



Use of native plants as an alternative to herbicides in vineyards



Snapshot

Industry partner: Villa Maria

Project length: 13 Months

Start date: 1 August 2019

Estimated completion date:
30 September 2020

Industry funding: \$34,576

MPI funding: \$23,050

Villa Maria is investigating an unorthodox way to manage the area under vines. This breaks with the conventional practice of maintaining the area as bare dirt via chemical (herbicide) or mechanical (cultivation) methods.

The opportunity

Herbicide-resistant weeds are emerging globally, while new herbicide chemistry is not. Conventional under-vine management practice in vineyards in New Zealand is to maintain a bare strip under vines by applying herbicides, typically 2-3 times per season. Producers and consumers alike have mounting interest in finding alternatives to herbicides, for the benefit of environmental and human health. Another approach commonly employed by organic producers is to cultivate or mow the under vine area. However, these methods require even more tractor passes than management with herbicides, and can cause physical damage to vines, vineyard infrastructure (e.g. irrigation) and negatively impact soil health and structure.

The solution

Native plants and cover crops planted under vines offer an alternative to herbicides and cultivation. They have the potential to create a self-sustaining system on the vineyard floor that requires minimal intervention: reducing the use of tractors, reducing chemical application, improving soil health and physical properties, all while ideally maintaining or improving yield and wine quality. This project will tailor and test the existing knowledge on native plants and cover crops to suit the needs of New Zealand commercial vineyards. Native species in the trial include *Carex comans* (brown sedge), *Leptinella squalida* (Platts Black), *Lobelia angulata*, *Muehlenbeckia axillaris*, and two varieties of *Coprosma acerosa*. Also included in the trial are cover crop mixes that include fescues, clovers, plantain, sheeps burnet and alyssum.

The benefits

If successful, this project is expected to benefit New Zealand by:

- increasing biodiversity in vineyards;
- improving soil structure and health in vineyards;
- reducing the need to spray herbicides;
- reducing carbon emissions and increasing diesel savings through reducing use of tractors.