

Swales

In Bass Coast we have plenty of slopes and sporadic summer rain. In fact, sometimes the rain can be sporadic all year. What if we could use our slopes to even out our water supply? What if we could catch that spikey rainfall and smooth it out into a more even supply just through some simple earthworks? This is where contour swales come in.

What are contour swales and how do they work?

Swales can be described as leaky liner dams.

Contour swales are leaky liner dams that follow a contour. They're probably more easily visualised as a ditch with the spoil from the ditch forming a mound or berm downhill of the ditch. The idea is that the ditch intercepts the water flowing down the slope in a rain event and temporarily holds some of it. This water is then gradually fed into the soil downhill of the swale below the mound and beyond, where it is effectively stored in the ground away from evaporation where it is needed, rather than simply running down the catchment and disappearing, or evaporating in a dam.



Swales can be short and shallow or long and deep, a few meters apart or widely spread out depending on the application.

Uses of swales.

Swales can be used to create horticultural beds on moderate slopes where a repeated pattern of swales and beds descends the slope in a similar pattern to terracing. They can also be used at larger scales to create areas for intensive cultivation for hundreds of meters across a farm, or to create areas that remain green for longer in dry periods. Swales have been used successfully in extremely low rainfall areas such as Morocco [230ml per year] to successfully grow fruit and vegetables in



previously barren areas. Conversely they can also be used to slow the movement of flood water across a slope as well as storing the water in the ground for later. Swales need to be built in combination with trees, these can be large or small, fruit-bearing or shade producing, or can even be berry canes depending on the requirements. Apart from any other benefits they may give you, their roots hold the berm together and soak up excess water preventing the ground from over saturating during wet periods.

A local example.

At the River Garden behind the Bass Coast Landcare office in Bass is a community garden area based around contour swales, with espaliered fruit trees set on the berms and no-dig vegetable beds running parallel down slope. The system has so far proved very effective in holding rain in the ground and keeping our plants healthy. The River Garden is a precinct for demonstrating alternative horticulture and soil management that incorporates a community garden and education. If you are interested in having a look or becoming involved contact the Bass Coast Landcare Network through our website basscoastlandcare.org.au or on 5678 2335 during office hours.

