COMMITTEE ON TOXICITY OF CHEMICALS IN FOOD, CONSUMER PRODUCTS AND THE ENVIRONMENT

WORKING GROUP ON PHYTOESTROGENS

Submission from Mr Richard James (received 19/02/01)

Background

1. The Working Group has received 4 submissions from Mr James (Soy on line service, New Zealand). Mr James contacted the Food Standards Agency and requested financial support to commission a report on the adverse effects of phytoestrogens. The Food Standards Agency replied to Mr James outlining the remit and terms of reference of the Working Group. Mr James has enclosed a copy of a submission made to the US FDA in opposition to claims by Protein Technologies International (PTI) that soy protein is generally recognised as safe (GRAS).

Submission

1. Dr Fitzpatrick disputes the PTI's claim that soy should be granted GRAS status. Dr Fitzpatrick outlines the health concerns associated with consumption of soy protein; in particular those associated with isoflavone intake. Dr Fitzpatrick comments that by recommending intake of between 25-100g soy protein/day PTI is advocating the ingestion of up to 600mg isoflavones/day. This value is much higher than that which resulted in changes to menstrual cycle length and hormone disturbance (45mg isoflavones) in a study by Cassidy *et al* (1994). Dr Fitzpatrick concludes that to maintain a level of no more than 45mg isoflavones it is advisable for women to consume no more than 18g soy protein isolate/day.

2. Dr Fitzpatrick comments that contrary to PTI's claims, reproductive and developmental toxicity has been demonstrated in a number of animal species. The articles to support these claims have been discussed in PEG/2001/3 and PEG/2001/7. Dr Fitzpatrick also discusses the goitrogenic effects of isoflavones and concludes that high exposure to these compounds, irrespective of iodine intake, has the potential to induce thyroid disease (Hill *et al*, 1989).

3. Dr Fitzpatrick concludes that the evidence to claim GRAS status for soy protein is unavailable and that there is evidence of a risk of toxicity from isoflavones.