



**Recycle:** Richard Stewart plans to process waste products from winemaking into mulch for vineyards **Picture: Sam Mooy**

## New life for old wine skins

Brendan O'Keefe

TWO projects from South Australian universities promise to remove a wine-induced hangover - but unfortunately for drinkers, it's only the environmental after-effects that are being tackled.

The two processes could reduce costs for winemakers by saving water and make money by producing commercially viable by-products.

A Flinders University spin-off company, Flinders Bioremediation, is preparing to test methods whereby it could convert thousands of tonnes of winery waste, solid and liquid, into economical, water-saving mulch for the wine industry.

Flinders Bioremediation general manager Richard Stewart said wineries faced increasing costs in disposing of solid waste, which was trucked to landfill sites. But the sites are closing rapidly and transport costs to increasingly farther-flung dumps are climbing.

Liquid waste, used for irrigation, carries a potentially harmful level of nutrients. Mixing the two with, say, grape skins, might be the solution. Dr Stewart said the mixture would be blended with other material in tests to find the best combination.

"We'll mix it up with front-end loaders and monitor it over 14 weeks and then test the final product against the Australian standard for compost," he said. "Then we'll approach neighbouring vineyards about spreading it out for mulch and

we'll monitor its water-saving quality." Testing will start early next year. "Not only does it improve the health of the soil, but it can reduce water use in the vineyard by as much as 30 per cent," Dr Stewart said.

Down the road at the University of Adelaide, Bo Jin in the school of natural and built environments is working on a biological conversion method to turn suspended organic matter in winery waste water into feed pellets for farm animals.

Dr Jin told the *HES* that fungal micro-organisms could be placed into waste water to ferment suspended matter into feed. Pigs, chickens and fish have taken to the pellets with relish in laboratory tests. Even Dr Jin tried it: "For sure . . . it tastes like fruit juice," he said.

Once the pellets, which are 50 per cent protein, are filtered from the water, the water is then good enough to use for irrigation, Dr Jin said.

Dr Jin said the process was important to the winery industry, one of agriculture's biggest water users, because a by-product could offset the high cost of treating water.

"Wineries are under pressure from The Environment Protection Agency and governments to make their water useful for irrigation," he said. "They are very keen to set up a new treatment process."