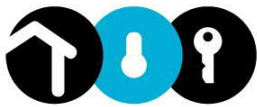




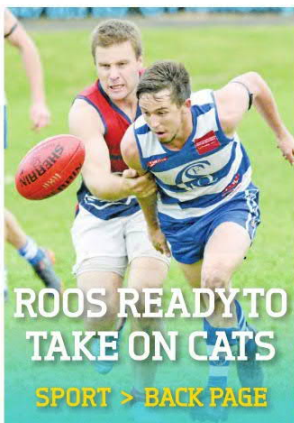
TECHNOLOGY MEETS ART

NEWS > PAGE 7



LIMESTONE COAST PROPERTY GUIDE

24-PAGE
LIFTOUT
INSIDE TODAY



ROOS READY TO TAKE ON CATS

SPORT > BACK PAGE

Research revolution



Emerging worldwide genetics technology tipped to fuel products and jobs for Limestone Coast forestry industry



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THE Green Triangle's \$2b forestry industry is on the cusp of a possible revolution as genetics technology emerges around the world that will fuel new products and jobs in the regional sector.

This was the message flowing from leading national and international forestry research scientists who gathered in Mount Gambier this week.

Continued page 2

BRANCHING OUT INTO INNOVATION: Leading Australian forestry researchers Dr Josquin Tibbitts and Dr Richard Kerr joined forestry scientists, foresters, sawmillers and plantation operators who inspected a 7000-tree research plantation near Mount Gambier. Picture: SANDRA MORELLO

WEATHER > TODAY: MIN. 5, MAX. 12 - SHOWERS > PAGE 43

TV GUIDE > PAGES 18-19

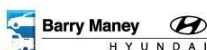
FARM > PAGES 23-26

COMICS > PAGE 27

CLASSIFIEDS > PAGES 28-33



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Forest 'breakthrough' for breeding research

A LEADING regional forestry research identity has described advances in softwood and hardwood tree-breeding research as achieving "breakthroughs" for industry.

Southern Tree Breeding Association general manager Dr Tony McRae said the breakthroughs were achieving real dollars for plantation owners and timber processors in the region.

"We are now growing trees faster, with smaller branches, straighter and with better wood properties," Dr McRae said this week.

He said researchers were now using DNA technology to identify the physical attributes of trees.

This is considered a game-changer for industry given "new generation" seedlings could have their DNA tested in the nursery before they were planted in the field.

This is expected to speed up the process of rolling out new generation trees by a number of years.

"What we have been able to do last week is combine the DNA information on individual trees and families with physical characteristics data on a commercial scale breeding program," Dr McRae told *The Border Watch*.

"We can now make more gains by using those pieces of information - this is a first for trees internationally.

"They have been doing it in the lab in universities, but they have not done it on a commercial operations scale."

While it has been initially developed for the hardwood sector, it is hoped the method can be transferred to the radiata pine industry.

He said other advances included new technology that allowed the industry to use a cutting-edge high-tech drill - known as a resistograph - to test the stiffness of the timber in standing trees.

This is considered vital because it predicts the strength of the timber in the future for the sawmilling process.

Funded by Forest and Wood Products Australia, the two year research project was put under the microscope this week by a delegation of scientists, foresters and processors from around Australia.

Walking through a research softwood progeny plantation site this week near Mount Gambier, the researchers witnessed a demonstration of the tool.

It is hoped the new technology will drive increased returns of thousands of dollars per hectare for plantation owners in the future.

Dr McRae said the genetics trial site of 7000 softwood trees was already assessed in a plantation near Mount Gambier.

This trial is cutting edge research into the development of a "new generation" of trees through the science of genetics.

"This research is very important because when sawmills process a log they differ in their attributes - and that impacts on money," Dr McRae said.

"So what we are trying to do here is improve the variety of trees so when they are harvested they produce a more uniform log with better properties."

He said research into producing better trees had been ongoing in the region for 75 years.

"Research is getting more and more important because when you talk about trees, we just do not talk about their attributes, but we rank them in their importance as to how much money they are worth," Dr McRae said.

He said the progeny of the new generation of trees would then be rolled out into new plantations.

"If we pick the very best ones, we could probably increase the growth rate up to 30pc," Dr McRae said.

But he said it was also important not to just pick the fastest growing trees as seedlings as this could compromise wood quality - it's a trade-off between quality and growth rate.

Timber growth potential

Green Triangle sector on cusp of genetic revolution

From front page

The Green Triangle forestry sector - considered to be among the world's premier plantation woodfibre baskets - is considered well placed to tap into this "exciting" technology.

In Mount Gambier, the forestry sector accounts for around 10pc of total employment.

One of Australia's leading forestry molecular geneticists Dr Josquin Tibbits - who toured a 7000-tree softwood research site near Mount Gambier this week - said the industry was sitting at the crossroads of new technology.

"It is really exciting - this is just the start," said Dr Tibbits, who was lured to Mount Gambier for the Southern Tree Breeding Association's meeting of scientists and foresters.

"We are on the edge of a new revolution - it is hugely valuable and people are working on this all around the world.

"There has been amazing technological innovation over the past 50 or even 150 years in the Green Triangle and it is not stopping."

He said the research was underpinning current jobs and "new jobs we have not got yet".

Explaining the evolution of products from trees was already under way, he said humans had been using trees for their whole existence.

"I cannot see them going out of fashion any time soon," Dr Tibbits said.

"We are in a world where we are starting to realise the value of these renewable natural products - if you want to define sustainability, it is forestry."

"It is the only industry in the whole world - when it is done well - that is carbon positive. It's absolutely renewable and people have been practising it in landscapes for hundreds of years - with many rotations of forests coming off the land.



A MEETING OF THE MINDS: Forestry delegates gather in a plantation research trial site near Mount Gambier.
Picture: SANDRA MORELLO



SKY'S THE LIMIT: Southern Tree Breeding Association general manager Dr Tony McRae inspects a tree's traits in a 7000-tree research progeny trial site near Mount Gambier.
Picture: SANDRA MORELLO

"It is multiple purpose, it supports wildlife and people love timber products."

He said the long-term opportunities for the region's forestry were unlimited and new products made from woodfibre would become a reality.

The senior scientist said there was even new technology allowing wood fibre to be significantly strengthened.

"They have managed to densify wood to the strength of titanium - it is stronger than steel," the Victorian-based scientist said.

"You could start building

aeroplanes or jumbo jets out of it - that is right at the front edge of science."

But he said it would take years to flow through to industry production.

"If you think about trees they are great - you can turn them into houses, chemicals and batteries. Trees are standing batteries - they are harvesting energy from the sun."

But he said the industry needed to continue to pour investment into driving innovation.

Dr Tibbits warned industry not to cut research dollars during "lean times" given the potential damage to the industry in

the future.

"We need that stability and that continued grind," he said.

"It believes in itself, it believes in its future - but with genetics you have to be patient because it takes time to go through the system."

"What is going out in the field today is genetics from seven or eight years ago."

Dr Tibbits said the geneticists had now moved on from that and it was now working on the next generation of trees.

"The sawmill will not see it for another 10 or 14 years until the first thinning harvest," he said.

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