

Appendix 1 Photos

Photos



Bird damage to Sauvignon blanc



Calibrating bunch damage estimates



Falcon near a feeding tray



Survey being conducted

Appendix 2 Publications 2006-09

Abstract International Cool Climate Symposium 2006, Christchurch NZ.

Falcons for Grapes

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The New Zealand Wine Industry spends large amounts of money each year on protecting grapes from bird damage. In contrast to Europe, the populations of exotic avian species that attack grapes (blackbirds, thrushes, starlings) are increasing in conjunction with horticultural intensification.

The 'Falcons for Grapes' project will use one wildlife problem – the conservation of the threatened NZ falcon (*Falco novoseelandiae*) – to mitigate another: bird damage to grapes. Conservation is a luxury; it costs more money than it generates. This project generates funding from commercial beneficiaries – the wine industry – to conserve the falcons - a symbiotic relationship.

Objectives:

- Establishment of a demographic monitoring programme for wild NZ Falcons in the Marlborough Hills.
- Establishment of a new population of NZ Falcons in the vineyards area of Marlborough
- Development of a cost-effective method of significantly reducing bird damage to grapes

Abstract, Romeo Bragato National Grape Growers Conference 2008, Christchurch NZ.

Falcons in vineyards, the way forward.

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The Falcons for Grapes Project was funded by the Sustainable Farming Fund (SFF), NZ Winegrowers, the Marlborough Grapegrowers Association, and Pernod Ricard Wines, and has run for three years, finishing in July 2008. The original objectives of the project, which included establishment of a new population of NZ Falcons in the vineyards area of Marlborough, and development of a cost-effective method of significantly reducing bird damage to grapes, have been met. Falcons are now breeding and

nesting in vineyards, and bird damage to grapes in the vicinity of the falcons' feeding stations has been measured at less than 2% on unnetted grapes. With SFF funding now ceasing, the programme must move forward into the phase of being adopted by the industry and expanded beyond the present nesting sites. There will be further work on measuring the effectiveness of the falcons in patrolling and maintaining bird damage to grapes at an economically sustainable level. The next objectives of the programme will be: to research the ecology of falcons in vineyard habitats, to measure the effectiveness of a loyal falcon population on bird damage to grapes, to calculate costs and benefits of falcons, to facilitate uptake of innovation, and to trial the adoption of similar methods to enhance the loyalty of other predators (particularly Australasian harriers). This is conceptually a long-term solution to the costly problem of bird damage to the wine industry. It is also an example of the economic value of a natural ecosystem.

By establishing predator-safe nesting sites in mussel barrels, encouraging the innate nest-imprinting of young falcons, providing a healthy and regular food supply, young wild falcons will be encouraged by years 6 and 7 to be almost self-sufficient in the vineyards. Falcons patrolling vineyards may be cheaper than humans, and netting could well be reduced to outside rows only. With 50% of bird control spent on human patrols and 30% on netting, considerable cost reductions are anticipated with the success of this project.

An independently developed grape damage assessment methodology will be applied to this project to assess the effectiveness of falcons in mitigating damage and reducing the costs of bird control to grape growers.

Industry Press:

Saxton, Valerie, 2009. Birdscaring: the natural way: Research into the effectiveness of falcons in vineyards as a method of bird control in Marlborough, New Zealand. *Australian & New Zealand Grapegrower and Winemaker*. November 550:52-54

Saxton, Valerie. 2008. Encouraging growers to adopt the Falcons for Grapes project to reduce bird damage. *Australian Viticulture*, vol 12, no 5 Sept-Oct 2008, pp 68-71

Saxton, V P. 2007 Do you have the wrong birds? Ecological strategies for bird management in vineyards. *The Australian and New Zealand Grapegrower and Winemaker* 524: 57-60. 2007.

Saxton, V P. 2007. Wild falcons rule pest birds. *Practical Winery and Vineyard* Jan-Feb 2007, 46-49. 2007.

Media coverage

Keeping an eye on the crop. *The Press*, Feb 26th, 2009 page C5.