

# BRACT

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## Biotechnology Resources for Arable Crop Transformation



# The history of BRACT

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- ⦿ In 2002 Defra identified a need to maintain a plant transformation capacity in the public sector to support the research and development of improved UK arable crops.
- ⦿ Overall objective was to increase understanding and further develop crop transformation technologies.
- ⦿ An important component was the delivery of the outputs of the programme through a plant transformation capability.



# The project

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- ⑥ A collaboration between JIC and RRes
- ⑥ A three year project starting May 2003
- ⑥ Covering the major UK crops
- ⑥ All transformation is based on *Agrobacterium*-mediated techniques



# Mission Statement

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- ‘The mission of the BRACCT project is to provide an efficient and robust transformation capability for the major UK arable crops while facilitating further improvements in transformation technology and delivery to the UK research community.’



# BRACT objectives

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To provide the UK research community with:

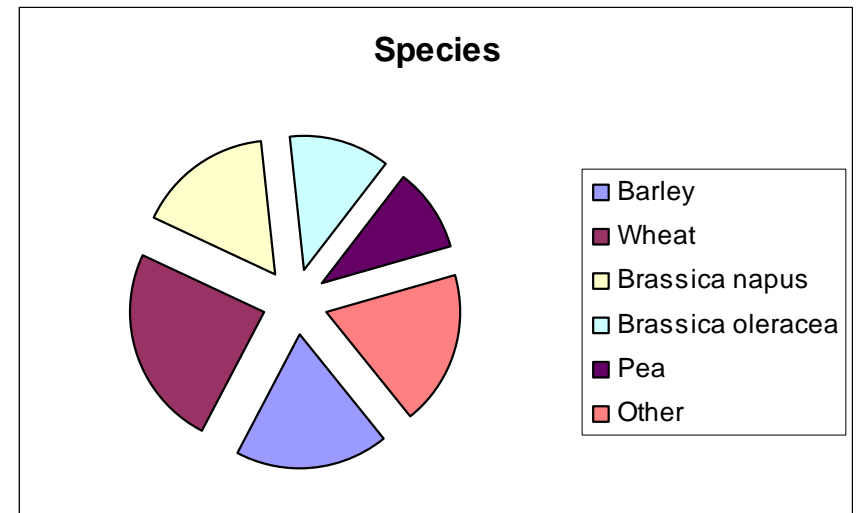
- ⑥ Up to date transformation protocols for the major UK crops
- ⑥ Access to a range of transformation vectors and ready made constructs
- ⑥ A range of transformation facilities and services



# Research community transformation requirements

## What are the research objectives?

- Test gene function in plants (glass house) 64%
- To observe expression of transgenes *in vitro* 14%
- Test gene function in plants in the field 12%
- Commercial application 7%
- Other 3%



# The crops

- Wheat
- Barley
- Brassica
- Pea



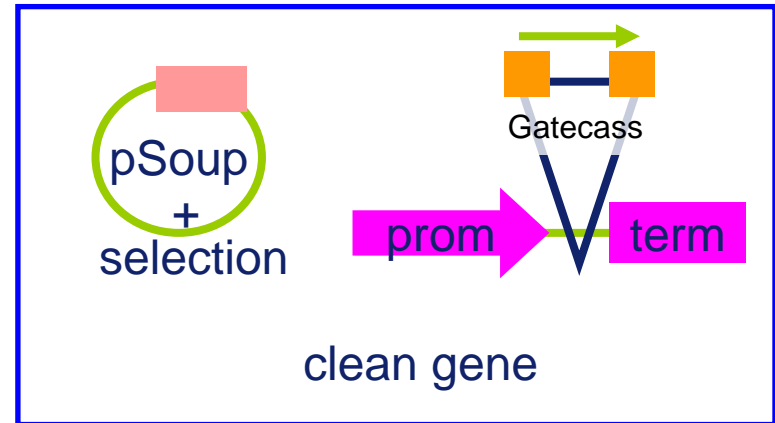
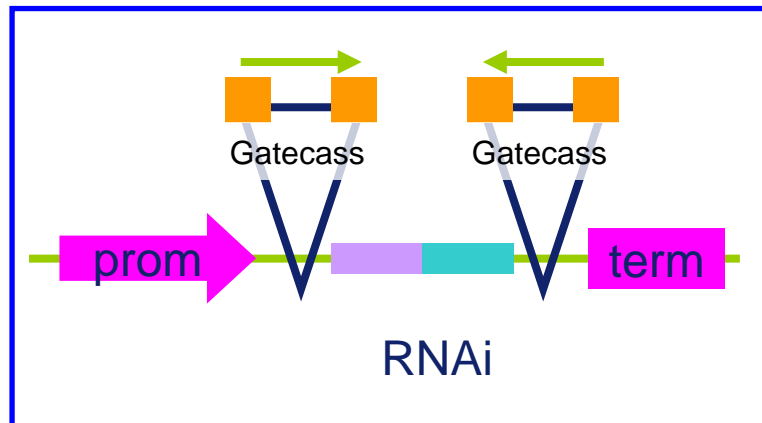
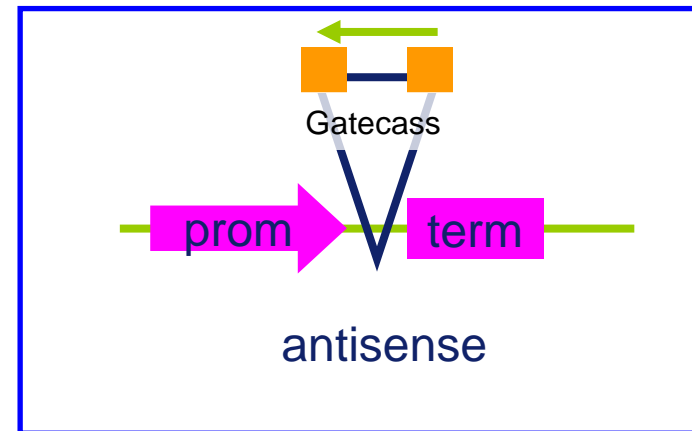
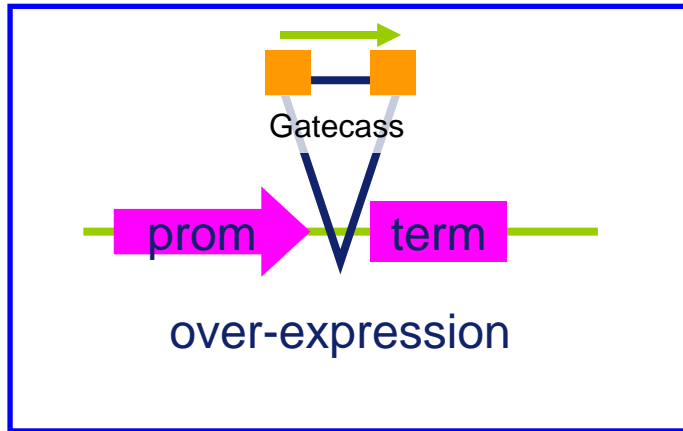
# The facilities

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- 🔗 Transformation service and constructs
- 🔗 Training, hotel facility and collaborations
- 🔗 Website: [www.bract.org](http://www.bract.org)



# BRACT constructs



# The people

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## BRACT management team

John Snape (JIC), Wendy Harwood (JIC), Judith Irwin (JIC), Huw Jones (R.Res)

## Brassica

Penny Sparrow (JIC)

## Wheat

Huixia Wu (R.Res) & Angela Doherty (R.Res)

## Barley

Matthew Perry (JIC) & Judith Harden (JIC)

## Pea

Mark Smedley (JIC)

## Constructs and Web Design

Nicola Leyland (JIC)



# Advisory group

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- ⦿ Tina Barsby – Biogemma UK
- ⦿ Dong Fang Chen - Syngenta
- ⦿ Alison Huttly – Rothamsted Research
- ⦿ Phil Morris – Institute of Grassland and Environmental Research
- ⦿ Phil Mullineaux – University of Essex
- ⦿ Anne Osbourne – John Innes Centre
- ⦿ Peter Werner – CPB Twyford Ltd

## Defra:

- ⦿ Bruno Veigas



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