

Composting Sewage Sludge With Straw Or Source Separated Domestic Waste

Tim Evans' experience of composting dates back to 1987 when Thames Water Utilities Ltd (TWUL) R&D department began researching composting. At the end of 1992, R&D passed the activity to TERRA ECO-SYSTEMS (TES) to develop as a fully operational facility to treat the dewatered raw sewage cake from a population equivalent of about 130,000. TES is the biosolids recycling arm of TWUL and Tim Evans was its General Manager. The amounts treated were 13,000t cake plus 1000t straw per year. Composting was by the turned windrow system. The windrowing pad is in the Thames Valley, subject to temperature inversions, and with the closest house only 100m from the pad. In 1996, to reduce odour and to shed excess winter rainfall a system was developed for covering the windrows with breathable fleece covers.

In 1993 TES started to compost source separated domestic waste (SSDW) collected by Wycombe District Council on an experimental basis. This amounted to only one collection round of 6 tonnes fortnight but it provided valuable lessons. For example the necessity to process the waste immediately on reception to prevent odour and the importance of education to achieve good source separation. Although composting the sewage cake was a permitted activity, the composting of SSDW meant that a Waste Management Site License was required. This was applied for and awarded. Requirements for competence were introduced at the same time as these developments were happening. Tim Evans was credited by the local regulator as a Competent Person to manage a facility with a Waste Management Site License for composting waste.

This facility at Little Marlow in Buckinghamshire is considered to be the longest established composting site of significant capacity in UK. A variety of composting techniques has been tested and a range of composting technologies has been examined abroad.

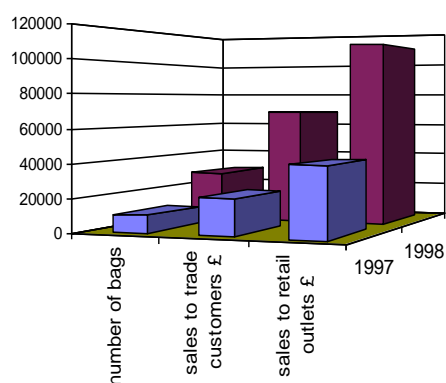
The original objective of the composting was to produce a low odour material that could be recycled to farmland was accomplished but Tim thought the compost had wider potential and in 1993 he started trials to test the feasibility of developing higher value



products from the matured compost. These trials were successful and led, through co-operation with horticultural professionals, to the launch in September 1996 of the TERRA ECO-SYSTEMS range of peat-free products for gardeners.

The range comprises multi-purpose compost, soil improver and growing bags. The products are the

first to compete with the best peat-based media on the basis of performance, consistency and price. They are sold by TES to garden centres throughout Britain. In order that there could be no uncertainty about the origin of the material the bags and point of sale signs state that the products are "based on sewage cake sanitised by composting with straw and other biomaterials". Initially the market was sceptical about 'another peat alternative' because none had performed well in the past but the growing performance of the TES range proved this was different and sales growth was exceptional.



The success of these products confirms the pre-launch market research that "faecal aversion" is not an insurmountable barrier for such products. Nobody in Europe had developed composted material further. Tim Evans is Chairman of the European Standards Committee CEN/TC 223 "Soil improvers & growing media".

This Quality Assured (QA) windrow composting with managed maturation has been proved by regular quality testing and in a recent national survey to achieve greater than 6-log reduction in indicator microorganism numbers. It thus meets the highest standards of sanitisation required in UK or that would be needed in USA, which has provided the world lead with regard to biological risk management. This QA system includes a failure mode strategy for material that does not achieve the performance criteria.

In addition to the high added-value garden products, Tim's team developed markets for the compost in landscaping, land restoration and agriculture.