



Paxton Vineyards:

Disposal of winery wastewater onto native plantings and enhancing soil biodiversity

Winemaker/Viticulturist:

Michael Paxton is in the process of reusing winery wastewater on a native plantings (mixed species).

He is also refining the production of their biodynamic 500 preparations to enhance soil biodiversity, by using cow hides as a vessel to complement the production of BD500 from the more traditionally used cow horns.



McLaren Vale Wine Region

Key observations

What worked well?

- Working closely with the EPA to understand the requirements of managing small volumes of winery wastewater.

Pitfalls to avoid

- Ensuring the filtration is adequate to manage wastewater solids, so organic material does not block up the sprinklers.

Other projects in progress

- Revegetation commenced at Landcross Farm in 2004. Michael would like to include this area as a 'biodiversity walk', extending from the nearby bike track to the cellar door in the future.
- Paxton Vineyards run their vineyards biodynamically and produce their own preparations.

Michael has been using cow hides to produce composted manure preparations in conjunction with traditionally used cow horns. This produces greater volumes of composted manure with less work (**photo below**).



Case Study

Background: A small amount of winery wastewater is produced on site each season. Because of the small volume (<500 tonnes are crushed annually) no additional treatment is required (as per EPA guidelines). The wastewater is applied to native plantings for disposal as it is produced, so it doesn't putrefy (**photo below and above right**).

A range of native plant species including grasses, sedges, rushes and shrubs were planted in 2009 (using irrigation water) and these plantings have been watered with winery wastewater over the last two seasons.

The area is 'bunded' via the creation of contour banks to ensure no leachate enters a small creek line at the bottom of the plantings.

Winery wastewater is applied to the native plantings in small volumes throughout the year via 'wobble-tee' sprinklers, which are fed from the settling tank that is used to remove the gross solids. The sprinklers are moved each time wastewater is applied, to spread the distribution across the planting area. Winter rain helps to dilute the content of the wastewater in the soil each season.

Future: A meter will be installed to monitor the flow of wastewater throughout the year. A small weir incorporating a screen filter will be constructed between the winery and holding tank to remove larger sized waste (string, plastic etc) prior to it entering the holding tank.

Wastewater in the holding tank will be aerated to assist with the microbial breakdown of organic matter and regular soil testing will be carried out in the future to monitor soil health.



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