



Woodshield Vine Posts - Superior Performance & Responsible Waste Management

Introduction

Sustaining Endeavour, based in South Australia, offers a recycling and rebate service to Growers for old polymer-based agricultural products that have reached end-of-life. Growers receive a rebate from Sustaining Endeavour that they can put towards the purchase of Sponsoring Manufacturers Australian-made products through a Regional Supply Store partnering with Sustaining Endeavour in their region.

Products include high quality vine posts from Woodshield, used by an expanding list of wine growers including d'Arenberg, located in the beautiful McLaren Vale region of South Australia.

The Heart of a Circular Economy - Sustaining Endeavour

Sustaining Endeavour has identified that a Circular Economy involving plastic circulates at a national level between our agricultural regions and Australian manufacturers, large and small.



Sustaining Endeavour connects a collective group of Sponsoring Manufacturers with agricultural regions and recyclers to keep a plastic resource circulating in our economy and to help sustain Australian jobs in manufacturing, rural retail and in agriculture.

Our goal is to expose, stimulate and strengthen this circular economy for all Australian businesses involved within it, whilst also improving the environment and strengthening regional communities.

The Sponsoring Manufacturer – Woodshield



Woodshield are a perfect example of a Sponsoring Manufacturer within the circular economy, employing four manufacturing staff in Melbourne. They source the recycled granulated polymer used in their product from Adelaide based Plastics Granulating Services (PGS) employing 30 staff.

PGS is also where Sustaining Endeavour directs end-of-life dripper line picked up from, or dropped off by regional growers for recycling. Hence a portion of the region's old dripper line is converted into Woodshield vine posts and Growers have the opportunity to put their rebate towards purchasing these or Australian made products from other Sponsoring Manufacturers.

Woodshield estimate that 2 kg of high quality recycled polymer, sourced from Plastics Granulating Services, PGS in Adelaide's northern suburbs, is used in making each Woodshield Vine Post.

For over a decade Woodshield have offered a superior vine post that stands up to the rough and tumble of harvesting and is proven to out-perform treated timber posts¹. According to Ashley Davidson, Woodshield's International Business Development Manager:

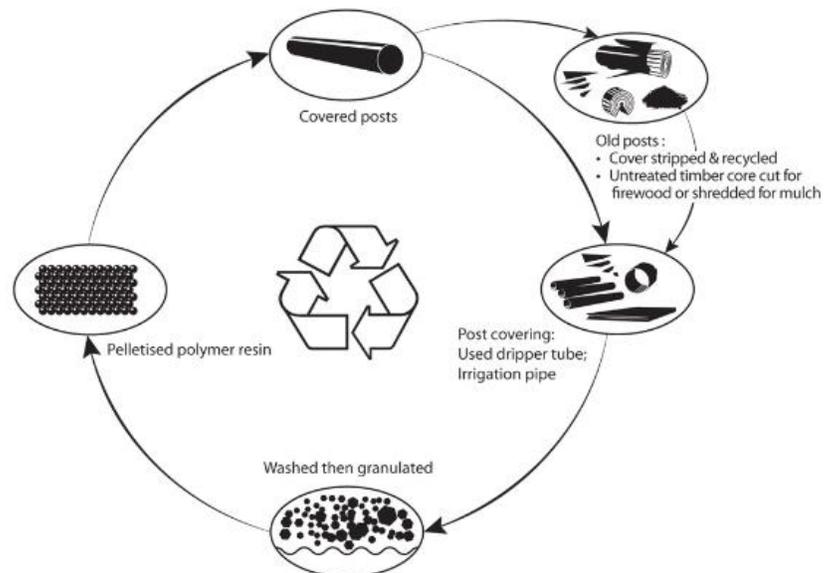
“Woodshield’s unique patented products are proven in all agricultural sectors. They start with untreated pine posts machined to a diameter of 75mm, 93mm and 113mm. A protective layer of UV-resistant high-grade polyethylene is then applied, encasing the posts to finished sizes of approximately 83mm, 100mm and 124mm respectively.

The process creates a strong adhesive bond between the timber and the polymer, completely sealing the post, leaving no timber exposed. The process greatly increases the timber’s overall strength. The seal provided by the polymer coating prevents entry of moisture over the life of the post. Standard fasteners can be used without compromising the seal.”

As both the polymer coating and timber are not chemically treated, Growers avoid the waste management costs associated with chemically treated posts such as those treated with copper chromated arsenate, CCA.

Woodshield posts are designed to have maximised life. When they do reach end-of-life, they are fully recyclable. The polymer coating can be removed with readily available tools for recycling.

As with all Sustaining Endeavour's Sponsoring Manufacturers, there is commitment from Woodshield to ease of management at end-of-life.



¹ Melbourne Testing Services 3 Point Bending Tests confirm Woodshield timber posts achieve a breaking force 40% to 50% greater than treated timber pine posts and the breakage deflection angle is 100% higher. For further information please contact Ashley Davidson of Woodshield.

The CCA Waste Timber Problem

For Growers south of Adelaide the cost for disposing CCA treated timber waste to landfill is \$110 per tonne (incl. GST)² plus transport charges.

Where reuse is not an option, engineered landfill is presently the only legally compliant option for disposal of CCA waste timber in South Australia. This is not a feasible option for Growers, given the number of broken CCA vine posts accumulating across most wine regions. Also, with limits on available landfill space, landfill disposal of CCA waste timber is not a sustainable disposal option.

Other waste management costs associated with CCA waste timber include those for correctly storing interim stockpiles to prevent leaching of treatment chemicals into the soil, surface water or ground water. A Guideline from the South Australian Environment Protection Authority³ provides guidance on requirements.

The Grower Ambassador - d'Arenberg



Since 1912 the Osborn family have tended vineyards in McLaren Vale, South Australia. Today fourth generation family member Chester makes distinctive wines using traditional methods both in the vineyard and the winery. From entry level to iconic, all d'Arenberg wines are produced using traditional winemaking methods, with basket pressing and red ferments being foot trod.

D'Arenberg have built its leading position with a strong environmental and sustainability policy that includes following minimal impact viticulture practices and active involvement in the Sustainable Australia Winegrowing Program, SAW a framework used by Growers in six Australian wine regions for measuring and improving Sustainability Performance.

As part of their organic and biodynamic farming practices, d'Arenberg have chosen Woodshield vine posts. Comments from Vineyard Manager, Giulio Dimasi about Woodshield products:

“At d'Arenberg we strive to minimise impacts to the land through our farming practices and hence select posts and fixtures that support our organic status and which enable us to pursue excellence in our operational practices. Following our trial of various posts, Woodshield posts were selected and they've lasted over seven years so far without any problems. Whilst it remains to be seen how long the posts last, we're very confident of the longevity of the Woodshield product”.

The posts have stood up very well to harvesting with good flexibility and tensile strength observed as well as good clearance around their diameter to accommodate the harvester. Only a handful out of over 16,000 posts have broken in seven years, the small number of breakages that did occur were through irregular incidents involving machinery rather than due to standard operations.”

² This price is indicative and was obtained from the Southern Waste Region Resource Authority, SWRRA in early May 2017, for current pricing please make own enquiries to Rebecca Dods at the weighbridge on 8327 0304.

³ CCA timber waste storage and management Guidelines, SA EPA, 2016 www.epa.sa.gov.au/files/7565_guide_cca.pdf

Giulio has welcomed Sustaining Endeavour's Recycling and Rebate Service in the McLaren Vale region and d'Arenberg has recently recycled approximately a tonne of end-of-life dripperline through the service in return for a rebate from Sustaining Endeavour.

As a keen member and supporter of the McLaren Vale Biodiversity Group which restores local creek lines, Giulio has elected to put a portion of his rebate towards the important activities of this group.

Giulio has also volunteered his time to a technical committee facilitated by the McLaren Vale Grape Wine and Tourism Association as they've led revisions of the SAW Program chapter on waste management. Pictured right is Paul Miller, Machinery Operator at d'Arenberg, using a Munro Post Driver to drive in a Woodshield Post.



Climate Change Mitigation and Adaptation

Anthropogenic greenhouse gas, GHG emissions are extremely likely to have been the dominant cause of observed warming since the mid-20th century⁴.

In South Australia's southern wine-growing regions there is high to very high confidence in predictions under various emissions scenarios that there will be: Average temperatures increased in all seasons; More hot days and warm spells; Decreased winter and spring rainfall; Increased intensity of extreme rainfall; and Harsher fire-weather climate⁵.

Sustaining Endeavour's circular economy recycling and rebate model offers one solution to drive a shared response by a supply chain in responding to climate change and bringing about wider social benefits:

- Use of Australian-made **recycled** polymer by Woodshield (and other Sponsoring Manufacturers) instead of virgin polymer in its vine posts results in the carbon footprint of the polymer component being reduced by between a third and two thirds⁶.
- Only **Australian-made** products are available through the recycling and rebate service and consequently transport GHG emissions associated with getting products from manufacturers to Australian Growers are minimised, Australian **manufacturing jobs** are also supported.
- By returning products to Growers through Regional Supply stores, product flow between each Sponsoring manufacturer and the participating region is consolidated with **wholesale quantities**, further minimising transport GHG emissions. Jobs in **rural retail** economies are also supported.
- Sustaining Endeavour seeks Sponsoring Manufacturer's whose products are **recyclable** at end of life. Then by linking Growers to their nearest recycler based in Australia, GHG emissions associated with transport to the recycler are minimised. Jobs in **Australian recycling** are also supported and a high quality recycled feedstock is secured to underpin **Australian plastics manufacturing**.
- Vineyards will be able to achieve improved **watering efficiency** by upgrading their old inefficient irrigation systems, to be able to adapt to dryer and hotter growing conditions. Sustaining Endeavour supports vineyards in upgrading their irrigation by eliminating a waste problem and reducing replacement costs, contributing to ongoing **vineyard profitability**.
- Growers can put part of their rebate toward **biodiversity/community** projects in their region that assist native flora, fauna as well as communities to adapt to changing climate and remain resilient.

4 IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp.

5 Climate Change in Australia Predictions for NRM Regions of Australia :

<https://www.climatechangeinaustralia.gov.au/en/climate-projections/future-climate/regional-climate-change-explorer/sub-clusters/?current=SSWSE&popup=true&tooltip=true>

6 Various life cycle assessment studies for consumer plastic packaging have been referred to in the absence of studies for plastic products.

Key Messages

Woodshield offers Growers non-treated vine posts that surpass industry performance expectations and are the vine post chosen by d'Arenberg.

At end-of-life, Woodshield posts can be recycled on site by Growers so that they avoid waste management, transport and disposal charges associated with CCA treated posts.

Woodshield's utilisation of a high quality Australian-made recycled polymer to seal their timber posts helps to sustain a strong demand by Australian recyclers for old dripper line produced by Growers. This demand together with the support of all Sponsoring Manufacturers, is important as it allows Sustaining Endeavour to maximise rebates back to Growers for agricultural plastic waste streams such as old dripperline.

Generous rebates from Sustaining Endeavour support Growers in purchasing new Australian made products from Sponsoring Manufacturers that yield productivity and sustainability benefits on their vineyards:

- Leading irrigation products that deliver improved watering efficiency from Sponsoring Manufacturers Netafim Australia, Rivulis Australia, Toro Australia, Antelco and HR Products;
- Woodshield vine posts offering strength and responsible end-of-life management;
- GroGuard Vine Guards with proven hands free growth straight to the wire.

Sustaining Endeavour Recycling and Rebate Service Grower Enquires



Please go to the web site and click on your region, then download the PDF brochure which provides the latest information on how old dripperline and old vine guards are to be presented for recycling.

<http://sustainingendeavour.com.au/regions/>

As at June 2017 Sustaining Endeavour is operating with Regional Partners in the McLaren Vale, Barossa, Langhorne Creek and Riverland regions. If your region isn't listed, please contact Sustaining Endeavour.

For further information about Sustaining Endeavour's recycling and rebate service please contact:
Uma Preston on 0452 537 266

<http://sustainingendeavour.com.au/>

To learn more about Woodshield products please contact:

Ashley Davidson on 0418 322 953

<https://www.woodshield.com.au/>

To learn more about d'Arenberg Wines please contact:

The cellar door on (08) 8329 4822

<http://www.darenbeg.com.au/>

Sustaining Endeavour thanks all its Sponsoring Manufacturers for their ongoing support which underpins our Recycling and Rebate Service.



Thankyou also to Growers for correctly presenting plastic waste for recycling as well as participating Regional Supply Stores and Grower Associations for their assistance.