FOREST GENETICS
Scion is a leader in advanced breeding programmes and deployment strategies for commercial tree species. Our research ensures that new plantations use optimal germplasm to guarantee an ongoing competitive advantage for New Zealand’s plantation forest industry.

QUANTITATIVE & MOLECULAR GENETICS
Scion has undertaken tree breeding and genetics research for over 60 years. We offer the benefit of a research programme that links our tree breeding science through to the nursery and into the forest.

Tree breeding research has focused on growth, form, tree health (pests and diseases), and wood quality of radiata pine. Other species included in our breeding programme are Douglas-fir, cypresses and eucalypts.

Our capabilities include:
- Gene mapping and DNA fingerprinting
- Quantitative genetics
- Molecular breeding & genomic selection
- Forest establishment
- Field assessment for growth and wood properties
- Collection of seed, pollen and scions.

NURSERY
Our research nursery develops and delivers containerised and bare-root technologies to the forest industry and continues to provide nursery solutions for species other than radiata pine. Our tissue culture and nursery programmes are linked to provide high-quality clonal plants from the laboratory to the field.

Our capabilities include:
- Cuttings of radiata pine, cypresses, redwoods, indigenous species, Douglas-fir and eucalypts
- Ex-flasking of tissue culture plants
- Grafting
- Field assessment for growth and wood properties
- Commercial bare-root and containerised crops.

TREE PROPAGATION
Scion has developed a suite of propagation technologies for radiata pine and other conifers, including tissue culture and nursery techniques. These technologies are used for the mass propagation of selected material from the tree breeding programme, allowing rapid uptake of improved treestocks by the forest industry.

Our capabilities include:
- Tissue culture by embryogenesis and organogenesis
- Cryopreservation
- Nursery propagation technologies.

www.scionresearch.com

CONTACT
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# Forest Genetics Staff

## General Manager
### Forest Science
- **Alison Stewart**
  - BSc (First Class Hons) (Agricultural botany)
  - PhD (Plant pathology)
  - PhD (Plant pathology/phytopathology)

## Science Leader
### Heidi Dungey
- Tree breeding specialist
- BSc (Hons) (Plant science)
- PhD (Plant science/CRC for Temperate Hardwood Forestry)

## Team Manager
### Bob Shula
- Forest growth modelling specialist
- BSc (Hons) (Forest management)
- MSc (Forest science)

## Emeritus Scientists
- **Cathy Hargreaves**
  - Micropropagation scientist
  - NZCS (Biology)
  - NZ Dip. Sci. (Plant science)
  - MSc (Botany)

- **Rowland Burdon**
  - Emeritus scientist
  - BSc (Botany)
  - BA (Forestry)
  - PhD (Plant genetics)

- **Lynn Bulman**
  - Management assistant

## Tree Propagation
### Vacant
- Research leader

### Ki-Taurangi Bradford
- Senior technician
- BSc (Ecology and biodiversity)

### Barbara Geddes
- Tissue culture technician
- NZCS Biology

### Keiko Gough
- Tissue culture scientist
- BAg (Wood science & technology)

### Christina Maher
- Laboratory technician

### Cathie Reeves
- Tissue culture scientist
- BSc (Biochemistry)
- MSc (Plant physiology)

### Machiko Takahashi
- Laboratory technician

### Susan van der Maas
- Propagation technician

## Quantitative & Molecular Genetics
### Emily Telfer
- Research leader
- Molecular breeding scientist
- BSc (Hons) (Biochemistry)
- PhD (Molecular biology)

### Liz Cunningham
- Senior technician
- BSc (Biological sciences)

### Kane Fleet
- Field technician

### Natalie Graham
- Scientist
- BSc (Chemistry/cell biology)
- MSc (Molecular biology)

### Jaroslav Klápště
- Genomic scientist
- MSc (Forest engineering)
- PhD (Dendrology & forest tree breeding)

### Yongjun Li
- Scientist
- BSc (Animal science)
- MSc (Animal production)
- PhD (Quantitative genetics and animal breeding)

### Charlie Low
- Tree breeding scientist
- NZCS (Forestry)

### Mark Miller
- Field technician
- NZCS

### Toby Stovold
- Field scientist
- NZCS

### Mari Suontama
- Scientist
- MSc (Agriculture and forestry)
- DSc (Agriculture and forestry)

## Nursery
### Peter Harington
- Nursery manager
  - Post Grad Dip (Management studies)
  - NZ Cert (Forestry)

### Mike Dibley
- Nursery researcher
- NZCS (Biology)

### Colin Faulds
- Nursery technician

### Tom Lamason
- Nursery staff

### Earl Wright
- Nursery staff

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For contact details, visit [www.scionresearch.com](http://www.scionresearch.com) or contact us at March 2017.