

“Compost is a long term solution for us – we’re aiming to get our soil in a better condition to handle adverse periods.”

Stuart Marshall, Viticulturist Giant Steps/Innocent Bystander

Compost for wine grapes – a case study from Giant Steps, Yarra Valley, Vic

Who

Stuart Marshall,
Giant Steps/Innocent Bystander

Where

Healesville, Yarra Valley, Victoria

What

Wine grapes

Aims

- to supplement shallow soils on hill tops
- to protect root systems in terraced vineyards

Outcomes

- increased organic matter levels
- increased root access to water and nutrients
- increased soil resilience



Giant Steps

Giant Steps respects the unique characters of each variety, site and vintage through minimal intervention in the winemaking process and meticulous vineyard supervision.

An independently owned winery in Victoria's Yarra Valley, Giant Steps source grapes from estate and leased vineyards in the region.

Giant Steps became interested in compost to tackle some problem areas in their vineyards and improve the resilience of their soils.

Why compost?

Like many vineyards, the Sexton vineyard at Giant Steps has low lying areas and high areas where the topsoil is very shallow. Shallow soils on the site severely limit the amount of water and nutrients that vine roots are able to access. The Sexton vineyard also has several terraced sections where shallow root systems are exposed to direct sunlight.

Over the last six years the viticulturists at Giant Steps have used composted mulch on about eight hectares of problem areas. Composted mulch is used to increase soil and reduce the impact of sunlight in areas where vine roots are exposed to direct sunlight. Composted mulch is also used to improve organic matter levels, moisture holding capacity and resilience of soils in adverse conditions.

Compost product and application

Giant Steps initially sourced composted mulch from a commercial supplier but for the last two years they have made their own. Giant steps use a mixture of grape marc, manure, oaten hay and coarse wood chips to make their composted mulch. The composted mulch is produced for approximately \$30/m³ and turns waste products into a valuable resource.

Giant Steps spread compost under the vine rows with a modified fertiliser spreader, and create a mound approximately 40 cm wide and 20 cm high. So far, one application has been made to the problem areas in their vineyards. Stuart Marshall, Viticulturist for Giant Steps/Innocent Bystander said composted mulch has been applied once to their problem areas, with a second, heavier application planned for the problem areas.



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“We’re using compost where the soil is shallow or where root systems need protection.”

Stuart Marshall, Viticulturist
Giant Steps/Innocent Bystander

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The bottom line...

Where soils were shallow, composted mulch immediately increased the amount of soil where vines could access water and nutrients. The mulch on the soil surface provided physical protection for the soil and roots against temperature and moisture fluctuations. Stuart sees composted mulch as a long term solution, although his vines have immediately benefited from increased soil volume and temperature buffering.

Healthier root growth has been seen in the problem areas of the vineyard due to improved water and nutrient access and more stable conditions in the root zone. Stuart hopes that when conditions become drier the benefits of composted mulch will be even more obvious as the soil will be able to withstand adverse periods. Stuart anticipates that they will irrigate less because the composted mulch will reduce evaporation and increase soil moisture holding capacity.

Giant Steps will continue to make compost and apply it in areas where the soils are shallow or root systems are vulnerable. Stuart intends to conduct soil tests to monitor the benefits of composted mulch for soil and vine health.

The problem with shallow soils

Vines don’t have much to work with on shallow soils – the amount of soil they can exploit for water and nutrients is very limited. To add to the problem, the top 5–10cm will be exposed to temperature and moisture extremes if the soil is bare. An environment like that does not encourage healthy root growth. Applying composted mulch to shallow soils immediately increases the amount of soil and nutrients available to vines.

Composted mulch can help protect the soil against extreme temperatures and conserve soil moisture at the same time. This makes it easier for plant roots to establish and source vital nutrients and water.

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Erosion on sloping sites

Water can often move across the soil surface instead of infiltrating on sloping sites, taking valuable top soil and nutrients along with it.

Applying composted mulch increases microbial activity and these microbes produce the ‘glue’ that helps bind soil particles together and improve soil structure. Composted mulch also increases the level of organic matter in soils, creating pores in the soil that allow water to penetrate instead of running off.

Increased infiltration rates have been recorded up to ten years after application of composted mulch.

For more information on the program contact:



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the resource for compost users