ACM/825

ADVISORY COMMITTEE ON THE MICROBIOLOGICAL SAFETY OF FOOD

INFORMATION PAPER

UPDATE ON THE WORK OF THE OTHER ADVISORY COMMITTEES

This paper provides a general overview of the work of the following committees in 2006:

- Advisory Committee on Animal Feedingstuffs (ACAF)
- Advisory Committee on Novel Foods and Processes (ACNFP)
- Advisory Committee on Research (ACR)
- Committee on Toxicity (COT)
- Scientific Advisory Committee on Nutrition (SACN)
- Spongiform Encephalopathy Advisory Committee (SEAC)

Full details, including copies of agendas, minutes and papers are available at each committee website.

http://www.food.gov.uk/science/ouradvisors/animalfeedingstuffs/
http://www.acnfp.gov.uk/
http://www.food.gov.uk/science/ouradvisors/ACR/
www.sacn.gov.uk
http://www.seac.gov.uk

Secretariat
December 2006

1. ADVISORY COMMITTEE ON ANIMAL FEEDINGSTUFFS (ACAF)

Code of Practice on the Enforcement of Animal Feedingstuffs Legislation in the UK

The Committee commented on the Food Standards Agency's draft Code of Practice (CoP) for Feed Law Enforcement of Animal Feedingstuffs Legislation in Great Britain. The CoP fulfilled a commitment to the European Community Food and Veterinary Office following their mission to the UK in July 2003 and it also addressed one of the recommendations in ACAF's Review of Feed Law Enforcement.

The FSA is expected to publish the CoP in November 2006.

Microbiological Risks Associated With Feed

The Committee concluded its consideration of this issue with a presentation from the Food Standards Agency. The Committee discussed the requirement for microbiological criteria in the European Community's Feed Hygiene Regulation 183/2005 and concluded that rather than looking at maximum levels for particular hazards, it would be better to identify risks and where hazards were most likely to occur.

Demarcation between Complementary Feedingstuffs and Premixtures

The Committee discussed issues surrounding the need for a clearer distinction between premixtures and complementary feeds to help inform the UK government line in negotiations in Brussels.

European Commission's Forthcoming Review of Feed Labelling

The Committee held an initial discussion on the EC's forthcoming review of feed labelling. The Committee heard that the Commission was likely to issue its proposals in 2007 when ACAF would be heavily involved in helping inform the UK negotiating stance. The Commission's aim is to replace four existing measures with one comprehensive Regulation.

The Committee received presentations throughout the year on a number of issues including:

- Trading Standards controls on misleading advertising of feed;
- the European Feed Manufacturers Code;
- the use of sewage sludge on agricultural land; and
- the non-feed use of nutritional supplements.

2. ADVISORY COMMITTEE ON NOVEL FOODS AND PROCESSES (ACNFP)

Advisory Committee on Novel Foods and Processes

The ACNFP have met 5 times in 2006. The Committee have discussed the following:

- the effect of GM soya on newborn rats
- an application from DDO Processing regarding production of phytosterols
- A report from the Nordic Council containing proposals related to the risk assessment and risk management of novel plant foods
- Codex draft guidelines for the assessment of foods derived from GM animals
- an update on nanotechnology issues and a draft public information document on nanotechnology in relation to food
- EFSA opinions on maize-germ oil and rapeseed oil high in unsaponifiable matter
- a report from Friends of the Earth on allergy risks associated with GM foods
- Italian research on the differences between the cells of mice given GM and non-GM soya
- An update on the unauthorised presence of GM materials in long grain rice from the US.

Applications for authorisation of the following as novel food ingredients have been considered:

- noni juice and noni leaf
- chia seed
- zeaxanthin
- an ice structuring protein preparation from GM yeast to be used in ice cream and other edible ice products to increase their nutrition profiles, organoleptic properties and stability
- an astaxanthin-rich extract
- a phytosterol food ingredient
- Allanblackia seed oil
- Alpha-cyclodextrin
- echium oil
- glucosamine from *Aspergillus niger* for use in beverages and fermented milk-based products

Two recent reviews of innovative food processing techniques were considered. The Committee was specifically asked to consider 13 processing techniques identified by the Secretariat as potentially novel and to indicate whether a new framework needed to be developed for the evaluation of foods or food ingredients produced using these processes. Members were additionally asked whether the use of any of these processes gave rise to any safety concerns that may require additional assessment by other advisory

committees or experts in other fields. The Committee's discussion focused on 4 types of processing which involve the use of enzymes, ultra-violent (UV) light, infra-red (IR) radiation and chemicals. Members agreed that the use of enzymes and UV in food processing required consideration of microbiological safety issues but noted that these would fall within the remit of the ACMSF. Nevertheless the Committee highlighted the absence of an industry standard governing use of UV in food processing and indicated that this type of radiation could result in the chemical degradation of organic molecules such as vitamins. Given the reported interest in this technology, the Committee suggested that the impact of the use of UV on nutrient levels should be considered further.

The Committee also discussed the FSA's approach to the governance of science and draft Best Practice Agreement.

3. ADVISORY COMMITTEE ON RESEARCH (ACR)

The main highlights of the work of the ACR for this year are:

- **Research Prioritisation.** The ACR has considered a number of approaches to prioritising research. It has been unable to recommend any specific approach, although it has identified some key features for such a process. It recommended in February 2006 that the Agency should implement a method drawing on the work to date and experience in other departments, and apply it to inform real decisions, for a trial period covering two rounds of the annual planning process, with review and revision as necessary. This work is underway by the Agency executive.

- **Postgraduate Scholarship Scheme (PGSS).** The ACR considered topics for the 4th call for proposals (to start in October 2007) under the scheme. It also suggested, in respect of wider questions around skills needs and the place of postgraduate training in addressing them, that the Agency should consider basing future PGSS calls on a more strategic analysis of areas where there was a need to develop skills to meet the Agency's needs in the longer term.

- **Publication and Dissemination of Scientific Research.** The ACR considered the merits of open-access publishing and suggested the Agency should develop an outline of its current peer review processes in the different situations in which it publishes research results, and identify any measures needed to fill any gaps.

- **Review of the ACR.** The Chief Scientist (CS) is currently reviewing the ACR to determine the extent to which it has fulfilled its intended function, whether there is a continuing need for the committee and, if so, to consider its potential contribution in the future. As a first stage the CS sought the ACR's views at its 20 June meeting. The ACR felt it had met most of its terms of reference (TOR) to some extent, and that while it had focused to date on research process, its TOR could be seen (or amended) to cover

wider science issues. The CS's team aim to produce an initial draft of the review by the end of November for internal discussion. This forms part of the CS work to ensure the Agency identifies and meets efficiently its needs for expert advice on general science issues and the governance of science.

4. COMMITTEE ON TOXICITY (COT)

Committee on Toxicity (COT) meets 7 times a year, 6 meetings are held at Aviation House, the 7th meeting is termed as an "out of town" meeting. Many topics of these meetings are held in closed session as they are restricted because of commercial interests.

COT meeting held on 14th February 2006 (incorporated a workshop on 15th February)

- The COT and COC (Committee on Carcinogenity) had been asked to provide toxicological advice on the report published in September 2005 by the Royal Commission on Environmental Pollution (RCEP) on crop spraying and the health of residents and bystanders.

- The COT had considered a review of toxicology literature on the topical insect repellent N,N-diethyl-m-toluamide (DEET) at its meetings from February to July 2002. The committee agreed to keep DEET under review and a number of recommendations were agreed by members. These were as follows:
    - Information on exposure should be made publicly available
    - Additional animal studies are required to verify the neuropathological effects seen in repeat dosing dermal studies of DEET in rats
    - The Department of Health should undertake further monitoring for reports of adverse effects associated with exposure to DEET
    - Consideration should be given to undertaking epidemiological studies
    - Industry should seek to attain a consistent approach to labelling through voluntary action.

- Organic chlorinated and brominated contaminants in fish

In January 2006 Members considered a paper summarising the results from a number of surveys recently completed by the Food Standards Agency. Farmed and wild fish and shellfish consumed in the UK, and the 2003 and 2004 total diet study (TDS) samples have been analysed to determine the concentrations of a number of organic contaminants: chlorinated dioxins and dioxin-like PCBs, brominated dioxins and dioxin-like PBBs and brominated flame retardants. The surveys provide data on the levels of these contaminants in a broader range of fish species than previously available.

- Risk assessment and monitoring of marine biotoxins in support of public health

In December 2005, the Committee considered paper TOX/2005/35 on the risk assessment and monitoring of marine biotoxins in support of public health. Members were presented with information relating to several classes of biotoxins, but discussion focussed on the toxins responsible for paralytic shellfish poisoning (PSP).

- Horizon scanning

The Committee discussed ongoing topics as well as known and possible items that the Committee may be asked to consider during 2006.

- First draft working paper on uranium levels in water used to reconstitute infant formula

The Committee discussed a working paper on the health implications of infants consuming formula reconstituted with water containing uranium.

Workshop held on 15th February 2006

Internationally distinguished speakers presented the latest hypotheses together with experimental and epidemiological data on potential chemical-induced effects on the development and subsequent function of the male reproductive system.

COT meeting held on 28th March 2006

- First draft working paper on the report of the Royal Commission on Environmental Pollution (RCEP): crop spraying and the health of residents and bystanders

An initial draft working paper had been prepared to reflect the discussions of the Committee at the 14 February meeting and the Committee on Carcinogenicity at its 2 March meeting. This had been circulated to both Committees for comment and the working paper revised to take account of the comments received. Members were asked to consider the wording of the revised working paper.

- Secretariat's notes on the COT workshop on the development and function in adulthood of the male reproductive system – potential chemical-induced effects

The Chairman invited any perspectives on the workshop. Members considered that the programme of the meeting was well balanced and that the presentations were interesting and informative. The presentations demonstrated that the field has moved on significantly since the Committee last reviewed it in 2003 and 2004. It was also noted that the work of Professor Sharpe on anti-androgens put into perspective the hypothesis prevalent three

years ago that the increase in adverse effects on the male reproductive system was due to exposure in the womb to weak environmental estrogens. Effects of anti-androgens were much clearer and a causal effect more plausible.

- Report of a workshop on Social science insights for risk assessment

In September 2005, following a request from the Food Standards Agency, the Royal Society organised a workshop exploring social science insights for risk assessment. The workshop examined two case studies, the transmission of bovine spongiform encephalopathy and the consumption of fish. The latter was based on the joint Scientific Advisory Committee on Nutrition and COT review of benefits and risks of fish consumption. The COT Chairman was one of five chairs of advisory committees invited to take part in the workshop, alongside four social scientists with expertise in the psychology and sociology of risk.

- Cyanogenic glycosides in apricot kernels

The COT was asked to consider whether there were sufficient data to establish a maximum tolerable upper level for acute or chronic intake of cyanide or cyanogenic substances.

COT meeting held on 23rd May 2006

- First Draft COT Working Paper on risk assessment and monitoring of paralytic shellfish poisoning (PSP) toxin in support of public health

- Second Draft Working Paper on the tolerable daily intake for Perfluorooctane sulfonate (PFOS)

For its October 2005 meeting the Committee were provided with a first draft working paper on the tolerable daily intake for PFOS, but there was insufficient time for discussion during the meeting. Following comments from Members, and also a request for clarification from the EFSA CONTAM Panel, the draft text had been revised in order to clarify the decision-making process of the Committee in reaching the current recommendation. In addition a section detailing the exposure assessment had been added following completion of a Food Standards Agency survey of the 2004 Total Diet Study (TDS) samples for a total of sixteen fluorinated chemicals, including PFOS.

- Second Draft Working Paper on the tolerable daily intake for Perfluorooctanoic acid (PFOA)

For its October 2005 meeting, the Committee discussed the first draft working paper on the tolerable daily intake for PFOA, but there was insufficient time for discussion during the meeting. Following comments by correspondence from Members, and also a request for clarification from the EFSA CONTAM

Panel, the draft text had been revised in order to clarify the decision-making process of the Committee in reaching the current recommendation. Results from the survey of the 2004 Total Diet Study (TDS) samples for a total of sixteen fluorinated chemicals, including PFOA, had been summarised in a section on exposure assessment.

- First Draft Working Paper on Cyanide in Bitter Apricot Kernels

A working paper had been drafted based on the discussions at the March 2006 meeting.

- Update review of toxicology literature on the topical insect repellent N,N-diethyl-m-toluamide (DEET), held in CLOSED SESSION

Discussion of the paper was held in closed session due to the discussion of unpublished commercial data. The relevant section of the minutes, and a statement will be published after the COT has concluded its evaluation.

- Revised procedures for open meetings, held in CLOSED SESSION

When COT agreed to hold meetings in open in 2004, Members agreed to review the agreed procedures at a future date. Members were invited to offer their perspectives and to comment on possible revision of the procedures in the light of the past two years' experience. Members were informed that the experience of COC, and to a lesser extent COM, had been similar to that of COT with respect to open meetings, and were similarly reviewing the procedures.

COT meeting held on 11th July 2006

- First draft COT Discussion paper on the cabin air environment, ill-health in aircraft crews and the possible relationship to smoke/fume events in aircraft

The Department for Transport (DfT) had asked the Department of Health (DH) to undertake an independent scientific review of data submitted by the British Airline Pilots Association (BALPA). BALPA submitted published papers, case reports, abstracts and meeting papers relating to organophosphates (OPs), the cabin air environment, ill-health in aircraft crews and the possible relationship to smoke/fume events in aircraft. In addition the BALPA submission contained a database of incidents related to fume events in aircraft. The secretariat also received data from the CAA Mandatory Occurrence Reporting database. The HPA COT secretariat and the DH Toxicology Unit, Imperial College were commissioned by the DH to review the BALPA submission and prepare the discussion paper for the COT.

- Second Draft COT Working Paper on risk assessment and monitoring of paralytic shellfish poisoning (PSP) toxin in support of public health.

A number of modifications had been made to the paper in line with points raised during the May 2006 discussion, including several changes to the text and the addition of a graph indicating the range of PSP toxin doses associated with human illness.

- Third Draft Working Paper on the tolerable daily intake for Perfluorooctane sulfonate (PFOS)

Members' attention was drawn to the changes made to the statement following the consideration of the second draft working paper at the May 2006 meeting. Greater detail had been provided on the pharmacokinetics study in cynomolgus monkeys and changes reported in two independent analyses of thyroid hormone values (TSH and total T_3) reported in the 26-week cynomolgus monkey study had been more fully described. In addition, Benchmark Dose (BMD) modelling had been performed by the Secretariat on both sets of thyroid hormone analyses at the request of the committee.

- Third Draft Working Paper on the tolerable daily intake for Perfluorooctanoic acid (PFOA)

Members attention was drawn to the changes that had been made to the statement following the consideration of the second draft working paper during the May 2006 meeting. In particular Benchmark Dose (BMD) modelling had been performed to analyse the dose-response relationships for a number of reported effects (organ weight changes in the 13-week rat study and the two-generation reproductive study). Also the authors of the developmental toxicity study had provided remodelled BMDs in order to estimate a $BMDL_{10}$ for the maternal absolute liver weight.

- European Commission Discussion Paper on the Setting of maximum and minimum amounts for Vitamins and Minerals in foodstuffs

European legislation covering the regulation of dietary supplements is currently being enacted. As part of this process, maximum levels will be established for vitamins and minerals in food supplements and fortified foods. Although tolerable upper levels for nutrients had been set by the SCF and subsequently by EFSA, the European Commission has not yet proposed maximum levels for individual vitamins and minerals. It is expected that these would be proposed within two years. A discussion paper had now been published by the European Commission, which posed questions on how the setting of maximum levels might be achieved. The Food Standards Agency based its preliminary view on the conclusions of the 2003 report of the Expert Group on Vitamins and Minerals (EVM) but is also seeking the views of stakeholders on the discussion paper. The Committee was asked to consider the paper and comment.

COT meeting held on 5th September 2006

- Draft working paper on toxicology literature on the topical insect repellent N,N-diethyl-m-toluamide (DEET), held in CLOSED SESSION

Discussion of the paper was held in closed session due to the discussion of unpublished commercial data. The relevant section of the minutes, and a statement will be published after the COT has concluded its evaluation.

- Revision of WHO Toxic Equivalency Factors for dioxins and dioxin-like compounds

Members' attention was drawn to the 2005 WHO-IPCS expert meeting, which was convened to re-evaluate the toxic equivalency factors (TEFs) used to assess mixtures of dioxins and dioxin-like compounds. This re-evaluation used a relative effect potency (REP) database which had been recompiled based on more stringent inclusion criteria and additional studies completed since the last evaluation.

The motivation for the re-evaluation was questioned since this is an economic as well as a consumer safety issue. The secretariat informed the committee that the motivation for the WHO re-evaluation was twofold.

Firstly, the TEF scheme has been in use as a method of assessing dioxin exposure since 1993 and has been subject to periodic reviews based on emerging scientific knowledge.

Secondly, a recent workshop and report of the European Food Safety Authority (EFSA) on the dioxin risk assessment process concluded that it was timely to review the TEF scheme, including consideration of whether TEFs could be defined for a wider range of dioxin-like compounds.

- The toxicology of nanoparticles used in healthcare and update on nanomaterial toxicology

The Medicines and Healthcare products Regulatory Agency (MHRA) presented a review of information on the toxicology of nanoparticles used in healthcare. This review provided information on medical applications of nanoparticles as requested in the joint statement. The paper also included information on recent developments on research priorities.

- First Draft Working Paper on the Development and Function in Adulthood of the Male Reproductive System – Potential Chemical-Induced Effects

At the March 2006 meeting Members had agreed that a standalone statement independent from the COT statement of August 2004 be produced. This statement should emphasise the importance of research to link experimental data and epidemiology, and should seek to bring out the conclusions from mixture studies presented at the February workshop.

- Best Practice Agreement for Scientific Advisory Committees

Members were asked to comment on a draft Best Practice Agreement for Scientific Advisory Committees.

COT meeting held on 17th October 2006

- Discussion paper on the results from a commercial survey investigating the occurrence of disinfectants and disinfection by-products in prepared salads, held in CLOSED SESSION.

A discussion paper was presented providing information on the nature and levels of disinfection by-products analysed in a range of bagged salads. Representatives of the Producer Group and the testing laboratory were present to provide additional information to the Committee. The data were commercial in-confidence and therefore the item was discussed in closed session.

- Reformulation of PAVA (Nonivamide) as an incapacitant spray, held in CLOSED SESSION

- Developing an appraisal system for committee members, held in CLOSED SESSION

The purpose of proposing an appraisal system is to enable an objective and evidence based review of the performance of each Committee member. This is increasingly required to demonstrate that Committees are robust. It would also support recommendations for reappointment to the Committee and enable the Chair to provide feedback, if necessary, to members on their performance. The Secretariat provided an example of an appraisal form currently used by the Scientific Advisory Committee on Nutrition (SACN) and invited members to comment on whether it would they would find it suitable for use by the COT.

- Recruitment of new committee members, held in CLOSED SESSION

Members were asked to comment on the balance of expertise required in the Committee and to make suggestions for suitable candidates.

- First Draft COT Working Paper on The Revision of WHO Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds

Members were presented with the first draft working paper based on the discussion paper which the Committee discussed at the September 2006 meeting. Attention was drawn to the sections which differed from the information provided. As requested, these included: a Non Technical Summary; more background on why the WHO/IPCS re-evaluation was performed; details of the Relative Effect Potency (REP) database used in the

re-evaluation; the context of toddlers' exceedance of the TDI; and the Committee discussion and conclusions.

- Risk assessment of marine biotoxins of the okadaic acid, azaspiracid, pectenotoxin and yessotoxin groups in support of public health

Members considered biotoxins of the okadaic acid (OA), azaspiracid (AZA), pectenotoxin (PTX) and yessotoxin (YTX) groups, with a view to advising on appropriate acute reference doses (ARfD), i.e. the amount that can be ingested in a period of 24 hours or less without appreciable health risk.

- Second draft working paper on the meeting report on the development and function in adulthood of the male reproductive system – potential chemical-induced effects

The second draft working paper attempted to reflect the speakers' comments, and highlighted that although data from some animal studies support the hypothesis proposing anti-androgens, such as phthalates, are implicated in testicular dysgenesis disorders in humans, this may be only one of several potential causes.

5. SCIENTIFIC ADVISORY COMMITTEE ON NUTRITION (SACN)

Work highlights for SACN during 2006 included the following:

Folate – The SACN draft report on folate and disease prevention is now nearing completion. The Committee have agreed to recommend mandatory fortification as the most effective way of increasing the folate intake in the population. The report is expected to be published in December, alongside a full public consultation.

National Diet and Nutrition Survey (NDNS) – The Committee have conducted an analysis of the nutritional well-being of the UK population, summarising the findings in a synthesis paper, which will be published in early 2007.

Selenium – SACN have undertaken a review of the evidence on selenium and health. They have concluded that although there is evidence of a decline in selenium intake and status in the UK, the health consequences of this are currently unclear. The Committee agreed that this issue should be reviewed when there is more current intake/status data available for the UK population and when ongoing studies and trials have been published. The report is expected to be published shortly.

Maternal and Child Nutrition – A joint subgroup of SACN members and representatives of the Royal College of Paediatrics and Child Health (RCPCH) has been set up to consider the suitability of the WHO Multicentre Growth Standards for use in the United Kingdom.

6. SPONGIFROM ENCEPHALOPATHY ADVISORY COMMITTEE (SEAC)

Over the past year the Spongiform Encephalopathy Advisory Committee (SEAC) has at the request of Defra, DH, FSA, SE, WAG and the NIE, given advice on transmissible spongiform encephalopathies (TSEs) on a wide range of issues. Main highlights from the past year (Nov 05 – Nov 06) can be broadly categorised into three groups.

SEAC has assessed CJD and Public Health by examining the current and future profile of the vCJD epidemic. Discussed methods to evaluate new surgical instrument decontamination technologies to ensure effective infectious agent removal. Reviewed new information on the potential risks of vCJD transmission via endodontic dentistry. Considered information in relation to the exposure to vCJD infectivity in blood, blood products and from medical implants containing bovine material.

The Committee has considered Food Safety in relation to the detection of abnormal prion protein in tissues of cattle with BSE. The implications to human health of Chronic Wasting Disease in deer and the potential transmission of BSE to deer. Commented on the strategic goals of the European Commission's TSE Roadmap which aims to maintain the current level of consumer protection.

On Animal Health and Animal By-Products SEAC has reviewed data on cattle with BSE born after the 1996 reinforced mammalian meat and bone meal ban. Examined arrangements for the disposal of manure, crops and livestock from farms on which BSE research had been conducted. Reviewed information and research on atypical scrapie and the recently identified new strains of BSE.