

Coonawarra Aquifer

Rainfall and Drainage

An average of 580mm of rain falls in Coonawarra annually. Of this, some three quarters is used within the year that it falls by the intrinsic vegetation, such as grass, vines and trees.

As there are no local streams or rivers, the surplus quarter drains down through the porous terra rossa soil and limestone, to re-charge the aquifer below, which is exposed and visible in The Chasm at the Farm Vineyards.

The aquifer slowly drains out to sea with a lateral velocity of only about 50 metres a year. Consequently, the underground water that is emerging 100km away at the coast today would have fallen as rain, here in Coonawarra, at the about time Christ was born.

Therefore, to maintain the aquifer as a sustainable resource, great care must be taken not to pollute it in any way, as the consequences would persist for millennia. It can be observed from the water level in The Chasm that underground drainage lowers the aquifer from January to June at the rate of 10cm per month, amounting to a little over one metre per year. Surplus rain from July to October tends to re-charge the aquifer, hopefully by the same amount.

Irrigation

The volume of water that is pumped out of the aquifer annually for irrigation in the district is carefully controlled by legislation, so that it does not exceed the volume of recharge.

Timely controls to irrigation over recent decades have also ensured that the quality of the underground water has been maintained. The salinity of the bores on the Farm Vineyards

Vines

Although only a few of the vines' roots would still extend down to the aquifer at the end of the summer when the grapes are ripening, the porous limestone remains relatively moist, due to capillary action, and maintains them in good condition.

The moisture status of the soil is monitored with neutron probes, and if any deficiency is detected late in the season, supplementary irrigation can be applied. Averaging only 50mm a year, this ensures that the vines remain in perfect health and produce grapes with optimum flavour profile and tannin structure.

Frost Control

The underground water is also a valuable resource which can be pumped through overhead sprinklers to prevent damage from spring frosts in the more susceptible vineyards. Each 350mm bore can deliver 490,000 litres per hour, which is sufficient to cover 12 hectares of vines with the required 4 mm of water per hour.

