



# The International Triticeae Mapping Initiative - ITMI

August 2009

**In the context of its international development, Céréales Vallée strongly supports the ITMI which is chaired, for France, by Catherine Feuillet (INRA), Céréales Vallée scientific council member.**

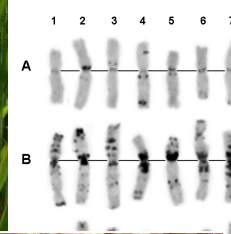
## ■ Role of ITMI

ITMI was established to provide support in the coordination of research efforts in molecular genetics, genomics and genetic analysis generally in the Triticeae.

The broad aims are:

- to ensure data and information on the Triticeae is readily available to all researchers,
- to help avoid duplication of research efforts,
- to provide a framework for accessing International collaboration,
- to help keep Triticeae research at the cutting edge of genetic research.

In order to meet these objectives, ITMI should help provide **up-to-date information on research programs**, provide a **forum for discussion of ideas and for the development of collaborative research programs**. To achieve this, coordination areas have been assembled and coordinators appointed.



Crédit photos : Limagrain et ses filiales, INRA

## ■ Focused Groups

Since 2008, the ITMI has been reorganised in focused groups that currently are:

- ✓ The International Wheat Genome Sequencing Consortium
- ✓ The International Barley Sequencing Consortium
- ✓ The International Wheat SNP initiative
- ✓ other topics that may arise in the future.....

## ■ Role of Overall Planning Group (OPG)

Current members of the OPG are :

- ✓ Catherine Feuillet, INRA, France
- ✓ Wolfgang Spielmeier, CSIRO, Australia
- ✓ Justin Faris, NCSL, USA
- ✓ Robbie Waugh, SCRI, UK

This group was established to **maintain oversight of the activities of ITMI**,

to help with the organisation of the ITMI workshops and to provide support for the coordination between focused groups.

**Catherine Feuillet**,  
INRA Clermont-Ferrand / Theix / Lyon research director, scientific council member, is one of the coordinators of the International Wheat Genome Sequencing Consortium, the ITMI and the European Triticeae Genomics Initiative



## History

1989 - The International Triticeae Mapping Initiative (ITMI) was established originally by a group of researchers interested in developing linkage maps for species in the Triticeae tribe (wheat, barley, rye) of the Poaceae family.

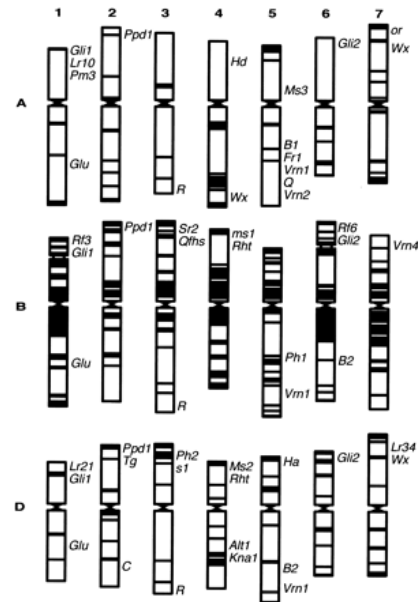
The informal nature of ITMI encouraged researchers to freely share information and materials for common benefit, resulting in rapid accumulation of knowledge about the genetic basis of agronomically important traits, evolutionary relationships and genome structure of the wheat, barley and rye genomes.

Activities:

1999 - Organized the International Triticeae EST Cooperative, to produce and share ESTs.

2000 - Reorganized to emphasize specialized research topics rather than chromosome groups

2008 – Reorganized around focused groups that emerged from the ITMI groups



Crédit photos : INRA, Limagrain et ses filiales

## Scientific collaborative areas

### Core collections

- Reference sets of germplasm markers and phenotypes

### Recombinational analysis

- Past, present and future genetic studies
- Linkage maps, marker trait associations, QTL and mapping populations

### Physical analysis

- Long range sequencing, physical maps, radiation hybrid mapping

### Expression profiling

- RNA (microarrays), proteins and metabolites

### Functional analysis

- Transformation, RNAi, VIGS, TIGS, mutagenesis, high throughput in situ

### Bioinformatics

- Information and links to websites with information on the Triticeae (Graingenes)

### Applied genomics

- Transfer of genomics data and technologies to breeding programs



## Workshops

ITMI conducts annually a workshop at the Plant and Animal Genome meeting (USA) and a workshop that rotates among countries. The original concept of ITMI, which has led to continued success of the organization relied on open communications, and exchange of ideas, germplasm, and information at the international level, which provided benefits to all participants.

In 2009, the 19<sup>th</sup> International Triticeae Mapping Initiative- 3<sup>rd</sup> COST Tritigen was organized in France, by the INRA Clermont-Ferrand and “Céréales Vallée” as one of the main sponsor.