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Innovative farmer accepts the compost tea challenge

Mixed enterprise owner Peter Attard of 'Shingle Hut' near Moura is passionate about all things biological and has invested significant amounts of money and energy into developing compost teas.

"My association with compost teas started back to 2004 from personal experience on our family cane property near Mackay. We were going broke from the investment in salt based fertilisers and chemicals, our inputs were increasing but yields were slowly declining," Mr Attard said.



"There had to be another way and something that we could manufacture on farm from local products to provide a larger proportion of our crop requirements."

After hearing of compost teas Mr Attard embarked on a journey of discovery in 2004 travelling overseas and also undertaking a two week intensive course in Lismore in 2005. Through experimentation he has now settled on a convenient and cost-effective brewer set-up.

"We can generally brew 3000L of tea in about 12-16 hours, depending on temperature. This can be applied in a couple of hours," he said.

With this experience under his belt, Mr Attard was funded by the Fitzroy Basin Association Incorporated (FBA) through the Innovative Fund to run a replicated trial to investigate the benefits of applying compost teas on grazing lands.

FBA CEO Suzie Christensen said the Innovation Fund had been running since 2008 to support new and emerging ways of achieving improved land condition or waterway health in the Fitzroy Basin.

"The fund enables us to support untried ideas that have the potential to improve natural resource management that would not be eligible for funding through our mainstream incentive grants," Ms Christensen said.

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“Climatic conditions have hampered progress in this case, but there is strong community interest in soil biology, so FBA feels it’s important to continue to invest until we get more definitive results.”

Just over two years into the trial on *Shingle Hut*, unseasonal weather has hampered Mr Attard’s efforts, leading to incomplete applications of compost teas and inconclusive results.

“We have experienced all irregularities of climate over the last two years that has further added frustration that we haven’t been able to apply all treatments to date. But that is farming and hence we have to live with what nature delivers,” Mr Attard said.

Mr Attard worked with project manager Scott Stevens from local consultancy Farming and Beyond, to design and implement the trial in 2008.

“Four applications were scheduled per year, weather conditions permitting, with monitoring to include soil nutrient and biology levels, pasture tissue and sap testing and feed analysis,” Mr Stevens said.

Initial testing was undertaken in August 2008 with the first tea and extract applied in the same month, but due to the unpredictable rainfall for the remainder of 2008 and through to 2009, no further applications occurred.

“A minimum rainfall total of 50mm in a 24 hour period is required to benefit soil drench applications of teas and extracts,” Mr Stevens said.

The early rain experienced in January 2010 however did provide an opportunity for two applications in January and February respectively. Soil biology testing occurred prior to, and two weeks after, the January application.

“From these results, we were able to conclude that little improvement in soil biology biomass and activity had occurred. Not that we were expecting large increases but the quality of teas especially were very good according to the lab analysis,” Mr Stevens said.

Further soil biology testing was delayed until mid-March as rainfall totalling 240mm over three weeks immediately following the February application restricted access to the trial sites. Results from testing revealed that most biology groups had declined and little difference existed between the non-treated or control site and the treated paddocks.

Fortunately a fall of 35mm within a week enabled another round of testing. The findings showed that biological activity levels had increased by as much as 1400% and biomass levels by 400%.

“These results highlight that soil biology activity and biomass can be significantly influenced by soil moisture alone. While we didn’t apply any tea in this period, the fact that such large fluctuations in results within a short period meant that we had little confidence that monitoring for increases in biology from compost tea or extract applications would be shown in soil biology testing,” Mr Stevens said.

From this finding, monitoring has concentrated on pastures and soil nutrients. Findings from testing in March and October has since shown that little difference exists between results from compost tea and extract treatments and control sites.

“No appreciable differences are shown in the feed quality analysis for crude protein, ash or metabolic energy between all treatments. This trend is repeated for sap analysis and plant tissue for nutrients such as phosphorus, potassium, calcium, magnesium and trace elements such as boron and copper. Soil nutrients are also showing the same response so that we can conclude at this time that prior applications have not fostered changes in soils or plants.”

The early start to this year’s wet season has meant that access to trial sites has been restricted due to water logging.

Despite the set-backs, Mr Attard remains optimistic about the potential for the trial to demonstrate the value of compost teas and will continue the trial into 2011.

“We will be looking for a window of opportunity early next year to recommence applications and hope that some follow-up rain occurs,” Mr Attard said.

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