

GM pines cleared of risk to the environment

May 02, 2008- *By Angela Gregory*

A trial cultivation of genetically modified pine trees in the open has shown no demonstrable risk to the environment, says research agency Scion.

The Crown Research Institute says its field trial in Rotorua had not led to any modified gene transfer to other organisms or any discernible impacts on insects which live or feed on the trees, or bug life in the soil.

Dr Tom Richardson, Scion chief executive, told the Herald yesterday these were the key areas under investigation and the result was that there were no detrimental effects from exposure to the genetically modified pines.

The trees had been created by Scion from pine seeds and tissue with the injection of reporter and selection genes related to reproductive development.

Dr Richardson said those genes were easy to track with distinct qualities that allowed their behaviour to be traced by scientists as the trees grew.

The seedlings were planted five years ago and had grown into trees up to a couple of metres high. The 67 genetically modified pines and seven unmodified control trees were planted in a natural environment less than a hectare in size on the Scion campus.

But after an illegal break-in to the site in January with the destruction of 19 trees, only 50 genetically modified and five control genes had remained.

Dr Richardson said that had not affected the validity of the study's findings.

He said the Rotorua trial was New Zealand's most comprehensive and independent scientific field trial of genetically modified trees.

However, the research had no immediate commercial application as the genes used were not relevant to issues of cell-wall density or other factors such as fibre.

Potential commercial possibilities with other gene modification included growing wood which was more dense, strong and straight for construction timber, or environmentally friendly wood tissue for quality paper production.

Dr Richardson said there were also carbon sequestration advantages through genetically modified fast-growing pines which would absorb carbon quicker.

He said the results from the trials supported the argument that genetically modified trees were low risk and could be safely introduced into the environment without a negative effect on other organisms.

Dr Richardson was not aware of any large-scale plantings of genetically modified trees overseas but said a lot of research was being conducted in North America.

"The most important outcome from this is that New Zealanders have access to unbiased, comprehensive scientific information that can be used to inform the discussion on genetic modification."

In 2000, the New Zealand Government established a Royal Commission on Genetic Modification of Organisms.

Dr Richardson said a key finding was that there was nothing inherently unsafe about genetic engineering and that opportunities to develop plant and medical biotechnology based on genetic modification should be maintained.

The commission concluded that New Zealand should proceed to explore genetic modification carefully, minimising and managing risks.

ROTORUA TRIAL

Results to date show:

- No evidence of the modified genes having transferred to other organisms.
- No evidence of detrimental impact on insect diversity by the genetically modified pines.
- No evidence of impacts on the micro-organism populations that live in close association with the pine roots.