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TO: MARGARET CLAYTON

PAGE: 1 **OF** 4

FAX NO:

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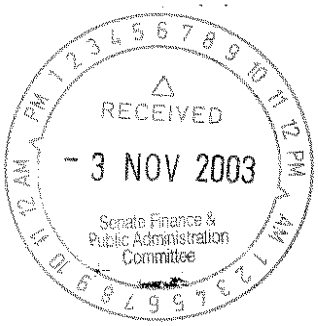
SUBJECT:

MESSAGE



Reply to questions raised about control of Bogong moths

1. Is the use of the product used to spray for bogong moths at Parliament House safe to humans?

The material used is Cislin and the active ingredient is deltamethrin 10g/L. It is sprayed at a very dilute rate with 150mL of the product dissolved in 10 litres of water (ie. 1.5g AI per 10 litres). Therefore, there are very small amounts of active ingredient in the sprayed material. I do not like to regard any insecticide as safe however, this material represents an extremely low mammalian toxicity at the sprayed rate. As a pyrethroid it is also rapidly detoxified by mammals. I do not think this material poses any hazard to humans when sprayed at the very dilute rate used to control insects.

2. Could this product be a 'high risk' to birds but not to other species?

Insecticides often show different levels of toxicity to different groups of non-target animals. However, in laboratory tests against birds, for example the duck, the material has been shown to have a low toxicity. There may be more sensitive bird species but the available evidence suggests the material should not harm birds.

3. Is the use of the product sprayed at the rate of 150mL/10L appropriate for Bogong moth spraying and safe to birds?

The product was sprayed to kill spiders and ants but the rate will be very effective against moths. At this low rate and sprayed in selected areas it should pose no problems to birds. For example it is not sprayed on bird roosting or nesting areas and so direct contact with the spray should be minimal. Birds will eat moths and if there are large numbers of moths killed I think it would be useful to collect these moths for disposal in order to limit their contact with birds. They may also attract secondary pests such as rodents. They may also be greasy and cause accidents or stain the building.

4. What is the residual life of this product after spraying? Will natural rain water wash it away?

The residual life will depend on the surface and environmental conditions. I will need to find some data on half life of the material on various surfaces and will try to answer your question tomorrow. The material has very low solubility in water once it has dried on a surface and so rain water would wash away very little. In addition, many of the sprayed areas are not subject to direct rainfall.

5. Do you agree with the assessments made by the Bayer representative in his letter of October 2003?

I have looked at the assessment and it appears reasonable.
My approach would be more conservative and allow for direct spray of moths. It reaches a similar conclusion- that large amounts of moths would need to be eaten.

Assume Moth sprayed with 0 1ml dilute material

Amount of active ingredient on moth 0.015mg

Amount of active ingredient to kill Mallard 4840mg/kg (LD_{50})

Assume 10% of LD_{50} will kill susceptible individuals 484mg/kg

Number of moths to kill susceptible individual is 485 ÷ 0.015 = 32,333 Moths

This is the number of moths to kill a 1kg bird. The birds in question may weigh less but a large number of heavily contaminated moths are required.

6 Do you approve of this product as an appropriate control measure for the Bogong moth?

It should be emphasised that the major program to limit entry is non-insecticidal. It has involved extensive proofing of the building and removal of moths, which enter. The exterior is sprayed once a year to control spiders and ants and this spray would also kill bogong moths against which it would be very effective

7. Do you support the current spraying regime on an annual basis as an appropriate control method?

I feel this occasional exterior spraying supplements the proofing program. It seems impossible to completely proof the building and so the spraying limits the number of moths which are present to enter the building in a short critical period. Proofing remains the major pest management strategy. The spraying is carried out against a range of pests eg spiders and ants and also controls bogong moths but I would not regard this as a major part of the program to stop bogong moths entering Parliament House.

8. What are the foreseeable consequences at Parliament House for an increase in other insect or rodent pests if spraying with this product and daily cleaning up of dead moths is not carried out?

In the early years of Parliament House there was a major influx of Bogong Moth. Since then there have been periodic entries of the moth. Once in the building the moth dies and acts as food for a range of secondary pests, eg. Rodents, carpet beetle, clothes moth and flour beetle. Clothes moth has caused significant damage to the fabric of Parliament House. If Bogong Moth is ignored these

secondary pests will build up and cause damage to the fabric of the building and perhaps the health of the occupants. It is essential to limit their entry.

Associate Professor
Peter Miller

30th October 2003