



# CROP TRANSFORMATION SERVICES

## Wheat

- Spring and winter hexaploid varieties
- Two transformation methods demonstrating routine efficiencies of 30% and 15% respectively
- High throughput system – 3000 T0 plants/year – applicable to single or multiple constructs
- Phenotypically normal plants with good seed yield

## Other Crops

- Oilseed Rape
- Potato
- Barley
- Other species – please enquire

## Facilities

- Dedicated tissue culture laboratory
- Separate growth of donor and transgenic material
- Growth chamber space for 3000 T0 plants/year
- New GM glasshouse space for subsequent generations
- Experience in GM field evaluation
- Staff with extensive tissue culture and transformation experience

## Technologies

- Agrobacterium mediated transformation – exclusive license to PureWheat® Technology for contract wheat services in Europe
- Biolistics
- Co-transformation for marker elimination
- Multiple selection systems and evaluation of customers' proprietary selection systems
- Embryo rescue for reduced generation times
- Construct design and preparation
- Copy number determination

## Pipeline Management

- In-house Oracle database
- Barcode tracking system
- Traceability from construct DNA to seed
- High level of QC
- ISO 9001 : 2008 certified

## Shipment

- Plantlets or seed shipped to customers
- Plantlets shipped throughout Europe
- Robust packaging ensures safe delivery

*Plant Science into Practice*

niab.com • 01223 342200

croptransformation@niab.com •  @niabtag



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**A one-stop shop**

Crop	Starting material	Time to rooted plantlets	Time to T1 seed	Typical efficiency	Available extras
Spring wheat	Immature embryo	12 weeks	7 months	35%	Gene editing Embryo rescue Anther culture Marker free plants Multiple selection systems
Winter wheat	Immature embryo	14 weeks	9 months	10%	Gene editing Embryo rescue Marker free plants
Rice	Callus	12 weeks	–	35%	Gene editing
Barley	Immature embryo	14 weeks	8 months	60%	Multiple selection systems
Oilseed rape	Cotyledonary petioles	15 weeks	8 months	15%	Marker free plants
Potato	Leaf pieces	12 weeks	–	30%	Microtuber production

For further information please contact [emma.wallington@niab.com](mailto:emma.wallington@niab.com)

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