Cockroach control in the NT

Peter Whelan, Medical Entomology Branch, Territory Health Services

Cockroaches can be significant pest and potential public health problems in the tropics. The guide and recommendations below have been produced with public buildings in mind but can equally apply to private premises. They are focused on the German cockroach [because of their more common occurrence in homes and institutions] but the principles apply equally to the larger American cockroach. The information and recommendations for cockroach control are aimed at the owner or occupier rather than a licensed pest control operator.

It is important to conduct an inspection and evaluation of affected areas to determine the species present, the location and extent of the infestation and the contributing reasons for the infestation before deciding on the best options for cockroach control in any specific situation.

Cockroaches are primarily associated with food storage, preparation and consumption areas and harbour in close proximity to these sites. Prime areas of infestation in buildings and homes are sites such as food cupboards, under and behind fridges, ovens, and skirting boards, beneath kitchen sinks and in accumulations of infrequently used items or rubbish in or adjacent to the premises.

Some species of cockroach may find adequate food and harbourage outside the premises and in adjacent gardens or other areas and disperse by crawling or flying into an adjacent premise, so any survey and control program should include adjacent potential sources.

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Institutions and homes where regular cleaning or insecticide programs are carried out can run into problems if the application of insecticide and the timing is not documented or the quality of cleaning under such items as the fridges and other movable objects is not assured. Records should be kept of the dates of spraying, with a due date for reaplication, and dates for regular inspections.

Insecticide applications in public buildings may require the use of a licensed pest control operator. This should be checked with the Poisons Branch of Territory Health Services (THS).

Any insecticide used should be registered for that use in the NT. The label should be strictly adhered to and material data and safety sheets should be obtained from the agent or manufacturer. If in any doubt contact the Poisons Branch of THS ph: 8922 7340.

**Cockroach control**

Control of cockroaches will rely on a combination of cleaning, hygiene and insecticide application. Unless a combination of these measures is maintained there could be a rapid deterioration in the cockroach situation. Any cockroach problem will not be solved with insecticide applications alone. A selection of measures under each of these headings is listed below.

**Cockroach control measures**

1. **Cleaning**
   - Weekly under movable objects in kitchens or food consumption areas eg fridges.
   - Food preparation equipment (eg toasters) and surfaces immediately after use.

2. **Domestic and environmental hygiene**
   - Premise hygiene, including storage of rubbish, left over food, dry food and pet’s food in cockroach proof containers until used or disposed.
   - Structural improvements to prevent cockroach entry and harbourage eg seal skirting boards, wall plumbing sites, and internal wall and cupboard spaces.

3. **Insecticides**
   - Insecticide use (with the timing and extent of use documented) is complementary to cleaning and hygiene.
   - Include residual insecticides, insect growth regulator hormones (chiton inhibitors and juvenile hormone), cockroach baits and traps.

The full report, *An introduction to cockroach control in the NT*, is available from Peter Whelan on request ph: 8922 8333.

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**Editorial**

Cockroaches are primitive insects and belong to the Order *Blattodea*. There are over 3,500 cockroach species worldwide but the German, American and Australian cockroaches are most common in Australia. Eggs of the cockroach are laid within an egg case or ootheca. One ootheca may contain from 10 to 40 eggs depending on the species of cockroach and environmental conditions. The egg case may either be glued to a surface or dropped in a secluded, dark place.

After hatching, the immature cockroaches or nymphs, tend to congregate with adults. Being a primitive insect, the young have the appearance of the adult only are smaller and without wings. As the nymphs grow they undergo a series of moults with wing growth and development evident with each moult.

The immature stage may be as long as a couple of months to a year, depending on the species and environmental conditions. An adult may live from a few months to a year, again depending on its species and environmental conditions. A female, in its lifetime can produce up to 30 egg cases.

Cockroaches originated in the tropics and sub tropics and can reach very high numbers under the right conditions ie high humidity and heat. High temperatures speed up the life cycle of the cockroach which is cold blooded (poikilothermic) so they tend to be more of a pest in the tropics. Access to food sources in domestic situations, poor environmental hygiene providing access to refuse and structural problems eg dripping taps giving access to water encourage cockroach infestation.

**Cockroaches and disease transmission**

Cockroaches can be hazardous to humans as mechanical vectors of disease transmission and a potent source of allergens. They are second only to house flies as potential vectors of disease because of
their movements through various habitats (including garbage and sewerage systems) and feeding habits (they feed on all sorts of things such as excreta, sputa and food).

Cockroaches have been implicated in cases of Salmonella food poisoning and have also been found to harbour Staphylococcus sp. Streptococcus sp., coliforms and other bacterial pathogens. After feeding on contaminated food, bacteria can remain in the cockroach digestive system for at least a month. Later, human food can become contaminated with cockroach faeces. Salmonella bacteria have been shown to survive in cockroach faeces for years.

Cockroaches are also capable of transmitting a large number of viruses including polio virus. Recently, cockroaches have been found to be an important source of allergy in humans, second only to the house dust mite.

Acknowledgement

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References


Karen Blyth and Ivor Alexander, CDC, Nhulunbuy

Background

Two members from the Centre for Disease Control (CDC), Nhulunbuy made a visit to Community X in November 1998 to have a meeting with the Aboriginal Health Workers (AHWs) to gauge their support for working with “core group transmitters” of sexually transmitted diseases (STDs) within the Community.

At that meeting the AHWs were strongly opposed to the idea of targeting only “core transmitters”, believing that it would not be a successful initiative due to possible stigmatisation of participants. They were, however, very enthusiastic about running a Healthy Men’s Week in their community. After discussion with the Unit Manager at CDC Nhulunbuy, it was decided that this would be the most effective method of providing health services to a large group of men, including, it was hoped, the “core transmitters.”

A further visit to Community X was arranged and at that time contact was made with key community members, the school, the Council Chairman and AHWs, and it was agreed to have a separate location for examination of participants. The location