

# Grower profile

Paul Mancarella - Silvan, Victoria



STRAWBERRY  
INNOVATION

Paul Mancarella has been growing strawberries in Silvan, in Victoria's Yarra Valley for 43 years, in rich red soil, among gently rolling hills. The hilly nature of the Silvan area poses challenges for growers who want to minimise erosion and loss of soil from their farms. Additionally, many properties in this area have stream or river frontages, and it is important to minimise the environmental impact of soil and silt run-off into waterways to maintain water quality. Paul and his sons, John and Michael, recognise that their soil is an asset, and in 2015 they partnered with the Melbourne Water Rural Land Program, to improve their drainage management as to minimise the loss of their valuable topsoil and nutrients, and reduce their impact on Stringybark Creek at the bottom of their property.

## PAUL SAYS

**Soil is an asset. To help protect it, we participated in a program with Melbourne Water to improve drainage management and minimise the loss of valuable topsoil and nutrients as to reduce off-site impact on an adjacent creek**

The aim of the project was to improve drainage and intercept the run-off from the property, prior to entering the waterway. Using a series of pits and stormwater drains to direct run-off and a sediment trap to slow the flow of water, the project has allowed sediment to settle before discharged into the creek. The on-ground works were co-funded by Melbourne Water, who provided the design and materials, while the Mancarellas provided the labour for earthworks and construction.

Before the project with Melbourne Water began, run-off from the strawberry blocks and farm tracks travelled downhill and discharged directly into Stringybark Creek. After heavy rainfall this run-off carried large amounts of sediment directly to the waterway, and the speed of the run-off caused erosion gullies which, according to Paul, could be as much as 1.2 metres deep.

The first part of the Melbourne water project was to direct the flow of run-off water using a shallow grassed drainage line to a newly constructed concrete pit. This pit was connected by 55 metres of 450mm stormwater pipe to a second concrete pit further down the slope. This allows effective drainage without causing erosion along surface drainage lines. These pits are designed so that sediment can collect in the pit without obstructing the flow, and can be cleaned out periodically. The covers are strong enough for tractors to drive over.

Next, a sediment pond was constructed downhill from the second pit. The sediment pond slows the velocity of the run-off and allows soil particles to settle out. It is around 2 metres deep, and can hold a large amount of soil before it needs to be cleaned out. Soil and silt settle in the pond, and the resulting clear water flows into a large diameter outlet at the pond surface and is discharged downstream onto rock beaching, before continuing down the natural watercourse to the creek. This ensures that the water discharged to the creek is free of sediment. There is a smaller outlet in the sediment pond which takes overflow water to the dam in very heavy downfalls.



Michael, John and Paul Mancarella



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## PAUL FOUND

In situations where no structures are in place to intercept run-off, the heavy rainfall caused the movement of large quantities of soil in dams and waterways

Many parts of Victoria, including the Yarra Valley, experienced a major rain event over the first weekend of December 2017. The Mancarella's farm, like most in the surrounding areas, received in excess of 100mm of rain over the course of the weekend. Photos taken after this rain show the amount of sediment intercepted by the sediment pond, and the beached rock outlet, that would otherwise have finished up in the Stringybark Creek. The overflow from the sediment pond runs directly into the dam, which is used for irrigation, and this remained relatively clean after the rain. In contrast, in situations where no structures are in place to intercept run-off, the heavy rainfall caused the movement of large quantities of soil into dams and waterways.

In addition to the drainage works with Melbourne Water, Paul and his sons maintain good vegetated ground cover between the rows in their strawberry blocks, helping to hold the inter-row soil together, protect the soil surface and slow run-off from rain or irrigation to avoid erosion.

It is inevitable that heavy rain, particularly when blocks are empty or are being prepared for planting, will wash soil downhill. The advantages of managing runoff using



The sediment pond settling out suspended sediments in the water before overflowing through the outlet pipe (insert)

the type of structures the Mancarellas have put in place include keeping valuable topsoil on farm, and improving the water quality in both dams that catch run-off and waterways. Soil which collects in the sediment pond can be removed during maintenance and returned to the paddocks.

The project at the Mancarella's farm is a good example of how landholders can manage sediment run-off, protecting both their farms and adjoining waterways, by partnering with Melbourne Water under the Rural Land Program. This is an ongoing program, and interested landholders in the Yarra Valley are encouraged to contact Rowan Hore from Melbourne Water on 0428 709 708 or email [rowan.hore@melbournewater.com.au](mailto:rowan.hore@melbournewater.com.au)



Visual comparison of water quality in Paul Mancarella's dam (left) with a dam on another strawberry property (right) following run-off after a major rain event in December, 2017