MEMORANDUM OF EVIDENCE TO THE SCIENCE AND TECHNOLOGY SELECT COMMITTEE

1. This memorandum sets out Defra's written response to the inquiry that the Committee is undertaking into nanotechnologies and food.

2. We understand the inquiry specifically excludes the potential impacts of nanomaterials in waste streams and the environment, instead focussing on food products and consumers.

3. In this context Defra would like to make the Committee aware of the role of nanotechnology in pesticides and highlight some related research on the potential environmental benefits of nanotechnology use in agriculture.

Pesticides

4. Of the authorised pesticide products currently on the market, nearly all utilise nanotechnology in some way if they contain a surfactant e.g. an emulsifying agent or dispersant.

5. However, rather than being a novel nanoscale process this is actually an established method of pesticide production, with these surfactants (which are necessarily at the nanoscale) acting to stabilise the product.

6. There are currently 1468 products approved for use in the UK that utilise surfactants. All agricultural pesticides used throughout Europe are considered under an EU review programme to ensure that the safety of all pesticides is evaluated to modern standards. This is implemented in the UK through the Plant Protection Products Regulations 1995 as amended.

7. We are aware of research being undertaken into developing 'smart nanoscale pesticides' aimed at slower release (so reducing the amount of pesticide needed). However, we understand this remains at the R&D phase and we are not yet clear whether these would actually be considered as being at the nanoscale i.e. <100nm.

Other related research – 'Environmentally Beneficial Nanotechnologies'

7. Defra published a report in May 2007 entitled "Environmentally beneficial nanotechnologies: barriers and opportunities", which can be viewed at:

http://www.defra.gov.uk/environment/nanotech/policy/index.htm

8. In this report the possible benefits of nanoscale environmental sensors in agriculture were highlighted, as these could allow more precise nutrient management. However, this was in the context of reducing greenhouse gas emissions and was not explored in detail in the report.