

The CRA-W

Established in 1872, the Walloon Agricultural Research Centre (CRA-W) is a leading scientific institution, under the Walloon Ministry of Agriculture. CRA-W employs some 450 people including 120 scientists. Its offices, laboratories, greenhouses, orchards and experimental fields cover an area of about 300ha. CRA-W has developed expertise in: plant breeding, genetic engineering, plant genetic resources management, integrated plant protection, farming systems, agricultural engineering and agro-meteorology, optimisation of agricultural food productions and analysis and quality control of agro-food products.

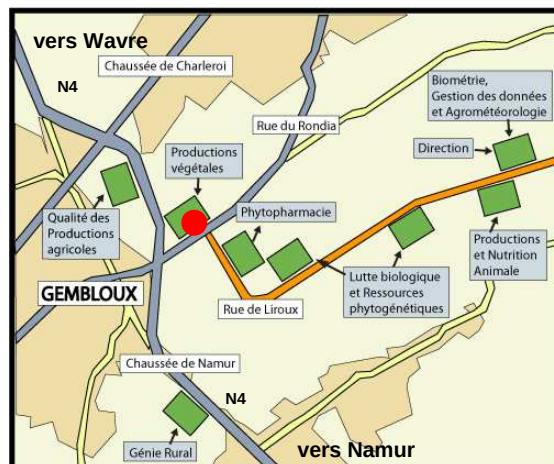
The Crop Production Department of the CRA-W, among other activities, has developed since more than 20 years several research projects supported at regional, federal and international levels to improve the efficiency of nitrogen in crop systems.

This includes two main objectives:

- **1** - Supply and use of N-advice for main crops, based on the balance-sheet method at field scale
- **2** - Implementation of tools based on in-season measurements to improve crop N-use efficiency.

The final objective is to develop Decision Support Systems to better match N supply and N crops requirements. Presently, this approach mainly concerns sugar beet, potato, vegetable and cereal crops.

How to get to Gembloux



By train from Brussels

At any station in Brussels (Midi, Central, North, Schumann and Luxembourg) take a direct train (every half an hour) towards Namur-Luxembourg (www.b-rail.be).

By car

From Brussels or from Luxembourg (E411)

Take the exit 11 Thorembois. Follow the direction Charleroi-Gembloux. At the roundabout you follow direction Namur on the N4 up to the next traffic light (1.5 km), and take on the left in rue du Bordia. We are located just at the beginning of the street on the left.

From Liege (E42)

Take the exit 12 Namur Ouest. Turn right towards Brussels-Gembloux (N4). Go along this road until you enter Gembloux. At the first traffic light in Gembloux turn right in rue du Bordia. We are located just at the beginning of the street on the left hand side.

For more information:

CRA-W – Crop Production Department
Rue du Bordia, 4
B-5030 Gembloux (Belgium)
Tel: 0032 (0)81 62 50 04
Fax: 0032 (0)81 61.41.52
Email: goffart@cra.wallonie.be

Workshop on

Crop Nitrogen Status assessment for use in Decision Support Systems to improve N- fertilization management and efficiency



20th June 2008

Centre wallon de Recherches
agronomiques
Département Production végétale
Rue du Bordia, 4
Gembloux – Belgium

This Workshop is supported by CRA-W and
DGRE (*Direction générale des Relations
Extérieures*) of the Walloon Region in the
frame of a bilateral scientific cooperation
project between WR and Italy



Context

With the increasing cost of mineral N and environmental constraints, efficient use of N-fertilizer is more and more evident to farmers for profitable and friendly environmental crops production. It is then essential to match N-supply and N-needs all along the growing season for each crop within the rotation. According to this objective, quick assessment of in-season crop and/or soil N status can supply significant help in decision on the need for supplemental N application, considering the possibility of splitting of total N-advice.

Different methods or tools for crop or soil N status measurement have been or are still studied all over the world. For crop N status, it can concern for instance either invasive measurements of nitrate or nitrogen concentrations within plant sap, or indirect assessment of leaves chlorophyll content through non invasive measurements based on optical canopy properties such as light absorbance or reflectance.

All these methods can give a good estimate of crop N status but their specificity, sensitivity, accuracy low labour intensive and low cost implementation, as well as their frame of use and implementation have to be clearly defined, so that it can confidently be linked or integrated into Decision Support System for an optimal and efficient management of crop N fertilization.

The aim of this workshop is to give a scientific and technical overview of the State of the Art in this specific field. International scientists with expertise in the use of methods or tools for the assessment of field crop N status will share their knowledge with the audience. Practical applications and implementation for potato and vegetable crops developed at the CRA-W will be presented.

Participants to the workshop are also invited to briefly present their research work and results, and practical applications either through a short oral contribution (5 minutes max) or a mini - poster session.

Interested participants have to contact Jean-Pierre Goffart (e-mail: goffart@cra.wallonie.be)

Agenda

- 8.30 Arrival at the CRA-W
Posters assembling (on previous demand)
- 9.00 [Welcome and Introduction](#)
Marc Frankinet and Jean-Pierre Goffart
Crop Production Department
CRA-W, Belgium
- 9.15 [Sensing of crop N Status: opportunities, tools, limitations and supporting information requirements](#)
Nicolas Tremblay
Agriculture et Agro-alimentaire Canada
Station de recherche de St-Jean-sur-Richelieu,
Québec , Canada
- 9.45 [The use of diagnostic optical tools to assess the N status and to guide fertilization of processing tomato](#)
Prof. Giorgio Prosdocimi Gianquinto
Dipartimento di Scienze e Tecnologie
Agroambientali - Università di Bologna, Italy
- 10.15 Coffee Break, Posters session and Exhibition of materials
- 10.45 [Evaluation of crop and soil N status assessment for vegetable crops in Belgium](#)
Sophie Renard
Crop Production Department
CRA-W, Belgium
- 11.05 [Use of crop N status assessment in a DSS for N fertilization management for potato crop and prospect for winter wheat in Belgium](#)
Jean-Pierre Goffart / Jean-Luc Herman
Crop Production Department
CRA-W, Belgium
- 11.30 Global discussion and/or exchange of experiences with participants (short oral contribution)
- 12.30 Close of workshop
Drink

Venue

The workshop will be hosted by Crop Production Department of the Walloon Agricultural Research Centre (CRA-W), 4 rue du Bordia , 5030 Gembloux

The audience

The workshop is rather technical and aimed at scientists and technicians interested or involved in the development and implementation of methods to improve crops N fertilization management and efficiency.

Date of the workshop

June 20th , 2008, AM

Language

The workshop will be held in English, while discussions should be translated in French if required.

Obligatory registration for Workshop, Posters session and short oral contribution

Free participation

Obligatory registration is done by e-mail to CRA-W at the address minne@cra.wallonie.be on the 15th of June at the latest.

<http://www.cra.wallonie.be>