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Marlborough Environment Awards 2025

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Judges' Report

CATEGORY:

Wine Industry

Future Post – Viticulture Programme

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JUDGES	Andy Frost, Heath Stafford, Tracy Taylor

INTRODUCTION

When Future Post Founder, Jerome Wenzlick, was working as a Fencing Contractor, he found himself trying to dig in fenceposts on part of a farm that had been used as a rubbish dump. Jerome was astounded at the amount of plastic buried in the soil and wondered what he could do about plastic waste. He took a supply of plastic waste home and welded up a pipe to heat the plastic in, in the hope that it would mold into something useable like a fencepost.

Eight years on and Future Post is producing fence posts, vineyard posts, sleepers, and other landscaping materials all from 100% recycled plastic from New Zealand. Future Post has two factories – one in Waiuku (Auckland) and one in Blenheim (opened in 2023) that transform 4500 tonnes of plastic waste per annum. They are the biggest recycler of plastic in New Zealand in a truly circular economy. They are also Biogro certified.

GENERAL INFORMATION

In New Zealand there is 380,000 tonnes of plastic waste generated each year and this amount is increasing. Future Post recycles plastic types 2,4,5, and 7 from domestic and commercial sources of waste plastic and turns it into premium 100% recycled, UV stabilised products. The UV stabilisation comes from the addition of powdered carbon, itself recycled. The carbon has the added benefit of giving the posts a consistent colour. The products are made up of a mix of polyethylene from the likes of wheelie bins and vineyard irrigation lines (high density plastic) and polypropylene from plastic bags, eg., bread bags (low density plastic). It is important to have a proportion of soft plastic bags to make the melted substrate flow and mold.

There are four steps to the process;

Step 1 – Domestic and commercial waste plastics are sourced and sorted as raw ingredients – milk bottles, single use plastic, soft plastics, buckets, drums and more.

Step 2 – The waste plastic is cut up and ground into small pellets and flakes ready for processing.

Step 3 – The blended plastics are melted, UV stabilised and extruded into posts, rails, and sleepers.

Step 4 – The finished posts are Quality Control (QC) inspected with failures and off-cuts re-melted and molded. The finished products are stacked and wrapped ready for shipping.

Future Post has had its products tested for longevity and it is expected that the posts etc will last at least 50 years as they are UV stable, don't rust, and termites don't eat them. The posts come with a lifetime guarantee and will be replaced by Future Post in the unlikely event that they fail or break. They had the breaking strain of their fenceposts tested, and they didn't break under 28 tonnes of weight (the maximum weight of the testing equipment), so the breaking point is still unknown. Off-cuts from molded products and those that fail QC, or fail in the vineyard are all remelted and molded again so no plastic is wasted. The posts that fail QC are generally ones that have been produced from trialling different plastic mixes.

THE FUTURE

A vineyard post contains 22kgs of plastic and is the same weight as a wet wooden CCA treated post fresh from the factory. There is a trial underway to make stiffer and lighter posts for vineyards due to H&S concerns about vineyard staff handling the 22kg posts. Future Post is also trialling making railway sleepers to replace wooden sleepers that are currently used. The business is considering having its carbon footprint calculated because they realise that the market will require it in time. A New Zealand university has conducted a study on which posts are best from an environmental perspective and Future Posts came out the best with no sign of nano-plastics escaping into the wider environment – the report will be made available in the coming months.

The company used to use 100% renewable energy in its factories, but since the winter of 2024 power crisis they have been forced to use the spot market for the foreseeable future. However, if 100% renewable power was to become affordable again the company will go back to that source.

Apart from the New Zealand market, Future Post has exported products to Tahiti, Rarotonga, Australia and USA – foundation piles, wharf supports, and building materials, due their resistance to termite damage and saltwater degradation. There is interest in their process from Australia.

THE JUDGES WERE IMPRESSED BY

- The tenacity and inventiveness of the Founder to see his vision to the end product.
- The ethos to use only raw materials sourced from New Zealand.
- Identifying needs in the market and trialling products to meet those needs, eg., vineyard posts, railway sleepers.
- The partnering with wine companies to jointly showcase the benefits of using plastic posts, eg., Saint Clair.
- The concern for staff handling contaminated plastics and ensuring that suppliers screen the product before sending it to Future Post.

PROBLEMS AND HOW THEY HAVE BEEN TACKLED

- A regular supply of plastic in workable quantities.
- Variability and quality of waste plastic feedstock.
- Recipe to get mix correct.
- Variability in raw material means molds don't fill properly leading to gas bubbles. Good quality feedstock is important.
- Contaminated feedstock – health & safety of staff is really important, so contaminated feedstock is sent back to supplier to be cleaned before processing. Approximately 5% of the feedstock is sent to landfill because it is contaminated.
- Metal contaminates breaking cutting blades – it cost $10-15k to replace the knife blades
- Getting Farmers/Growers to change to something new and getting them to understand that plastic behaves differently to wood.
- The weight of the posts – Future Post are trialling lighter weight and stiffer posts currently.

SUMMARY

Future Post is a truly circular model of production where plastic is reused through recycling and waste going to landfills is reduced. The Founder, Jerome Wenzlink is applauded for his lateral thinking, inventiveness and tenacity for getting his 'product off the ground', figuratively speaking, and successfully into market. For too long farmers and growers have had no alternative to CCA treated timber materials. Now they have a sustainable and environmental alternative.

SUGGESTIONS

- There are concerns that the Future Post factory staff might be inhaling plastic dust and fumes, and that it might not be good for their health. The person who grinds off the end bits from the freshly molded posts is thought to be most at risk of inhaling plastic dust. Has there been any research into possible side effects from inhaling plastic dust and/or fumes? Is there some personal safety equipment that staff could wear to prevent inhalation of dust and fumes?
- The raw material (feedstock yard) needs more containment to prevent plastics escaping to the wider environment, either by being blown by wind or washed away in rainfall. Perhaps a bund could be installed to prevent plastics from washing away, and windbreak netting around the perimeter to prevent plastics from blowing away.
- Electricity – go back to sourcing electricity from 100% renewable resources when they can, ie., when it's affordable.