



After attaining a Bachelor of Engineering in Environmental Engineering Luke Zambelli of Zambelli Environmental worked for the EPA, State Government of Queensland's environmental department for close to 10 years, before starting his own company in 2007. Luke became aware of the ability to rectify anaerobic ponds when he observed the effect BioAktiv professional water had. ***"Within 24 hours offensive odour was eliminated"***.

With regular dosing, one can ensure that upset pond conditions are minimised. ***"I noticed that ponds that were ordinarily odourous would cease to be so, once BioAktiv was used regularly through a dosing program. It was obvious that the biology of treated ponds changed to that of a dominance of aerobic biology due to there being no offensive odour encountered"***.

Luke has spent a significant amount of his 22 year career working with commercial composters. He became aware early in his career of the ability BioAktiv Professional Compost had on stimulating microbial degradation in compost windrows.

" With an application of 1-2 kg to 100 cubic metres, the actinomycetes population throughout the compostable blend was enhanced and was present at deeper depths of the windrows when compared to windrows that had not been treated with the use of BioAktiv.

I noticed that compost broke down quicker with the use of BioAktiv and offensive odour was not encountered indicating that aerobic micro-life was dominating the composting process. The effect of BioAktiv has continued to be demonstrated within compost and It is my belief that BioAktiv stimulates aerobic bacteria to degrade organic matter. The calcium and silica stimulate particular beneficial microbes to exponentially populate the compost which results in a more homogenous compost being created".

David Seeto

From: "Luke Zambelli" <luke.zambelli@epa.qld.gov.au>
To: "Derek Antonievich" <derek@gomango.com.au>
Cc: <talakua@myaccess.com.au>
Sent: Thursday, 22 April 2004 2:44 PM
Subject: RE: Your feedback to D. Seeto

I first became aware of Bioaktiv during the year 2000 when a presentation occurred at Southern Region EPA, Brisbane.

It was not until mid 2001 when the Bioaktiv was first utilised in the treatment of a composting stormwater pond that had gone sour because contaminated sediment had entered the pond. The contaminant was diesel hydrocarbon. As a result the pond was releasing hydrogen sulphide. Initially air stripping and pH adjustment was trialed to minimise the odour. The effect was minimal.

It was decided to treat the pond with Bioaktiv. A few days after treatment the pond was releasing far less Hydrogen Sulphide (H₂S). I observed biological activity in the pond and when the sediments were stirred up near the side of the pond a lot of little bubbles (effervescence) was released. At this time the sediment was still releasing Hydrogen Sulphide and a hydrocarbon odour. After a week from the commencement of the treatment no H₂S was being released from the pond and also the sediment. However the sediment was still exhibiting the diesel odour.

After two weeks the sediments were devoid of hydrocarbons and it was observed that hydrocarbons were on the top of the water. I believed that the microbes were breaking apart the hydrocarbons. After three weeks algae started to grow and there was a smell of ammonia being released from the pond. The pond was then treated with water + dia which in the end controlled the growth of algae and controlled odour.

My second experience was with a composting facility who trialed Bioaktiv in their compost (compost blend) and also their ponds (manure blend) I was amazed to see the stimulation in the fungi inherent in the compost. There were clumps of fungi the size of golf balls. The company believed that after three months it had saved \$'s in its diesel and maintenance costs of its heavy machinery because they reduced the turning of their compost by 2/3. The ponds lost all their indicative offensive odour and the compost facility was generally smelling good. The manager of the site also sprayed his sisters small piggery with the result of no offensive odour being released.

My third experience was with a composting facility who managed to build a stockpile of immature compost made from human biosolids and green waste. The odour emanating from this 30 000 cubic metre stockpile was horrendous. The stockpile was progressively sprayed with Bioaktiv and buried in a cell to be utilised later. Vent pipes were installed to see if offensive odours would emanate from the burial of the material. There was never any evidence of offensive odour from the buried material. The material is being dug out now and it is fully composted and has no offensive odour. I have seen the analytical results and it will make a good soil ameliorant.

My fourth experience was with another composter who composted mainly vegetables and paunch. The preparation area had a leachate sump which always released offensive odour. Aerators etc were tried to some limiting success. However when Bioaktiv was applied the owner of the site said the leachate sump became alive and no odour was released. The compost was sprayed and the workers of the company could not believe the result. There was no odour. I observed again the immense proliferation of fungi within the compost.

I was dosing septic tanks at my relatives houses to stop the offensive odours from the septic tank. A tablespoon down the toilet was all that was needed every month or so.

A company also used Bioaktiv at a rubbish transfer station to control odour from their leachate sump.

As you can see from the above when I observed the Bioaktiv in action I did see results.

13/06/2004

ZAMBELLIE TESTIMONIAL

“ I can advise that I have utilised a range of Bioaktiv products since commencing my environmental consultancy seven years ago. I have a number of clients now using the products to control dam odour, compost durations and septic odour. What I have found is that Bioaktiv works well within a pond environment. I have also seen the effects of using Bioaktiv to control Algae with water clarity becoming apparent. With odour management, the correct dose will eliminate odour. Continued use is recommended so that conditions do not deteriorate and hence odour is again created. Whilst one off applications can get someone out of trouble, continued doses will ensure conditions stay correct so that the trouble does not start. I recommend the use of Bioaktiv within composting facilities”

Regards

Luke Zambelli

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Recent application to Commercial Operation with strong odour, after 120 mm of rainfall in compost pad area (150m x 80m).
Application rate -10 kg of BioAktiv to a 2 mega litre pond
Result - Significant biological activity with no odour