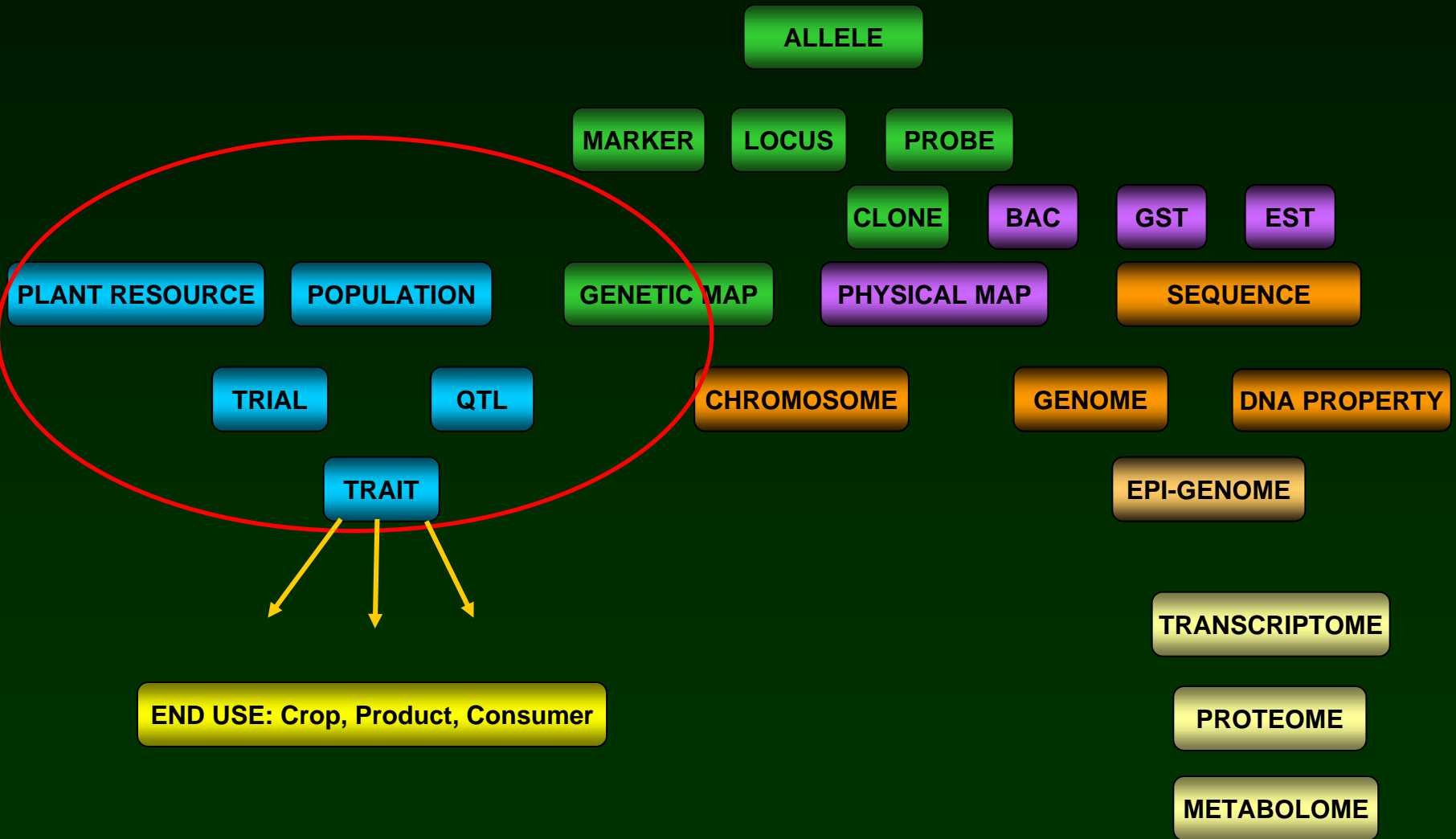


Challenges for 'Joined-up' Crop Genetics

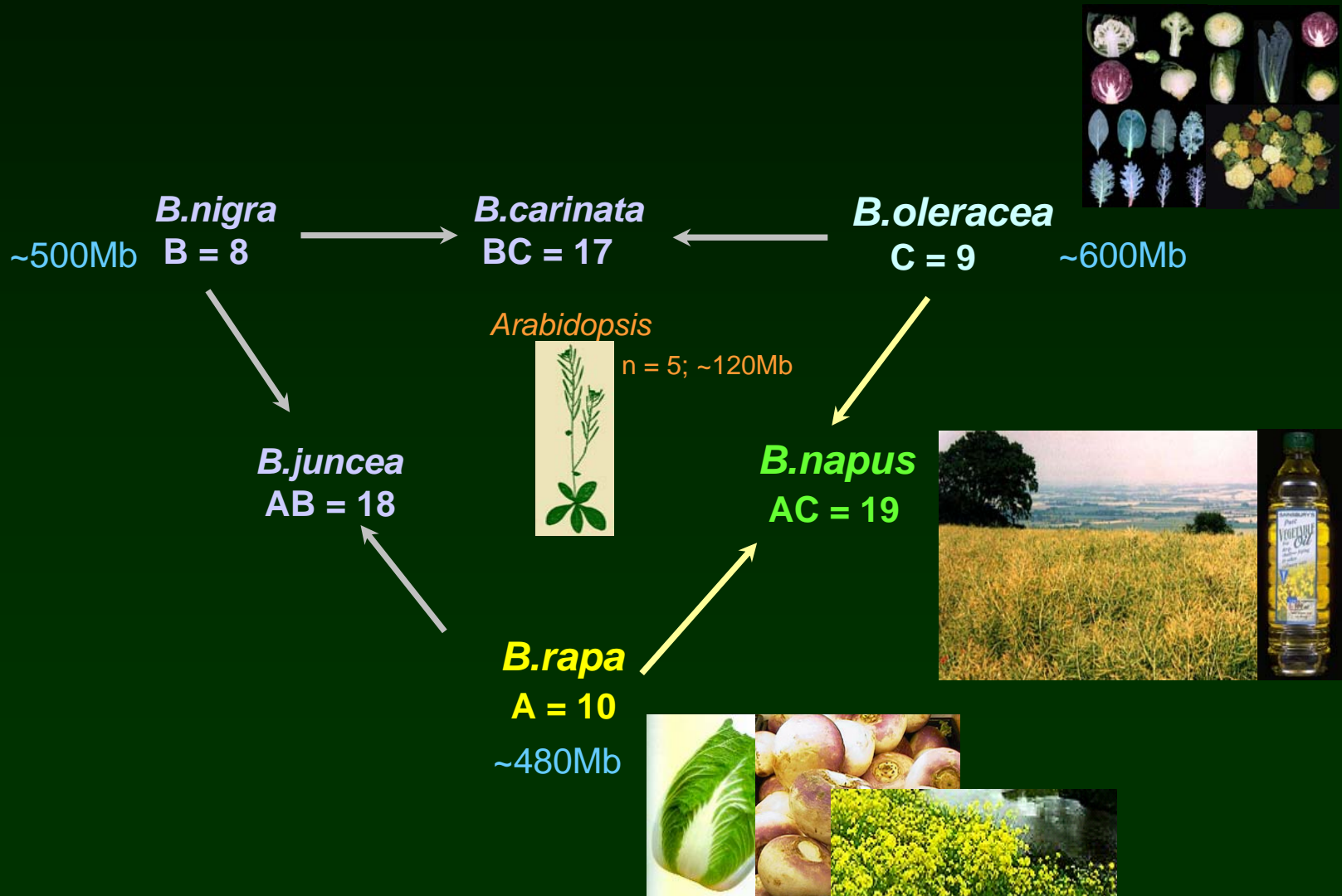
- From Traits to Genome
- Utilise information from models
- Basis for Gene x Environment interactions
 - gene regulation in complex crop genomes



'Joined-up Crop Genetics' : information domains



Brassica: U's triangle



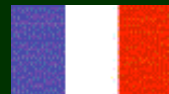
Opportunity:

Multinational *Brassica* Genome Project

B. rapa sequence +



- Multinational Programme
- *B. rapa* var. *chinensis* Chiifu-401
- BAC-end sequencing nearly completed
- 'Seed' BACs being sequenced (500)
- Anchoring to genetic map
- BAC by BAC shotgun - chromosome



Comparative views of Arabidopsis and *Brassica*

Warwick HRI Arabidopsis (TIGR Assembly) Genome Browser - Microsoft Internet Explorer

Address: http://bid62/Arabidopsis_thaliana_TIGR/contigview?c=1:259879595w=40000&highlight=At1g69120-TIGR-G

A. thaliana ContigView

UK CROPNET The Wellcome Trust Sanger Institute EBI

Find All [e.g. TEL1N_1]

Chromosome 1

Chr 1

Overview

DNA(contigs)

TIGR Genes

MIPS Genes

Gene Legend

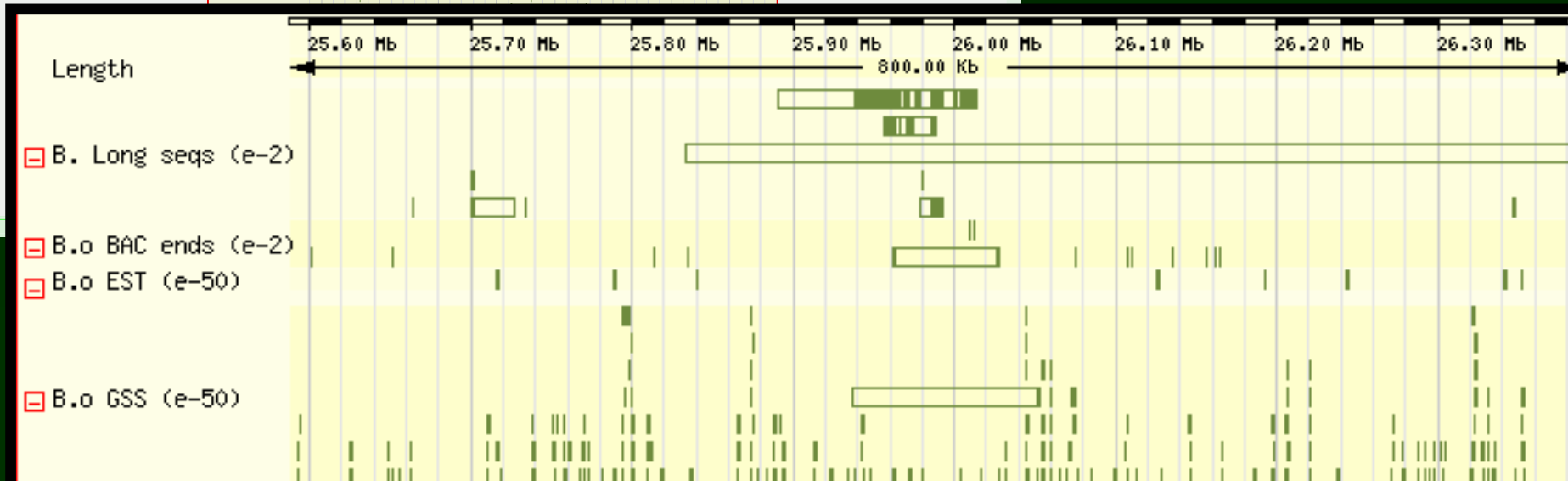
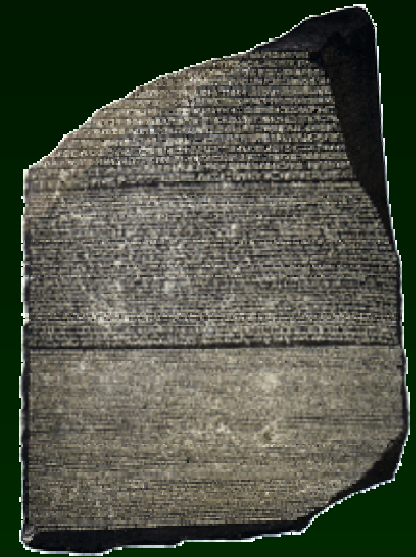
Detailed view

Jump to region: bp to

Features

Length

B. Long seqs (e-2)



The need for Common Standards :-



Brassica

- **Linkage groups** *populations, maps, groups, loci*
- **Marker loci** *clones, probes, marker assays, marker variations, alleles, loci*
- **BAC / EST clones** *libraries, clones, sequences, ontologies*
- **Genes (GO)**
- **Plant lines**
- **Traits (TO)** *trait descriptors, trials, scoring occasions*
→ **compare QTL**

The need for Common Standards :-



e.g. **Plant Lines** :

Define, publish and distinguish :

- **Plant variety**
- **Plant line**
- **Plant accession**
- **Plant individual**





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www.brassica.info

sharing information worldwide for

The Multinational *Brassica* Genome Project

This site has been established to collate and exchange information relating to *Brassica* genomics and genetics. More information here, including concept note for Genome Project, and the brassica.info e-mail discussion list

[Notes from MBGP Steering Committee, Jan 2005](#)

Details of International and National *Brassica* research programmes

Information on *Brassica* researchers, the MBGP steering committee and conference organisers

Details and links to a wide range of *Brassica* experimental resources, including plants, reference populations, clone libraries, genetic markers.

A diverse and growing range of information relating to Brassica research and development, databases, and background information about the crop and markets

Listings of upcoming and past meetings and conferences including links to abstracts and other information online

Information on how to subscribe and participate in the brassica.info email discussion list. Currently > 320 members worldwide.

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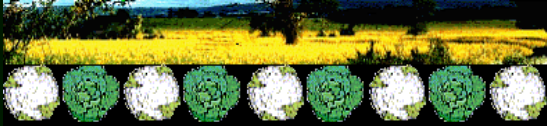
[Graham King](#)

Last updated:

Mar 20th 2005

Hits since Feb 2002:

13690



UK *Brassica* Research Community

Next meeting Tues July 5th

Rothamsted

<http://www.brassica.info/ukbrc/>