



## An evaluation of winery wastewater application to vineyard soils.

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The ability to reuse winery wastewater (WWW) has potential benefits both with respect to treatment of a waste stream, as well as providing a beneficial water resource in water limited regions such as south-eastern Australia, California and South Africa. Our studies in south-eastern Australia and California have focused on determining the effects of WWW application on vineyard soils, with respect to both physicochemical and microbiological properties.

Work to date shows that long term WWW application to soils appears to alter the soil microbial community, as evidenced by changes to respiration rates, nitrogen cycling and phospholipid fatty acid (PLFA) profiles in paired sites (one with 30 years of WWW application, the other with none) investigated in Victoria, Australia. Irrigation studies in a Californian vineyard have shown that irrigation with sodium and potassium rich synthetic wastewater affects grapevine nutrition status, as well as soil chemistry. Results from these studies will be presented with a view to guiding sustainable WWW reuse.