

have curiously overlooked is the Summer beginning of the Autumn term on Scotland. Therefore, the observed rise in sales of head lice treatments follows the August return to school.

CHC shares their belief that there is no room for complacency and more detailed studies are required. A harm/benefit analysis of all aspects of control practice is long overdue.

Yours faithfully

Joanna Ibarra BSc FRSH
Programme Co-ordinator
Community Hygiene Concern

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Dear Editor

Head Louse Repellents

The Immunisation and Infectious Disease Committee of the British Paediatric Association were disturbed (1993) by the direct marketing to the general public of Rappell for daily use on children. The spray has been on sale in the UK as a head louse (*Pediculus capitis*) repellent since Autumn 1992. The manufacturers, Charwell Pharmaceuticals, were asked by the Medicines Control Agency in June 1993 to apply for a medicine licence for

which data on efficacy and safety are required.

Peock and Maunder report tests in the December 1993 issue of the Journal of Royal Society of Health which found that Rappell (2% piperonal) exhibits 'a repellent action against lice'. Several phrases in this paper eg 'a new, easy to use, low fragrance, pump action spray' read much like the Rappell advertisements.

We are of the opinion that laboratory tests against clothing lice (*Pediculus humanus*) cannot be accepted as a substitute for field trials. The Orlando lice cultured by Burgess, Peock and Maunder at the Medical Entomology Centre (MEC) were persuaded to feed on rabbits in the USA over four decades ago (Culpepper, 1948) and have been kept in isolation since then. It takes about 17 days for a louse to produce offspring of the next generation. Clearly the Orlando colony has been inbred for an enormous number of generations. The MEC has not developed standards of comparison between Orlando lice and UK head lice. Lice are normally host specific and the adaptation to feeding on rabbits of human lice represents a major behavioural change. It casts doubt on the validity of the colony as a test model for any behaviour patterns. Furthermore, in mosquitoes, which have been used extensively to study repellents, it is well known that different species exhibit very different levels of reaction to the same chemicals, indicating that assumptions cannot be made about one species on the basis of results testing another related species (Curtis *et al*, 1987). Notwithstanding this accumulated experience, Peock and Maunder make a statement in the abstract which is neither established nor followed through in the subsequent report. They say 'insecticides found to be effective in the laboratory, have been found to be equally effective in the field'.

Testing with diethyltoluamide (DEET) and then basing the argument on the fact that Rappell works better than DEET is totally inappropriate. Using Dethier's (1947) definition of a repellent as quoted by Peock and Maunder, DEET cannot be called a true repellent, because it apparently masks close range location behaviour, it does not cause 'orientated movements away from its source', DEET has never been proposed as a head louse repellent and the idea that it could be used as such shows a misunderstanding of its mode of

action against mosquitoes.

Peock and Maunder use the results of comparative tests with DEET to suggest that piperonal is relatively safe. These tell us nothing about the effects of daily exposure on children sprayed with Rappell. Parents engaged in a running battle with head lice (Ibarra, 1993) report that they find Rappell is expensive (it was added to the list of items which may not be supplied on NHS prescription in October 1993) and that it does not keep their children free of head lice (Community Hygiene Concern Help Line feedback). Yours faithfully,

Joanna Ibarra BSc FRSH
Bernice Williams DPhil FRES CBiol, MBiol
Community Hygiene Concern

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Dear Sirs,

I found the contribution by Denise Worsfold in the December Journal most interesting and useful.

I do not believe that it is essential, in a basic food handlers' course to labour the distinction between food-borne disease and food-poisoning, but neither is it a good idea to confuse the two.

The published article refers to 'Food-poisoning symptoms appearing ... after several days' ... it should be noted that food-poisoning is a reaction to the endo and or exotoxins produced by food-poisoning organisms, most commonly these are present when the food is ingested as very little bacte-