



**OPINION ON
ORGANOPHOSPHATE (OP) POISONING AND
HYPOTHETICAL INVOLVEMENT IN THE ORIGIN OF BSE**

Background

In its opinion on possible links between BSE and Organophosphates adopted on 25-26 June 1998 and in its opinion on Hypotheses on the origin and transmission of BSE adopted on 29-30 November 2001 the SSC concluded that there is no scientific evidence in support of the hypothesis of an OP origin of BSE.

The issue of organophosphate poisoning has not been dealt with by the SSC so far. The concerns expressed in the enquiries cover mainly intoxication by occupational exposure of shepherds and farmers to OPs upon use against ecto-parasites, especially in sheep dipping and treatment of cattle against Warble Fly infestation. Risks from residues are addressed to a lesser extent.

In early 2003, a large number of additional enquiries on the issue have been addressed to European Commission's Health and Consumer Directorate General. Four of these with substantial enclosures were by one person. Most of them are addressing both issues: chronic organophosphate (OP) poisoning and the origin of BSE.

Information provided with the enquiries

In addition to numerous newspaper and magazine articles the enclosures to the enquiries provide the Material Safety Data Sheet on diazinon, the OSHA Occupational Safety and Health Guideline for Tetraethylpyrophosphate (TEPP), an US agency Hazardous Substances Fact Sheet on crufomate, company safety information sheets, some correspondence with UK authorities including their activities to improve safe use of these chemicals. The information regarding claimed OP chronic poisoning of cases presented does not provide evidence, neither for OPs being the cause for diseases nor for their exclusion (i.e., "very low" blood-cholinesterase levels, provided without data or comparison with the normal distribution of values; successful treatment of a patient for OP clearance without giving any OP data). It

seems however, that due to insufficient, non-prudent use of the safety requirements undue exposures of shepherds and farmers have occurred.

There is no additional information on the claimed involvement of OPs in the origin of BSE. This applies for both, the hypotheses on the direct effect of OPs as well as on their hypothetical role for Cu-deficiency to be involved in the origin of BSE (Cu binding of prion protein is known). New publications are mentioned in one enquiry but they have not yet been provided. In an Internet search no recent scientifically valid publications were traceable. The SSC had been informed that research would be launched on this hypothesis, but no information has been provided so far on its status or on results.

Conclusions

- a) As regards the involvement of organophosphates in the origin of BSE, no new scientific information providing evidence or supporting the hypothesis by valid data became available after the adoption of the last opinion of the SSC on this issue. Consequently there is no reason for modifying the existing opinions.
- b) Regarding the possibility of OP poisoning, the European legislation for registration of plant protection products and veterinary medicines – addressed in the enquiries – provide the basis for safe use of registered compounds and their formulations. Regarding the alleged intoxication cases reported and OP exposure it must be concluded that safety measures may not have been strictly followed.

References

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