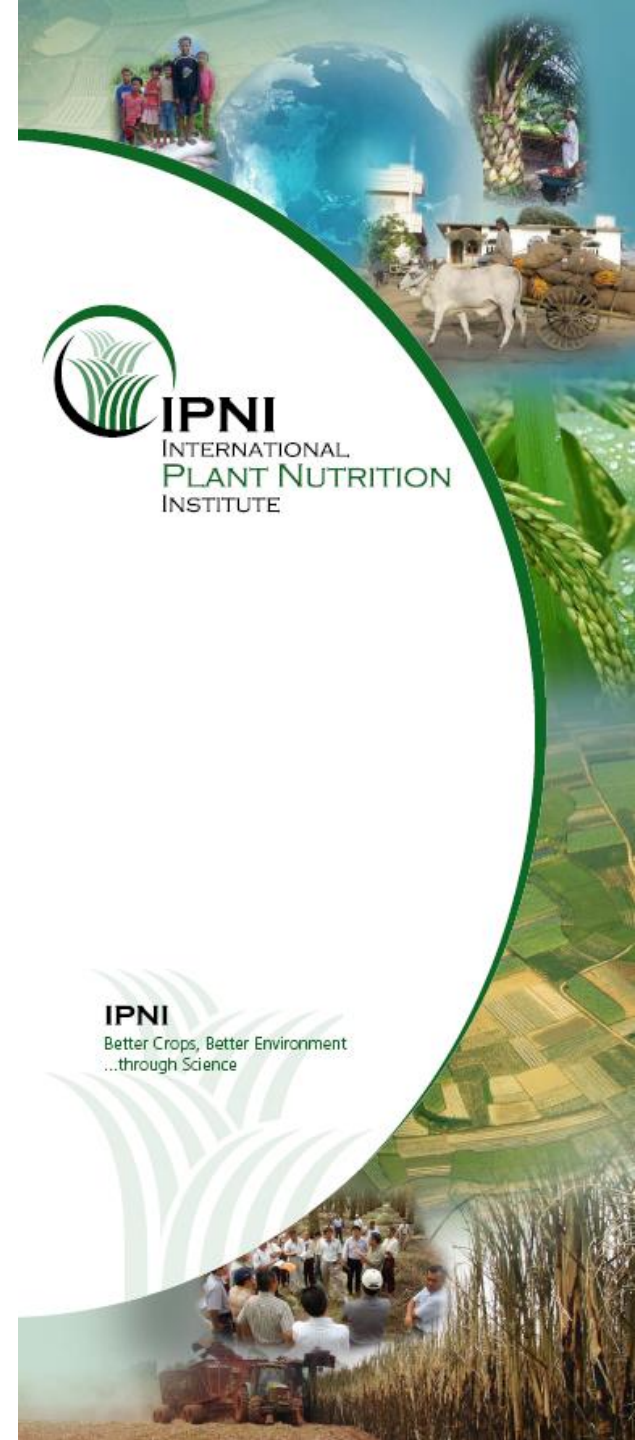


IPNI Member Company Meeting – Brazil Program

Overview of IPNI

*Terry L. Roberts,
President*

September 18, 2013

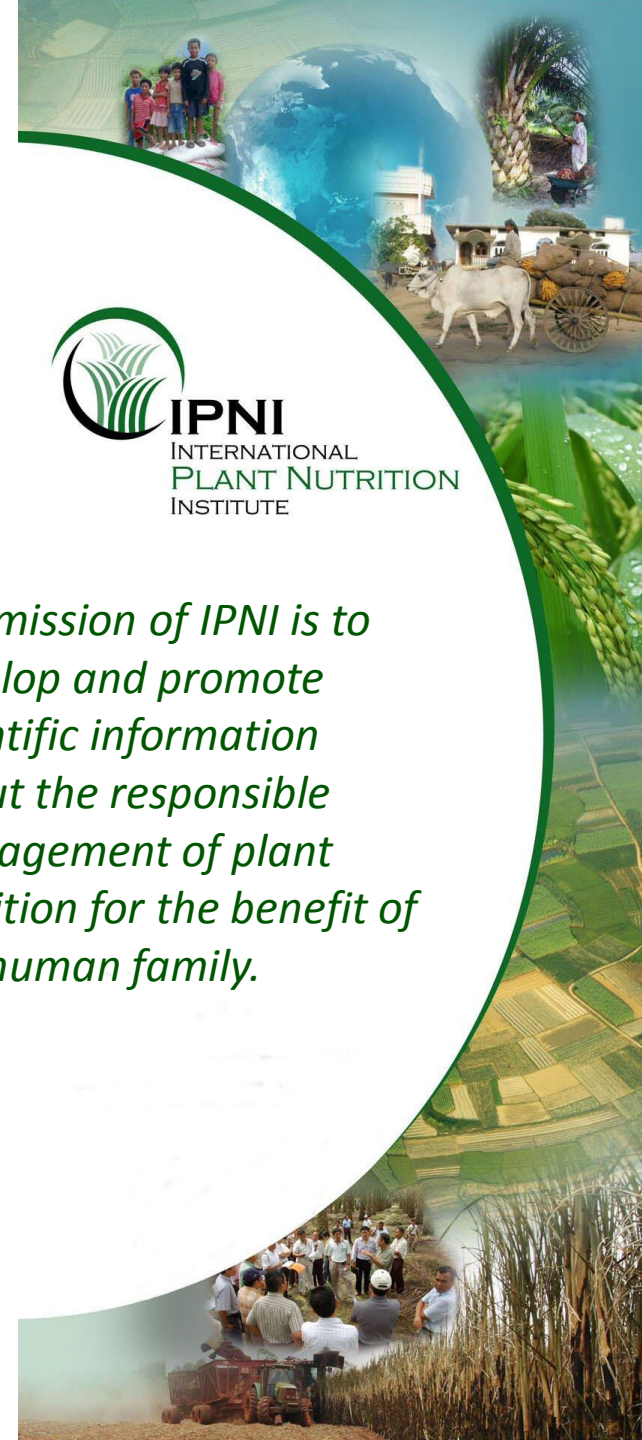


IPNI
Better Crops, Better Environment
...through Science

- IPNI is a not-for-profit, scientific organization in its 7th year of operation
 - established in 2007 from the Potash Phosphate Institute (PPI)
 - Previously known as Potafos in Brazil
- We provide a scientific voice for the world's fertilizer industry; independent, but scientifically credible



The mission of IPNI is to develop and promote scientific information about the responsible management of plant nutrition for the benefit of the human family.



IPNI is supported by leading fertilizer manufacturers ...



Agrium Inc.



Arab Potash Company



Belarusian Potash Company



CF Industries Holdings, Inc.



Compass Minerals Specialty Fertilizers



Incitec Pivot



International Raw Materials LTD.



Intrepid Potash, Inc.



K+S KALI GmbH



The Mosaic Company



OCP S.A.



PotashCorp



Qatar Fertiliser Company (QAFCO)



Simplot



Sinofert Holdings Limited



SQM



Toros Tarim



Uralkali

... and industry associations



ANDA - Associação Nacional para Difusão de Adubos



Arab Fertilizer Association (AFA)



Canadian Fertilizer Institute (CFI)



The Fertiliser Association of India



The Fertilizer Institute

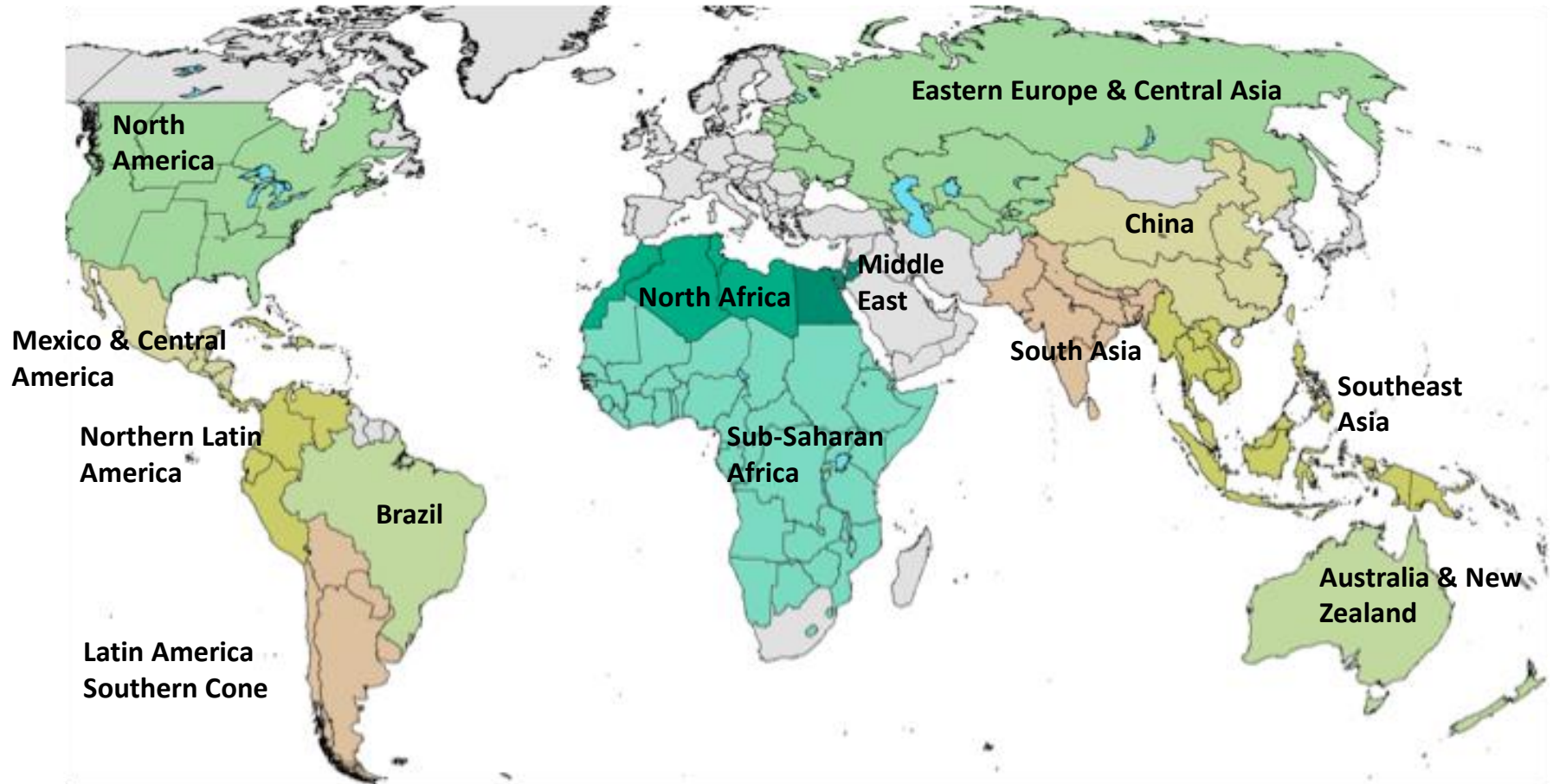


International Fertilizer Industry Association (IFA)



International Potash Institute (IPI)

IPNI ... 34 scientists and 13 Program Areas



Agronomic programs focus on research and education

1. Collaborate with others to lead in the development of regional and global plant nutrition issues
2. Facilitate research supporting 4R nutrient stewardship for the sustainable use of plant nutrients
3. Educate and engage our stakeholders to enable continuous improvement of nutrient stewardship
4. Support IPNI members in their research and educational activities related to nutrient use



IPNI
INTERNATIONAL
PLANT NUTRITION
INSTITUTE

IPNI STRATEGIC GOALS AND GUIDANCE

MISSION: IPNI develops and promotes scientific information for the responsible management of plant nutrition for the benefit of the human family.

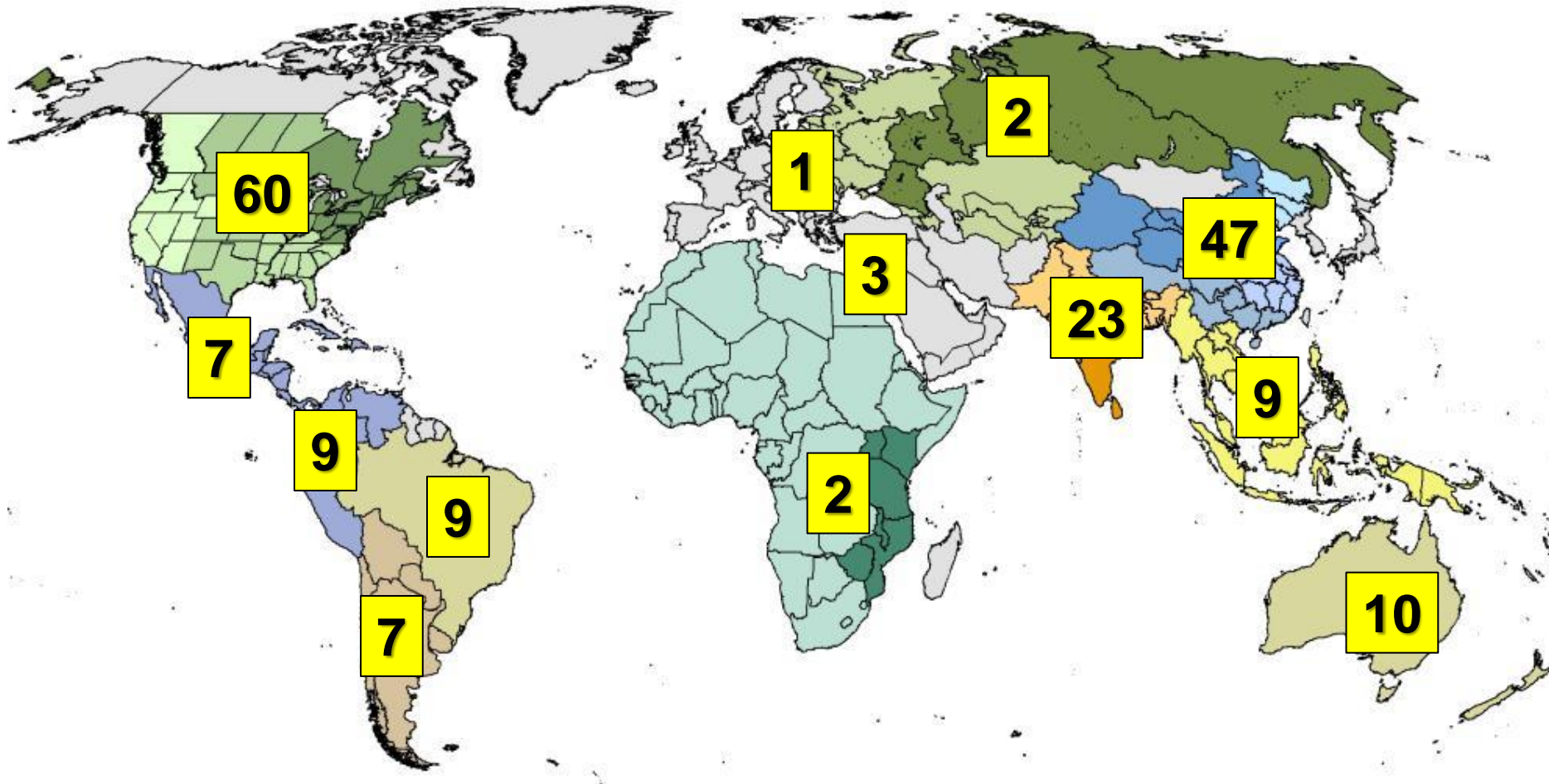
IPNI scientists have regional and global responsibilities

- Regional programs are driven by local staff to address local challenges and opportunities related to plant nutrition
 - Involved in research and demonstration activities
 - Agronomic education
 - Member company support
- Global nutrient issues are addressed through thematic work groups
 - Nutrient use and cycling, nutrient stewardship and performance, nutrient stewardship and case studies, crop decision support tool, precision nutrient management, nutrient stewardship and the environment

IPNI Research Activity in 2011-2012

One project may have numerous field locations

189 Projects



IPNI research database

<http://www.ipni.net/>

Publications

- ▶ Catalog
- ▶ On-line Store
- ▶ 4R Nutrient Stewardship
- ▶ Better Crops
- ▶ Videos

Research

- ▶ **Research Database**
- ▶ Research Summaries
- ▶ NuGIS (Nutrient GIS)
- ▶ AgriStats
- ▶ Toolbox

News & Information

- ▶ About IPNI
- ▶ Scholar and Science Awards
- ▶ Media Resources
- ▶ More ...

Member's Portal

- ▶ Login / Registration
- ▶ InterActions Newsletter
- ▶ Presentations
- ▶ Image Database



Research Database

Research supported by IPNI and FAR



Select Projects By or or

Research Database Home

[Printable Version](#)

- BRAZIL-04** Reduction in potassium availability in soils under long-term soybean/wheat rotations
- BRAZIL-24** Application rate and timing effects of the efficiency of potassium absorption and yield of corn grown under irrigation
- BRAZIL-24B** Effects of timing and method of topdressed nitrogen and potassium in corn
- BRAZIL-26** Integrated management for the control of soybean diseases in Brazil's northern cerrado
- BRAZIL-26B** Soybean fertilization and soil fertility management under crop rotations of southern Maranhao
- BRAZIL-27** Effects of broadcast potash and foliar application of micronutrients in soybean
- BRAZIL-28** Micronutrient availability for soybean in Brazilian soils: sources and doses for soil correction of manganese, copper and zinc
- BRAZIL-29** Micronutrient correction in sugarcane
- BRAZIL-30** Report of 2005 GDT POTAFOS/ESALQ Activities
- BRAZIL-30.1** Effects of different period of time between desiccation and sowing of soybeans
- BRAZIL-30.2** Effects of glyphosate in RR soybean
- BRAZIL-30.3** Effects of different glyphosate doses in pre-sowing desiccation on seedling emergence and plant height of common bean (*Phaseolus vulgaris* L.)
- BRAZIL-30.4** Effects of different glyphosate doses in pre-sowing desiccation on mycorrhiza establishment in common beans (*Phaseolus vulgaris* L.)



IPNI Research Project Selection

- IPNI makes commitments to projects based on several factors:
 - Relevance to IPNI mandates, such as 4R, NUE, balanced nutrition, etc.
 - Potential in the region to have a significant impact with on-farm income...does it make economic sense?
 - Potential for the project to have an impact beyond the country of work...will it influence other countries in the region?



Research Project Management in IPNI

Role of Regional Staff:

- Liaison with research staff in national and local institutions.
- Development of a sound research protocol which have the potential to deliver the results of interest
- Lead the project in the region, supporting the extension effort involved.



Research Project Management in IPNI

Role of Management

- Ensure projects match IPNI mandate and goals and final approval



Communications and Websites

- Hard copy and e-publications
- Press releases, folders, periodicals, manuals, books, posters, slide sets, Better Crops, etc.

The screenshot shows the IPNI website interface. At the top, there is a navigation bar with links for 'About IPNI | Store | Site Map | Search' and a language selector for 'English'. Below this is the IPNI logo and the text 'INTERNATIONAL PLANT NUTRITION INSTITUTE'. A secondary navigation bar lists 'Publications', 'Research', 'News', 'Topics', and 'Regional Programs'. The main content area features an article titled 'Generalized Nutrient Cycles' dated '10 May 2013'. To the left of the article is a diagram titled 'The Nitrogen Cycle' showing the flow of nitrogen through biological fixation, plant uptake, animal manure, and soil processes like nitrification and leaching. Below the article is a 'Read More' button. A horizontal carousel below the article displays various publications and resources. At the bottom, there are four columns of navigation: 'Publications' (with links to Catalog, On-line Store, 4R Nutrient Stewardship, Better Crops, Videos, and More...), 'Research' (with links to Research Database, Research Summaries, NuGIS (Nutrient GIS), and AgriStats), 'News & Information' (with links to About IPNI, Scholar and Science Awards, Media Resources, and More...), and 'Member's Portal' (with links to Login / Registration, InterActions Newsletter, Presentations, and Image Database). A large blue watermark 'www.ipni.net' is overlaid at the bottom center.

The image shows the cover of the 'Better Crops With Plant Food' magazine, 2013 Number 2. The cover features a large photograph of a cornfield. The title 'BETTER CROPS WITH PLANT FOOD' is prominently displayed at the top in white text on a green background. Below the title, it says 'A Publication of the International Plant Nutrition Institute (IPNI)'. The issue number '2013 Number 2' is in the top right corner. The main article title is 'Managing Nitrogen in Wide vs Narrow Corn Rows'. To the right, there is a sidebar with 'In This Issue...' listing 'Series on Sulfur Nutrition', 'The Sulfur Cycle', 'Managing for High Yield Cotton in Brazil', and 'Potassium Use in Western Siberia'. At the bottom, there is a gold '90 YEARS OF BETTER CROPS' anniversary logo and the IPNI logo with the website 'www.ipni.net'.



Regional Websites

[About IPNI](#) | [Store](#) | [Site Map](#) | [Search](#) English

[Publications](#) | [Research](#) | [News](#) | [Topics](#) | **Regional Programs**

Home / Regional Programs / Americas and Oceania Group / North America - Western

04 Oct 2012

Nutrient Deficiency Symptoms

Symptoms of crop nutrient deficiency can vary across crop species, but similarities exist for how nutrient insufficiency impacts plant tissue color and appearance. Nutrient deficiencies are commonly associated with the physical location on the plant (i. e., whether the symptoms are primarily obser

[Read More](#)

[Regional Director](#)
Robert Mikkelsen
 Director - Western North America
 Dr. Mikkelsen works throughout Western North America on issues related to nutrient management. He has had extensive experience working with many crops and growing conditions across the U.S. Feel free to contact him with issues or questions related to plant nutrition.

[Read Bio](#)

[Sobre o IPNI](#) | [Loja](#) | [Mapa do Site](#) | [Pesquisa](#) Português

[Publicações](#) | [Pesquisas](#) | [Notícias](#) | [Tópicos](#) | **Programas Regionais**

Home / Regional Programs / Americas and Oceania Group / Brasil

29 Jul 2013

Simpósio IPNI Brasil sobre Boas Práticas para Uso Eficiente de Fertilizantes na Cultura do Citros

08 e 09 de Outubro de 2013, Bebedouro-SP (Vagas limitadas)

[Leia mais](#)

Próximos Eventos
 19 Aug 2013 - 22 Aug 2013
 International Plant Nutrition Colloquium 2013
 Istanbul, Turkey
<http://www.plantnutrition.com>

20 Aug 2013 - 22 Aug 2013
 Simpósio Latino Americano de Canola - SLAC 2013
 Passo Fundo, RS, Brasil
<http://www.embrapa.br/leve...>

21 Aug 2013 - 23 Aug 2013
 V Fórum Abisolo 2013
 Ribeirão Preto, SP, Brasil
<http://www.forumabisolo.com>

28 Aug 2013 - 30 Aug 2013
 I Workshop de Fertilizantes
 Viçosa, MG, Brasil
<http://www.gefert.com/ind...>

02 Sep 2013 - 04 Sep 2013
 V Simpósio da Cultura da Soja
 Rio Verde, GO, Brasil
<http://feaq.org.br/infor...>

03 Sep 2013 - 06 Sep 2013

Agricultura brasileira
 O Brasil é o 5º país do mundo em população, com mais de 192 milhões de habitantes. A área total do país é de 8.514.876 km2. Uso da terra: O Brasil é o 3º maior produtor agrícola e 9º maior detentor de florestas plantadas do mundo. Possui 72,2 milhões de hectares plantados com culturas anuais e perenes e 172 milhões de hectares com pastagem. Na safra 2011/12, a produção de grãos foi de 158 milhões de toneladas, em área de 52 milhões de hectares.

[Leia mais](#)

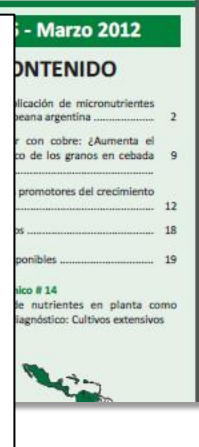
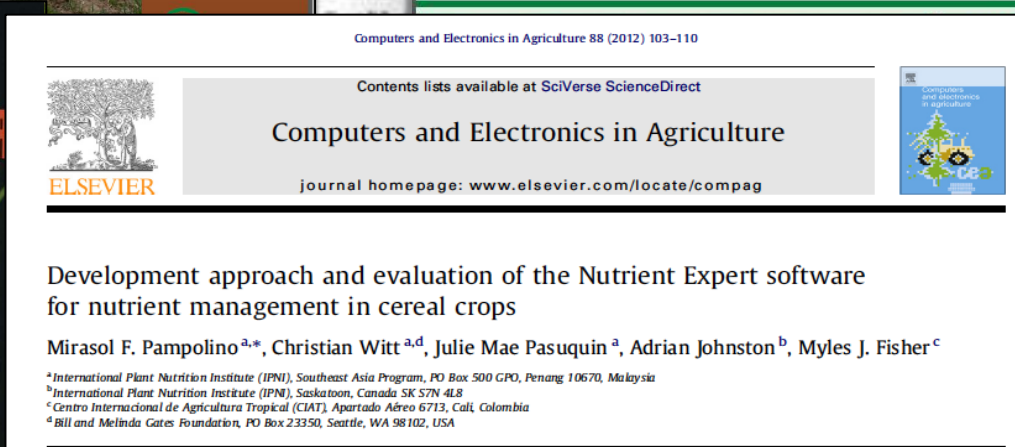
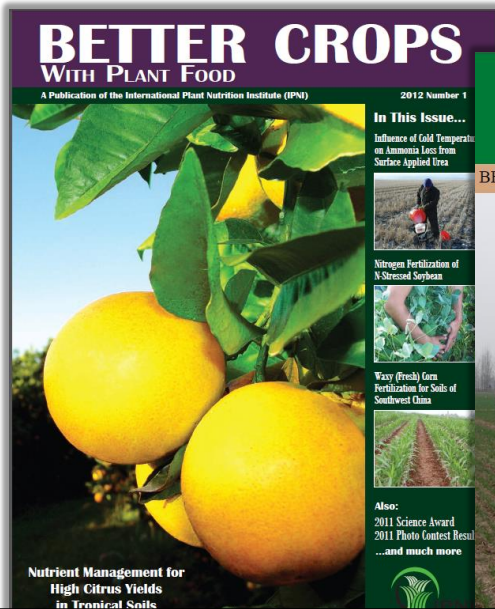
[Fale Conosco](#)

Luís Prochnow
 Diretor Geral do IPNI Brasil
[Leia Bio](#)

Valter Casarin
 Diretor Adjunto do IPNI Brasil
[Leia Bio](#)

Eros Francisco
 Diretor Adjunto do IPNI Brasil
[Leia Bio](#)

We use internal publications, farm press, and scientific journals ...



ARTICLE INFO

Article history:
Received 22 February 2012
Received in revised form 28 May 2012
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ABSTRACT

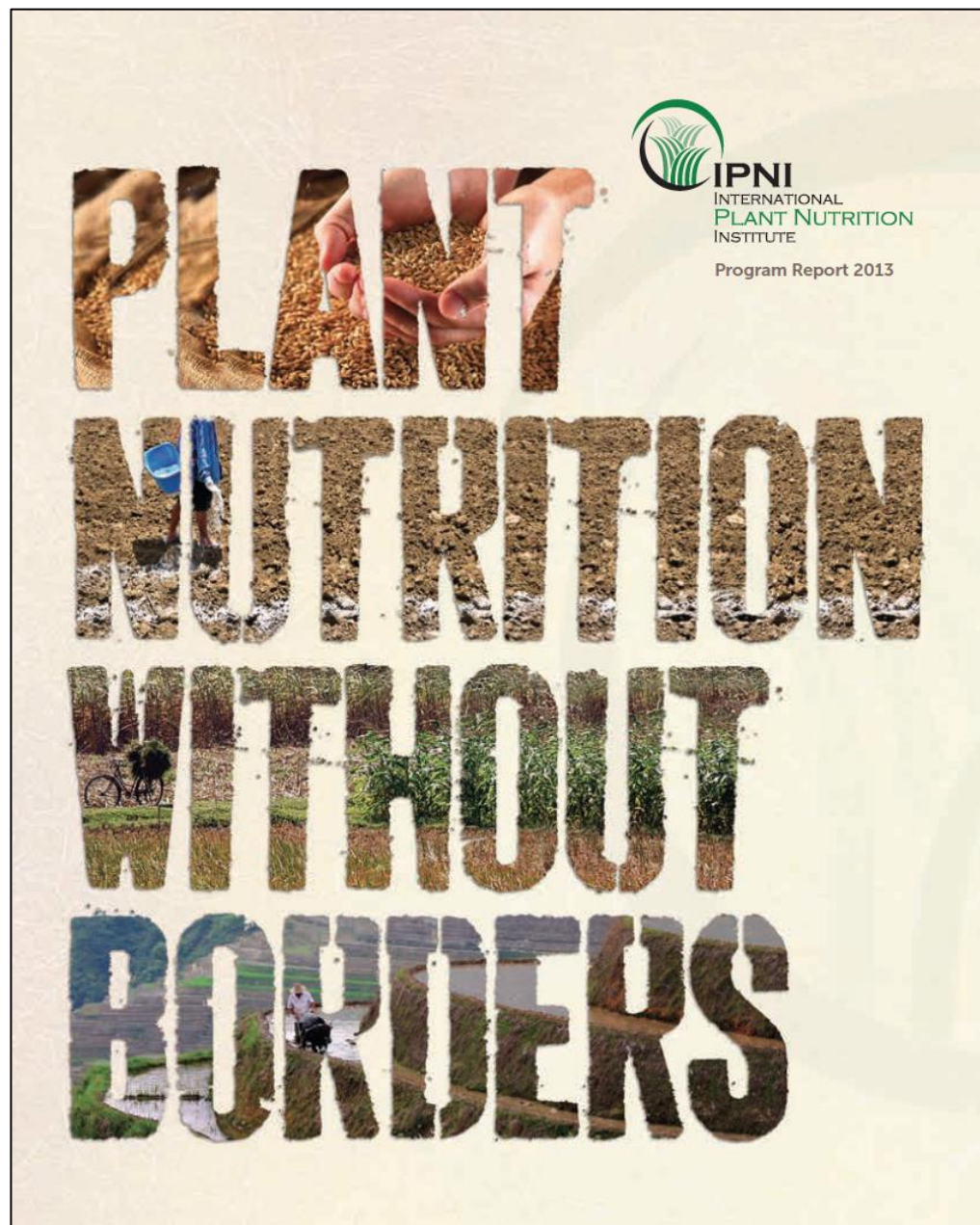
Meeting the demand for more food in the next 20–30 years requires intensifying cereal cropping systems and increasing current yields to about 70–80% of the genetic yield potential. A dynamic and robust nutrient management approach such as site-specific nutrient management (SSNM) will be essential to increase yields and optimize profits while maintaining the productivity of these intensive cropping systems. SSNM has increased yield and profit in rice, maize, and wheat in major cropping systems in Asia; but, crop advisors have found it complex and difficult to implement in the field. Nutrient Expert (NE) was



Annual program report highlight activities.

Available at:

<http://www.ipni.net/programreport>



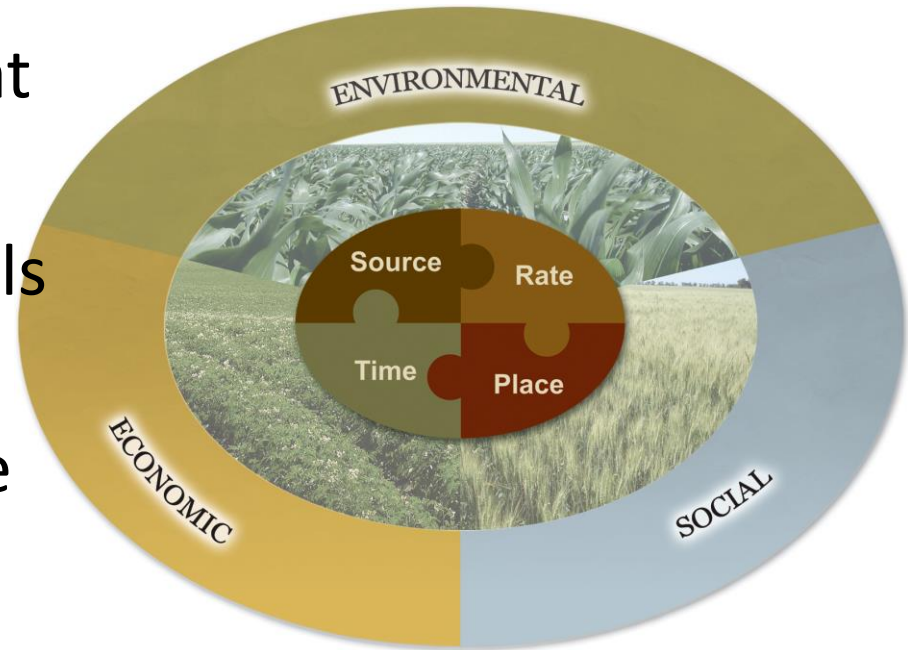
Examples of recent market development and other activities



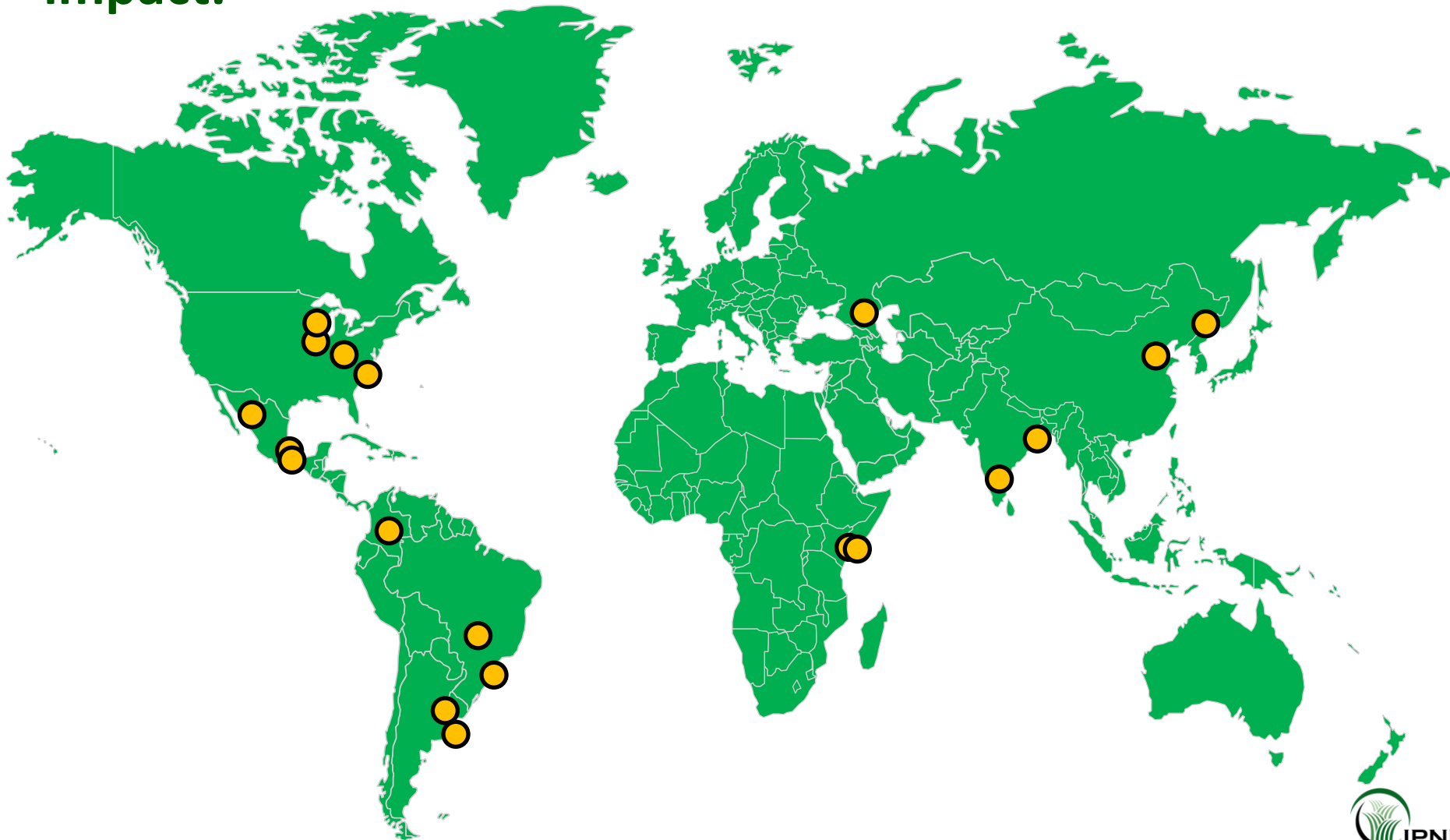
Example of a research and education program ...

4R Nutrient Stewardship addresses sustainable nutrient use

- Initiated the 4R framework at an IFA workshop in 2007
- Developed scientific materials ... 4R Manual
- Partnered with TFI/CFI in the delivery of 4R Nutrient Stewardship ... management of the NA industry's \$7 M 4R research fund



Global Maize Project ... identifies yield gaps between current and improved technology with a goal to meet future cereal demand with minimal environmental impact.



Global Maize Project: Objectives

1. To test how the performance of ecological intensification (EI) compares to that of current farmer practice (FP)
2. To estimate the exploitable yield gap using the *Hybrid Maize* simulation model
3. To provide data needed to calibrate a nitrogen nutrition model, *Maize-N*

Making 4R Nutrient Stewardship Work in Asia and Africa



=



- Nutrient Expert Decision Support System software provides the opportunity to integrate the 4R principles into a fertilizer recommendation.
- This has proven particularly successful where soil testing infrastructure is weak, expensive or not timely for multiple cropping systems.

Nutrient Expert recommendation:

- tailored to location-specific conditions
- consistent with 4R approach

Name and/or location: Here; Site A **Field size:** 1 ha

Current yield: 110 cavan (FW) 5.3 t/ha (15.5% MC)

Growing environment: Favorable rainfed


Recommended alternative practice for hybrid maize

Yield goal: 165 cavan (FW) 8.0 t/ha (15.5% MC)

Planting density: 69,444 plants/ha

Distance between rows: 60 cm **Distance between plants:** 24 cm

Right Source



Growth stage	Days after planting	Soil moisture	Fertilizer sources	Weight of full bag (kg)	Amount (bags)
Basal	0	sufficient	14-14-14 Urea MOP	50 50 50	6.5 0 0.5
V6	25	sufficient	Urea	50	2.5
V10	35	sufficient	Urea	50	2

Right Time

Other sources of nutrients:

Crop residue (maize): high

Organic fertilizer: 0 t

Right Rate

Fertilizer rates are adjusted to field size

Current Nutrient Expert Models



- Maize and wheat in South Asia
- Maize and wheat in China
- Maize in Sub-Saharan Africa
- Future Plans:**
- Wheat in North Africa
- Maize in Russia
- Cotton in South Asia
- Soybean in China, South Asia & Africa
- Cassava in SE Asia and SS Africa

Nutrient Expert™ for Wheat
South Asia (Version 1.0, March 2013)

[Settings](#) [About](#) [Help](#) [Exit](#)

First time user? Working in a new location? Make sure to have the 'Settings' right!

Nutrient Expert for Wheat is a decision support tool for developing farmer-specific fertilizer recommendations. It helps you to:

- evaluate current nutrient management practices
- determine a meaningful yield goal based on attainable yield
- estimate fertilizer NPK rates required for the selected yield goal
- translate fertilizer NPK rates into fertilizer sources
- develop an application strategy for fertilizers (right source, right rate, right time, right place), and
- compare the expected or actual benefit of current and improved practices.

To start, click a button

Current FFP & Yield → SSNM Rates → Sources & Splitting → Profit Analysis

Nutrient Expert™ for Hybrid Maize
Version 1.11 (May 2011)

[Settings](#) [About](#) [Help](#) [Exit](#)

First time user? Working in a new location? Make sure to have the 'Settings' right!

Nutrient Expert for Hybrid Maize helps you to:

- develop an optimal planting density for your location
- evaluate current nutrient management practices
- determine a meaningful yield goal based on attainable yield
- estimate fertilizer NPK rates required for the selected yield goal
- translate fertilizer NPK rates into fertilizer sources
- develop an application strategy for fertilizers (right rate, right source, right location, right time), and
- compare the expected or actual benefit of current and improved practices.

To start, click a button

Current NM Practice → Planting Density → SSNM Rates → Sources & Splitting → Profit Analysis



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