However there was no consistency in the areas affected either between sexes or at different ages, in general other measurements for the same structures at other levels showed no differences, all were within the historical control range of mean values and none of these differences is considered to be related to treatment (Appendix K).

7. DISCUSSION

The purpose of this study, which was to determine the potential for developmental neurotoxicity in the assessment and evaluation of the toxic characteristics of lambda-cyhalothrin in rats, was successfully accomplished.

There was evidence of toxicity characterised by lower bodyweights and food consumption in dams receiving 60 or 150 ppm lambda-cyhalothrin during gestation and also *post partum* in the 150 ppm group only.

There were no treatment-related effects of administration of lambda-cyhalothrin on reproductive parameters: there were no effects on gestation length, mean litter size or on pup bodyweight at birth.

There was evidence of toxicity in F1 animals receiving 150 ppm. This was seen as slightly higher pup mortality up to day 5 and lower bodyweights from day 5, reaching a maximum of approximately 8-9% below control on day 22.

There was a small difference in the age at which male rats in the 150 ppm group reached preputial separation, but this was too small to be of toxicological significance.

No effects were seen on motor activity or response to auditory startle.

There was no clear evidence of any effects in the learning and memory assessment in weanling (age 21-24 days) or young adult animals (age 59-62 days). However, at day 21 swimming speeds of females receiving 150 ppm were slightly slower than controls. The difference is considered to reflect a difference in swimming performance rather than an effect on learning or memory.

No neuropathological effect of treatment with lambda-cyhalothrin was detected from a detailed microscopic examination of the selected F1 animals *post mortem* on day 12 or 63.