

**WRITTEN QUESTION TO THE MINISTER FOR TRANSPORT AND TECHNICAL SERVICES
BY CONNETABLE A.S. CROWCROFT OF ST. HELIER**

ANSWER TO BE TABLED ON TUESDAY 16th MAY 2006

Question

- (a) In written answers tabled on 25th April 2006, in relation to the effects of fungal spores produced by open windrow composting the Minister for Health and Social Services stated that monitoring had been undertaken by the former Public Services Department around both the Crabbé and La Collette composting sites. Would the Minister inform members of the number of occasions during the three and a half years' operation of the composting site at La Collette when such monitoring was carried out, and supply the dates when this took place?
- (b) The written answer further stated that "*The results were found to be in line with those investigations into open windrow composting undertaken on behalf of the UK Government by the Environment Agency, whereby levels of these materials can be found in decreasing levels from the site with background levels being reached within a distance of 250 metres from the site*". Would the Minister give members precise details of the above results?
- (c) Is the Minister satisfied that all of the research carried out by the Environment Agency on behalf of the UK Government is robust enough to be applied to Jersey, and has he requested his officers to have such advice peer reviewed?
- (d) In the written answers it is further stated that air monitoring '*in the case of Crabbé*' involved comparison with a control site. Would he indicate whether a control site has been used in respect of the air quality monitoring carried out in respect of La Collette and if not, why not?

Answer

- (a) The department tests for *Aspergillus Fumigatus*, *Thermophillic actinomycetes* and total bacteria. The test dates for the la Collette operation are as follows:

In 2003 the department tested on five occasions –
06/03/03, 13/08/03, 20/08/03, 03/09/03, 11/09/03.

In 2004 the department tested on nine occasions –
31/03/04, 13/04/04, 26/04/04, 11/05/04, 08/06/04, 22/06/04, 01/09/04, 14/09/04, 20/10/04.

In 2005 the department tested on five occasions –
09/03/05, 30/03/05, 12/04/05, 09/08/05, 11/10/05.

In 2006 the department has tested on 1 occasion to date –
19/04/06.

For each test 18 agar plates are placed at three sampling locations with 6 plates at each location. In addition, the Environment Department conduct testing every three months as a control.

- (b) The sampling techniques adopted are based on the Composting Association guidelines: "Standardised Protocol for the Sampling and Enumeration of Air-borne Micro-organisms at Composting Facilities".

The protocol defines certain criteria including varying the sampling and control points; these include sampling at sensitive receptors and at positions where complaints have occurred. The department has a substantial amount of data on a range of site locations and weather variances.

Attached are the test results from the on site weighbridge and results from a property whose owner is a regular complainant.

- (c) Regarding peer review of research carried out for the U.K. Environment Agency on bio-aerosols from composting facilities; this research^[1] was carried out on three composting facilities (two windrow facilities processing green waste, and one in vessel facility processing mixed green and kitchen waste).

Two years later, a critical review of published information on the potential health impacts of bio-aerosols from composting operations by the U.K. Composting Association and the Health and Safety Laboratory was carried out on behalf of the U.K. Health and Safety Executive. This review covered papers where there was evidence of scientific peer review and also presented original material rather than reviewed data. The review report^[2] made the following comments and recommendations –

- (a) The distance of 250m provides an additional “safety factor” over the 200m suggested by Gilbert & Ward (1999) which in turn is greater than the distances suggested by Millner et al (1994).
- (b) “While most published studies indicate that bio-aerosols are reduced to background levels within the 250m distance currently prescribed by the Environment Agency for risk assessment purposes, some experimental studies and dispersion modelling exercises suggest that bio-aerosols sometimes may exceed concentrations chosen as background levels at distances greater than 250m”.
- (c) “There is no published evidence that exposure to bio-aerosols disseminated from compost facilities cause respiratory ill health in residents or workers at nearby locations, or that slightly greater than background bio-aerosol levels represent a significant excess risk. However, because there is no agreed ‘safe’ value and range for background concentrations, and exposure measurement data and health-related dose-response data is limited, it is recommended that no change should be made to the 250m ‘limit’ until further research is completed which can supplement knowledge where published evidence is absent.

From the above it is clear that the original research for the Environment Agency has been peer reviewed and that a peer review was conducted on behalf of the HSE. On this basis, I am satisfied that the information has been thoroughly reviewed and I have not requested the department to undertake further peer review. In addition, the Health Protection Department responsible to the Minister for Health and Social Services undertake their own reviews and have access to data from the medical profession as well. Both departments work closely in monitoring the site and Havre des Pas neighbourhood.

The nearest residence to the open windrow site is approximately 750 metres, and from the green waste reception area, approximately 350 metres.

- (d) The protocol adopted by the department defines the ‘control site’ within the test regime. In addition the tests include an upwind sample to confirm background levels on the operational site.

In 1998 CAMR (Centre for Applied Microbiology & Research) carried out "Microbial Air Sampling at Composting Facilities in Jersey" for the Agriculture & Fisheries Committee.

The CAMR scientist carried out sampling both at the Airport composting site and at Crabbé. He also took background samples at the roadside in St Peter's Valley, and at the roadside on Mont Gavey.

The results from this background sampling are very similar to results from samples the department took in 2005 in St Peter's Valley and most of the off-site locations sampled in the past few years.

In the discussion of the results, the scientist remarks “There is a great deal of debate on safe levels for airborne micro-organisms in Germany and Scandinavian countries suggesting levels of 10,000 micro-organisms per cubic metre as an occupational exposure limit. However, these are eight-hour weighted averages for personal samplers and the concentrations measured by the personal filter sampler in this survey were well below these levels. Most experts feel that levels of between 1,000,000 and 100,000,000 micro-

organisms/m³ are required to cause allergenic respiratory effects. These levels were not detected during the surveys”.

These levels have not been detected in any of the samples taken since.

The department continues to use remote sites for comparative purposes.

[1] “Health Effects of Composting – A Study of Three Composting Sites and Review of Past Data, Environment Agency, 2001.

[2] “Occupational and Environmental Exposure to Bio-aerosols from Composts and Potential Health Effects - A Critical Review of Published Data”, HSE, 2003