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GREENING WAIPARA



Project Leader's Update



So much has been happening recently in the Greening Waipara programme that it is difficult to know where to begin. The first two vineyard biodiversity trails are now up and running (see page 4) and even in August visitors to the Waipara valley were appreciating this new type of eco-tourism. Add to that initiative the recent filming of the trails by TV One and a promise from Four Leaf Japan Co Ltd of a further \$36,000 funding for the greening programme and it becomes obvious that the "Greening" is really on a roll.

Further evidence of the "brand reach" of the programme comes from my being invited to give a keynote presentation at an organic fruit conference in Vignola, northern Italy in June and to the south-east Asian Organics Conference in Bangkok in September. In both presentations, Greening Waipara successes featured strongly: the ways in which Waipara Winegrowers are enhancing nature's services in their vineyards is very relevant to organic production because few artificial inputs are permitted in that system, making organics heavily dependent on these services.

Prospects for the future look good, with a commitment from Hurunui District Council to fund biodiversity enhancement in the region and new ideas being tested which will minimise bird damage to grapes by enhancing the activity of Australasian harriers in vineyards. This approach has already shown success in Mai Mai Creek Vineyard, Hawkes Bay following initial trials by viticulturalist Rob Beard there.

We look forward to welcoming you on our trails when you are next in the Waipara Valley.



Greening Waipara — online

The latest Greening Waipara updates can be checked out on the Bio-Protection Research Centre's recently upgraded website, www.bioprotection.org.nz

Greening Waipara research is co-ordinated by The Bio-Protection Research Centre, a government-funded Centre of Research Excellence that has its operational management base at Lincoln University. It is the only such centre in New Zealand's South Island.

Go to www.bioprotection.org.nz to read previous Greening Waipara newsletters, scientific publications relating to the project's research and our latest news.

The site is regularly updated to ensure you're kept in touch with the latest happenings and research findings.



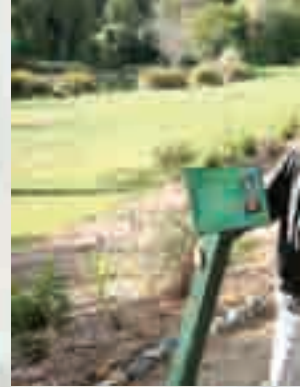
PhD candidate Mariska Anderson who works in the Greening Waipara programme, checks out the new Bio-Protection Research Centre website that features up-to-date information about the Greening Waipara project.

Ecological makeover of vineyards on public display

Greening Waipara made a splash in July by opening the world's first vineyard biodiversity trails at two North Canterbury wineries, and securing funding to develop more.

Developing the biodiversity trails is the latest phase of Greening Waipara – a world-leading project that enhances the sustainability and biodiversity of winegrowing, and the marketing of wine, by giving vineyards ecological makeovers. The brainchild of Professor Steve Wratten, of the Bio-Protection Research Centre, and the winegrowers themselves, Greening Waipara restores vineyard habitats by planting native plants among and near the vines. The native species should provide nectar to support beneficial insects – those that control plant pests – as well as other nature's services such as soil retention, weed suppression and eco-tourism. Also targeted is the conservation of native plants and the native insects and lizards that depend on them.

Steve's research team has now created biodiversity trails at two of the wineries. At the start of the year, Japanese company Four Leaf Japan Co. Ltd donated \$24,000 to design and create three trails and in July committed a further \$36,000 to enhance Waipara biodiversity still further.



Australian tourists on the Peg



Lizard lounges aim to enhance the population of native reptiles.



Pegasus Bay biodiversity trail.

Pegasus Bay and Torlesse Wines have each developed biodiversity trails close to their respective tasting room or restaurant, complete with information boards and children's biodiversity quizzes with prizes. The trails wind through vines and native plants, leading visitors to areas where Greening Waipara is in action. Visitors see how Greening Waipara benefits viticulture by encouraging nature's services.

"Nature's services add value to the vineyards while reducing reliance on herbicides and pesticides. We're also creating wetlands with native species that filter contaminated storm water and vineyard effluent", says Steve.

"It's a win-win situation. These practices enhance the natural character and resilience of the district, reduce pesticide and labour costs, provide eco-tourism opportunities and help marketing."

Wineries are changing their wine labels to reflect the greening programme and, to date, 46 properties are involved in the project – including the local school, the railway station and even the fire station.

Greening Waipara is funded by the Foundation for Research, Science & Technology, the Bio-Protection Research Centre, Waipara Winegrowers and Four Leaf Co., among many others. It is likely that Hurunui District Council will soon also play a major part in the project.

Steve's team includes Bio-Protection Research Centre staff Anna-Marie Barnes, Jean Tompkins, Mark Gillespie, Mariska Anderson, Shona Sam and Dr Marco Jacometti – a 2007 MacDiarmid Young Scientist of the Year award winner. It also includes the vital knowledge and experience of Dr Colin Meurk of Landcare Research, the Waipara Promotion Association, Hurunui Natives, and Signwise.



Visitors enjoy the biodiversity trail at Torlesse Wines.



Pegasus Bay's biodiversity trail is located close to the winery itself.

Gianni Prencipe: the Waipara biodiversity ambassador



*New Waipara biodiversity ambassador
Gianni Prencipe.*

Gianni Prencipe likes to keep his hands in the dirt – a trait that has been welcomed with open arms by the Greening Waipara team.

Gianni has taken on the role of Biodiversity Ambassador for the 46 North Canterbury properties involved in Greening Waipara, making him responsible for helping keep the project's plantings weed-free and healthy, establishing the biodiversity trails and answering winegrowers' queries.

Greening Waipara has established about 20,000 native plants in the Waipara Valley as the project restores biodiversity to an area heavily devoted to winegrowing and other farming. A lot of hard work and time has gone into the plantings and Gianni has been engaged to ensure they are well maintained.

"I'm here for the earth and the health of the people who live on it," says Gianni who is passionate about organics and gardening.

"Nature provides services that most people don't recognise. Greening Waipara is one way I can motivate and inspire new generations to appreciate what we have and maintain it for the future."

Part of the research is quantifying the survival and growth of the new plants and to see how other

members of the original Waipara ecological community are beginning to re-establish. For example, scientists will measure the subsequent colonisation by native insects such as butterflies that feed as larvae almost entirely on New Zealand plants.

This research will be far more effective if plants involved in Greening Waipara get the best possible care. Originally from Belgium, Gianni is more than qualified to ensure this happens – holding a Lincoln University Diploma in Organic Husbandry. His life-time interest in gardening saw him running his own North Island worm farm before he moved to Christchurch two years ago.

"I don't mind using a grubber and my knowledge means I can also offer advice to winegrowers on what is best to plant where."

It did not take long for Gianni to become a highly valued member of the Greening Waipara team!

Greening Waipara hits the road



Jean Tompkins planting at Pimlico Vineyard.

Go bio! Come back again and present to ALL residents in Marlborough.

Biodiversity and sustainability are key principles behind the Greening Waipara project and these ideas captured the interest of New Zealand winegrowers during a recent nationwide tour.

Members of the project team hit the road to promote Greening Waipara's techniques to winegrowers in Gisborne, Auckland, Hawkes Bay, Wairarapa, Nelson, Marlborough and Otago. Organised by Sally van der Zijpp of Sustainable Winegrowing New Zealand (SWNZ), each event generated an excellent response, says project leader Professor Steve Wratten.



Dr Marco Jacometti and Jean Tompkins.

"The winegrowers were very motivated by the idea of enhancing biodiversity in their own vineyards," he says.

"Five years ago, if you'd offered a regional tour talking about biodiversity, the winegrowers wouldn't have seen the relevance of adding it to their business.

"That's not the case any more. They see that carefully-managed, science-based biodiversity has only a positive effect because it reduces variable costs, such as pesticides and labour, and satisfies market demand."

Dr Marco Jacometti and Jean Tompkins, of the Bio-Protection Research Centre, and Dr Samantha Scarratt, of Wither Hills Vineyards, joined Steve on the tour that aimed to complement the activities of SWNZ by sharing best-practice biodiversity research from Waipara with all of New Zealand's winegrowing regions.

"New Zealand wines are top quality but represent only 0.5% of the world wine market. Exports are anticipated to reach \$1 billion by 2010 but the wines have to fight in a competitive market. Residues, energy use, carbon emissions, water use – all are part of the battery of market-based incentives which are a strong motivation for New Zealand vineyards to be demonstrably 'green'. Waipara is showing the way, based on ecological science and a strong grower partnership.

"California alone has 10 times the vineyard area of New Zealand but there is no Greening Waipara equivalent there – even in the world-famous Napa Valley."

Greening Waipara is funded mainly by the Bio-Protection Research Centre, the Foundation for Research, Science & Technology, Four Leaf Co. Ltd, and Waipara Winegrowers.

You have converted a skeptic.

Mystery Creek gets a taste of Greening Waipara



The Greening Waipara project made its presence felt during June's New Zealand National Agricultural Fieldays at Mystery Creek that focused on the science of farming.

Located on the Lincoln University stand, the Greening Waipara project was the main focus of the Bio-Protection Research Centre's display. Greening Waipara fitted perfectly with the Fieldays' theme by combining novel bioprotection science with proven outcomes.

"It's a model for New Zealand's continued place in world agriculture," says Centre director Professor Alison Stewart.

"The future of farming in New Zealand must embrace the needs and perceptions of our vital overseas markets. This requires excellent and relevant science, such as that being carried out by the Bio-Protection Research Centre."

Greening Waipara project co-ordinator Anna-Marie Barnes met visitors ranging from "The Bugman" radio and television personality Ruud Kleinpaste to journalists, farmers and families.

"The level of interest generated from such a broad spectrum of society is exciting for a project such as Greening Waipara – facets of which have the potential to become a nationwide initiative for New Zealand wine production," Anna-Marie says.



The Bio-Protection Research Centre display attracted the attention of Ruud Kleinpaste, top, and visitors of all generations who spoke to Anna-Marie Barnes about the Greening Waipara project.

Chasing butterflies for science



A Bio-Protection Research Centre student is trading his computer for a butterfly net to investigate a butterfly found only in New Zealand that may be at risk of regional extinction.

PhD student Mark Gillespie is carrying out a survey of butterflies in North Canterbury's Waipara Valley that harbours the endemic New Zealand Southern Blue – a species that experts believe is inter-breeding with the self-introduced Australian Common Blue to create a hybrid form.

*PhD student Mark Gillespie with specimens of the Common Blue butterfly, *Zizina labradus*.*

"The Waipara Valley is part of a larger area where the range of the Common Blue and Southern Blue butterflies overlap," Mark says.

In New Zealand, Common Blues occur over much of the North Island, Nelson and Marlborough, the West Coast, and North Canterbury as far south as Christchurch. The Southern Blue occurs in the south of the South Island and along the east coast as far as south Marlborough. In the overlapping zone the butterflies are thought to hybridise (inter-breed), producing offspring that resemble both species.

"From a local conservation viewpoint, this could be bad – the hybrids could replace the Southern Blue in the area, reducing the unique biodiversity. On the other hand, it's a natural process that happens anyway. We're not sure if it's a bad thing just yet – that's what I'll be investigating."

DNA analysis will help to shed light on the hybridisation issue. Field and lab work begins in October 2008 when temperatures are high enough for adult butterfly activity. Mark says the hybridisation could also have a climate change element to it.

"As things get warmer in New Zealand, the hybrid zone could spread further south. We may not be able to do anything about this."

In this research, Mark is collaborating with Professor George Gibbs, of the Victoria University of Wellington's School of Biological Sciences, Brian Patrick of Alexandra Museum, and Dr Rob Cruickshank of Lincoln University. Mark's preliminary survey of butterflies in the Waipara Valley shows species already present include the hybrid, the Common Copper, and Red and Yellow Admirals.

He plans to study butterfly behaviour, abundance and population dynamics to help him identify the habitat preferences and requirements of these butterflies.

Mark will also compare butterfly populations in areas planted with natives as part of the Greening Waipara project, with remnant areas of existing native bush and with properties that have not been planted.

Further experiments will try to enhance the populations of butterflies in the region, by planting the right food plants for the caterpillars and providing the best nectar sources for the adult butterflies.

TVNZ covers Greening Waipara

Greening Waipara attracted the attention of TVNZ in July, with the broadcaster filming a segment for its popular rural information show, Rural Delivery.

Screened on August 30, the segment features two scientists central to the Greening Waipara project – Professor Steve Wratten of the Bio-Protection Research Centre and Dr Colin Meurk of Landcare Research.

They were filmed at Torlesse Wines and Pegasus Bay, two of 46 North Canterbury properties involved in the project. The Greening Waipara team recently established biodiversity trails at the two vineyards and Rural Delivery was keen to take a closer look.

Rural Delivery screens each Saturday at 7.30am, primarily focusing on sheep, beef, dairy and cropping farmers but also covering stories from the horticultural and viticultural industries.

It is the second time Greening Waipara has featured on television, the first being on TV1 news in 2005.



Above: TVNZ filming at the start of the Torlesse Wines biodiversity trail.



Above: Torlesse Wines manager Kym Rayner explaining why he is committed to the biodiversity trail.



Left: Torlesse Wines manager Kym Rayner and Paul Hewett carefully mulching native plants on the vineyard's biodiversity trail.

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Participating properties

Artemis Estate
Ball Estate
Ben and Viv Kepes
Brent Knight
Cabal Properties
Cass View Vineyard
Claremont Country Estate
Concorde Vineyard
Dallington Downs
Daniel Schuster Wines Ltd
Daryl and Merreé Harris
Dickson Vineyard
Dunstaffnage
Erick Vineyard
Floating Mountain
Glenview Farm
Graeme Allen
Grant and Russell Wedge
Greystone Vineyards
Hayden Kent
McKenzie Farm
McKenzie Vineyard
Mt Cass Vineyard



Weta motel.

Weblinks

www.bioprotection.org.nz
<http://ecovalue.uvm.edu/newzealand/>
www.lincoln.ac.nz/story13772.html
www.lincoln.ac.nz/story_images/1028_NewsUpdate
www.waiparawine.co.nz

Funders

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Bio-Protection Research Centre
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Kate Valley Trust

Mountford Estate
Muddy Water
Omihia Creek Cassis Ltd
Pegasus Bay
Pernod Ricard (Camshorn) Vineyard
Pimlico Vineyard
Terrace Edge Vineyard and Olive Grove
The Mound
The Mud House
The Old Glenmark Vicarage
Three Sisters
Torlesse Wines
Waiata Vineyard
Waipara Downs
Waipara Gardens
Waipara Primary School
Waipara River Estate
Waipara Springs
Waipara West
Waipara Railway Station
Weka Pass Railway
Weka River Vineyard
Williams Hill Vineyard



Waipara vineyard



Beneficial insects



Waipara snake

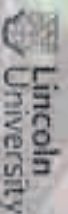
GREENING WAIPARA

Welcome to the Torlesse Wines Biodiversity Trail

- The aim of this trail is to introduce you to the value of returning New Zealand's native biodiversity to working vineyard landscapes
- If properly managed, biodiversity can enhance the winegrowing business by providing a range of "nature's services". These include biological control of pests, weeds and diseases, improved soil quality, conservation of the plants and the animals associated with them, aesthetics and eco-tourism.
- A good example of vineyard nature's services is the use of flowers to provide nectar, pollen and shelter to useful insects such as ladybirds and parasitic wasps. These foods help these useful insects live longer, lay more eggs, and kill more pests. The non-native annual plants, buckwheat and phacelia, sown in one row in ten in the vineyard can improve biological control of caterpillars so much that insecticides are no longer needed. This can save the vineyard \$25/ha/year.
- Returning biodiversity in this way strongly supports the Māori sustainability concept of kaitiaki/anga. Some of the plants here have Māori tohunga (treasured) status and most of them support Māori cultural practices such as mihingarākau (natural resources) and rongoa Māori (using the plants for their medicinal values).
- Some of the things you may see, as well as the plants, include weta motels, beard lounges and beetle hotels.

Enjoy the trail!

Waipara
Promotion
Association



Landcare Research
Manaaki Whenua



Bio-Protection
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signwise



Aphididolus bellidulus in a vineyard



Weta in a weta motel.