factors Associated with Zinc Deficiency in Crops and Humans" by Dr. Brian Alloway was published. The main focuses of the article are: why zinc is essential; why soils, crops and humans are not obtaining enough zinc; and what can be done to resolve these issues. The article discusses the importance of zinc through scientifically detailed sections and by examples of experimental projects on the subjects of how zinc is absorbed in the human body, plants and soils and the lack of growth and development without it. A copy of the article can be found **here**.



Enrichment of Fertilizers with Zinc: An Excellent Investment for Humanity and Crop Production in India

In efforts to further expand knowledge globally about zinc in fertilizers, the article "Enrichment of Fertilizers with Zinc: An Excellent Investment for Humanity and Crop Production in India" by Dr. Ismail Cakmak was published in the *Journal of Trace Elements in Medicine and Biology*, Volume 23. (This paper was also presented at the Fertilizer Association of India Annual Seminar, 4-6 December 2008 in New Delhi.) This article highlights the importance of zinc deficiency for human health (including details about the 2008 Copenhagen Consensus and the 2002 WHO report), zinc deficiency in Indian soils and zinc fertilization, the use of zinc-enriched fertilizers in India and additional benefits resulting from improved zinc nutrition of food crops. In India, zinc deficiency is the most common micronutrient deficiency problem in soils, particularly in rice and wheat; use of zinc fertilizers in cropping systems has not been practiced as required. A copy of the article can be found **here**.



International Zinc Association

The International Zinc Association is a non-profit organization with offices/representatives in:

Belgium - Peru - P.R. China - South Africa - U.S.A.

Zinc in Fertilizers is a newsletter published by IZA covering issues pertaining to zinc in fertilizers. To learn more about zinc's benefits for crop nutrition, please visit www.zinc-crops.org.

Contributions

We invite your submissions of articles, letters and images.

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For more information on IZA, please visit <http://www.zinc.org>.

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