



International Training Workshop on Precision Nitrogen Nutrition in Wheat: Integrating Genetics and Precision Agronomy for Improving Nitrogen Use Efficiency



When

1-5 March 2018

Where

**INEW PRECISION NUTRITION PLATFORM
Borlaug Institute for South Asia (BISA) -
CIMMYT, Ludhawal, Ludhiana-141004**

Inefficient management of fertilizer nitrogen (N), the major nutrient for crop production, reduces N use efficiency, limits crop quality, increases crop production costs—thereby reducing profitability and increasing the risks associated with crop production and environment. Tools, techniques and strategies need to be developed and incorporated in sustainable crop production systems. On a short-term scale, the advances can be made in current unsustainable wheat systems, but our vision and mission are to increase the N use efficiency on a sustainable basis integrating genetics and precision agronomy in wheat and wheat based systems.

Understanding the specific processes and pathways for new opportunities in N nutrition are critical for gains in N use efficiency in wheat systems under current as well as future rapidly changing environments. Therefore, integrating genetics and bio-physical sciences can help in identifying high N use efficient genotype and make genotype-specific management recommendations within and across wheat production systems.



This is a new and futuristic research in the field of N use efficiency involving a paradigm shift in N uptake and translocation processes through altered interactions of soil moisture-temperature-root and N etc. Under Centre for the improvement of Nitrogen Use Efficiency in Wheat (INEW), a precision nutrition platform has been established at BISA-CIMMYT, Ludhiana which serves as excellent capacity development platform on advances in nitrogen use efficiency in wheat.

The planned International Training Workshop on Precision Nitrogen Nutrition in Wheat: ‘Integrating Genetics and Precision Agronomy for Improving N Use Efficiency’ offers a unique opportunity for the young researchers working in the area of “Nitrogen Use Efficiency in Cereal Systems”. This international training workshop aimed at building the capacity of young women and men scientists, research scholars & students working on wheat research in crop sciences (plant breeding & genetics, plant physiology, and other related disciplines) and natural resource management sciences (agronomy, soil science, agricultural engineering) at national and international institutions involved in the INEW project.

The training workshop is being organized as a part of the Indo-UK Centre for the improvement of Nitrogen Use Efficiency in Wheat (INEW), and supported by the Rothamsted Research, UK.



Learning Objectives

To provide

- ♦ Advance knowledge and skills to set-up precision nutrition platform to study new opportunities for improving N use efficiency.
- ♦ In-depth understanding of processes and approaches for N use efficiency of wheat genotypes mediated by interactions of cropping systems, tillage, nitrogen and water management.
- ♦ Skills about Site Specific Nutrient Management and fertigation strategy to optimize N use efficiency in wheat on the basis of N uptake pattern.
- ♦ Hands-on training and learning by doing on Automation in Irrigation and Fertigation System



- ♦ Opportunity to discuss and exchange ideas with the academics and experts of multi-disciplinary team who have made notable contributions in the area of Precision Nutrient Management and development of high N use efficiency wheat cultivars.
- ♦ Upgrade knowledge and enhanced understanding on the principles of Precision Nutrition

What Do You Get

Upon successful completion of the course, participants would have:

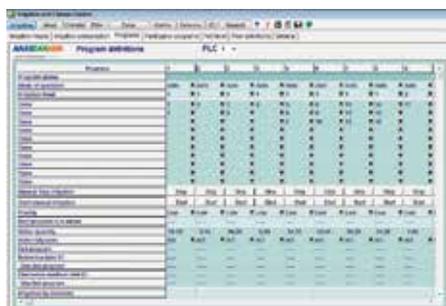
- ♦ Increased understanding of wheat and wheat based systems
- ♦ Increased level of understanding of processes, approaches, tools and techniques in Nitrogen Use Efficiency in Wheat
- ♦ Increased understanding of Genotype x Environment x Management research portfolio
- ♦ Recent advances in Precision Nutrient Management in wheat and wheat based systems for higher N use efficiency.
- ♦ Better understanding on rate and timing effects on N in conventionally applied as well as fertigation applied fertiliser in relation to germplasm diversity.



- ♦ Opportunities to discuss your own operational challenges with experienced professionals leading the course, as well as network and share experiences on Precision Nutrition Management with other fellow participants.

Eligibility for Participation

This programme is meant for active researchers/scientists who are working in wheat research and having at least one years' research experience in agricultural sciences. Participants must be physically able to cope with hands-on field activities and must have fluency in English.



Irrigation Automation Program



About the Organizers

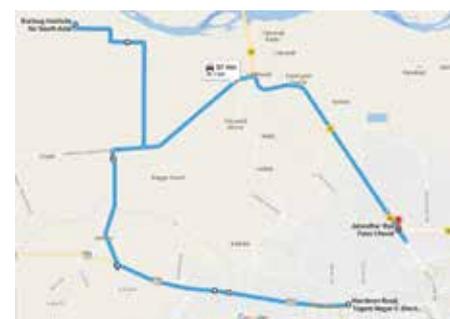
The **Borlaug Institute for South Asia (BISA)** is a non-profit international research institute dedicated to food, nutrition and livelihood security as well as environmental rehabilitation in South Asia, which is home to more than 300 million undernourished people. BISA is a collaborative effort involving the International Maize and Wheat Improvement Center (CIMMYT) and the Indian Council for Agricultural Research (ICAR). The objective of BISA

is to harness the latest technology in agriculture to improve farm productivity and sustainably meet the demands of the future. BISA is more than an institute. It is a commitment to the people of South Asia, particularly to the farmers, and a concerted effort to catalyze a second Green Revolution.

The **International Maize and Wheat Improvement Center**, known by its Spanish acronym, CIMMYT (www.cimmyt.org), is one of the 15 CGIAR centers and a not-for-profit research and training organization with partners in over 100 countries. Headquartered in Mexico, The CIMMYT works with a mission of "Wheat and Maize Science for Improved Livelihoods."

How to Reach

Ludhiana is well connected to all parts of India by rail and road. Borlaug Institute for South Asia (BISA) is 326 km from New Delhi. The Borlaug Institute for South Asia (BISA) is located in Ladhawal, Ludhiana city and at about 17.4 km from Ludhiana Railway Station. The campus is locally known as 'BISA Ladhawal Farm' with its coordinates of (30° 59' 28.74N and 75° 44' 10.87E).



For nomination and other details contact:

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Note: CVs of interested participants with a cover letter duly signed by the Director/Head of the concerned institute must reach the Training Executive by 20th January 2018