scion™

FORESTS ■ PRODUCTS ■ INNOVATION

overview

Scion is a Crown research institute that specialises in research, science and technology development for the forestry, wood product, wood-derived materials, and other biomaterial sectors.

Our vision

Prosperity from trees
Mai i te ngahere oranga

Our purpose is to drive creativity and growth from these sectors to build economic value and contribute to beneficial environmental and social outcomes for New Zealand.

Scion is New Zealand's leading Crown research institute in the following areas:

- Sustainable forest management and tree improvement
- Forestry biosecurity, risk management and mitigation
- Wood processing, wood-related bioenergy, waste streams and other biomaterials
- Forestry and forestry-based ecosystem services to inform land-use decision making.

Through collaborations with other research providers and end-users, we also contribute to the development of:

- Land-based biosecurity, soil and freshwater management
- Climate change adaptation and mitigation
- Indigenous forestry
- Industrial biotechnology and high-value manufacturing.

We achieve our purpose through providing research, technology and knowledge in partnership with industry, government and Māori stakeholders.

Commercial forestry

To maximise the value and productivity of New Zealand's commercial forests, Scion works in close collaboration with the commercial forest growing and management sector.

Our combined focus is to:

- increase wood quality and volume growth through a combination of genetic tree improvement and forest management
- reduce the cost of harvesting trees
- expand the range of tree species that contribute to commercial forestry
- enable forest owners to maximise value from carbon forestry.

Wood products and processing

To improve the competitiveness of the solid wood processing industry, Scion works in partnership with innovative manufacturers and engineering companies.

Together we are:

- developing wood segregation technologies that improve productivity and reduce costs
- encouraging and enabling increased use of wood in construction
- Developing new product opportunities through wood modification technologies.

Wood fibre, pulp, biopolymer and biochemical industries

To expand opportunities for using wood fibres, biopolymers and biochemicals, Scion is working with a wide range of manufacturers and chemical companies in existing and emerging industries.

Together we are developing:
- new product opportunities for the pulp and paper sector through biorefinery technologies
- new composite products for manufacturers
- renewable chemicals from forest biomass
- new packaging products for food exporters.

Risk and adaptation

To improve New Zealand's ability to manage risks associated with biosecurity, fire and climate change, Scion works with government agencies, forest growers and science collaborators both nationally and internationally.

Our science is used to:
- underpin effective biosecurity systems for New Zealand
- reduce the impacts of established pests and diseases
- assist fire management agencies with protecting New Zealand's rural landscape.

Licence to operate

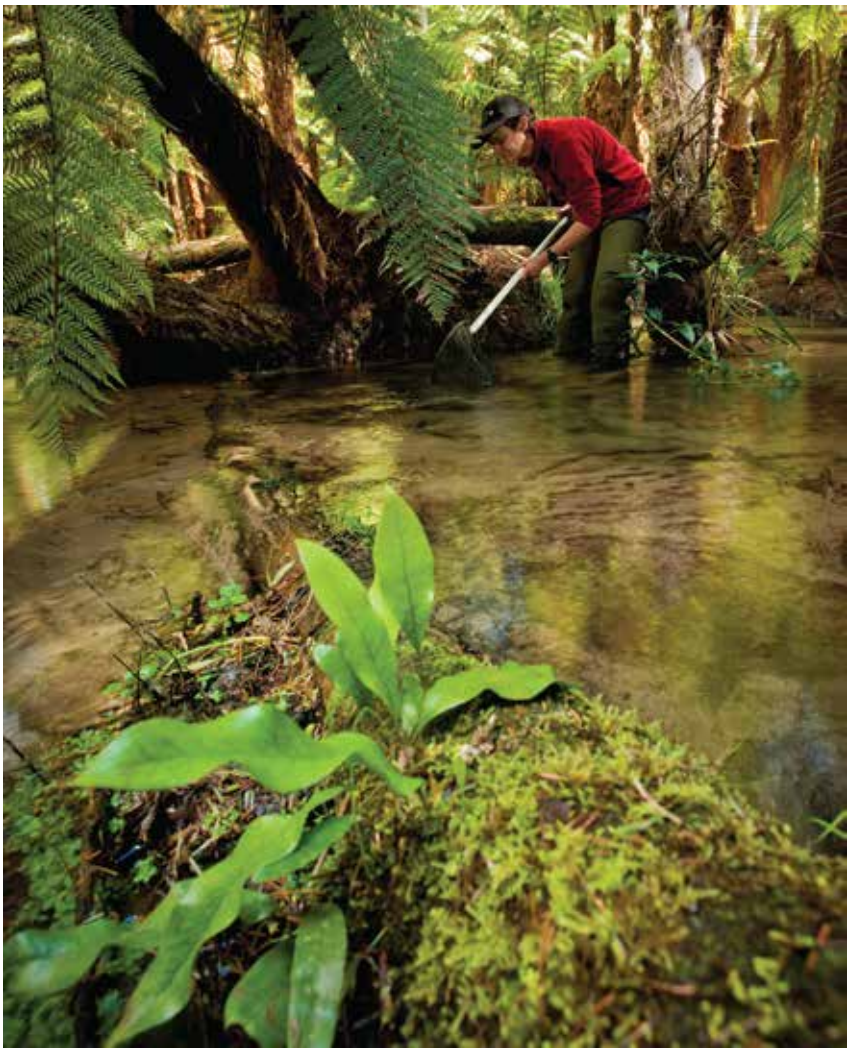
Through targeted research aimed at enhancing environmental performance, Scion is protecting New Zealand forest industry's licence to operate both domestically and internationally.

Scion is:
- assisting the forest and wood processing sectors to reduce their environmental footprint
- developing tools that support land use management and optimise the multiple benefits of forestry in the landscape
- providing technical information to support increased utilisation of wood.

Bioenergy

To help increase New Zealand's energy security through expanded utilisation of forest biomass for energy, Scion is leveraging strong national and international research collaborations.

Together we are:
- developing technologies for producing heat, power and liquid fuels from woody biomass
- supporting the development of a supply chain for woody biomass targeted at energy production.



"Science adds value to New Zealand in many ways. A knowledge-based society will be more ambitious, more prepared to face the challenges ahead, more able and willing to address issues of social development and environmental protection, and certainly more productive."

Professor Sir Peter Gluckman
Chief Science Advisor to the Prime Minister

Scion is dedicated to improving the international competitiveness of the New Zealand forest industry and building a stronger biobased economy.

Forests

The forest industry has a vital role to play in building a stronger economy and achieving better environmental and social outcomes for New Zealand.

Scion has a proud heritage in providing the forest science necessary to underpin this success.

- Improving the growth, quality and value of forests.
- Increasing the efficency of forest operations.
- Protecting the forest resource and export markets.
- Measuring and quantifying forest values and benefits.
- Integrating forests into rural landscapes.

Products

We form partnerships with innovative companies to maximise the value and range of products obtained from trees and other biological resources.

- Improving the quality, stability and appearance of wood.
- Developing new composite products, bioplastics and biopolymers.
- Developing bioenergy systems and co-products.
- Using natural fibres in engineered products.
- Designing new materials for food packaging.

Innovation

The level of innovation required to solve complex problems usually requires research collaborations across a range of organisations, and strong industry partnerships. Assembling multi-disciplinary science teams to deliver meaningful solutions is Scion's strength.

Our research provides opportunities to meet current and future market needs in ways that do not harm the environment.

- Deriving value from waste using green technologies.
- Developing complex models that underpin practical decision-support tools.
- Deriving value from the ecosystem services provided by forests, such as carbon, water quality and biodiversity.

For information on our people, research capabilities, publications, events and contact details see
www.scionresearch.com

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