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Certificate of analysis

Aqua Enviro undertook a laboratory scale biodegradability test for Nu Personal Care (the client) which was a modification of the standardised test; the ISO 15985 standard. The test allowed for the quantitative and qualitative assessment of anaerobic biodegradability of two straw samples; the GMX01 and GMX03, that were provided by the client. The test was carried out, successfully, over a period of 41 days and demonstrated that GMX01 and GMX03 biodegraded by 15.1% and 8.1%, respectively. Visual qualitative inspection also indicated that the both straw types had begun to biodegrade and become friable. The subsequent report provided, affirmed the conclusion that both the straw types were amenable to biodegradation under anaerobic conditions but the rate at which biodegradation progressed was slow. However, it is perceived that had the test been extended, biodegradation would have continued to progress further.

Although this lab scale test does not represent the exact conditions encountered within any specific solid waste disposal setting, the test provided enough evidence to suggest that the straws would begin to biodegrade and yield some biogas within the typical residence time required (30 days) for dry-AD. Exact biodegradation rates witnessed in the standard lab trial to are likely to be slower than those in a full scale dry-AD, on account of mixing processes and moisture control. As anaerobic conditions are, also, encountered within a landfill it can be presumed that the straws would eventually become amenable to anaerobic biodegradation in this setting, too.

The main conclusion drawn from the laboratory scale trial was that both the straw test materials submitted were amenable to biodegradation, anaerobically.

Charlotte Monkhouse
Process Scientist

