Cockroaches and their control

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SEVERAL species of cockroaches are general household pests. In this country some of the native varieties have become semi-domesticated and, in addition, two or three introduced forms are quite common.

The large reddish-brown winged American cockroach (*Periplaneta americana* L.) is probably the most plentiful. It measures about 1½ in. in length and is the largest domestic roach found in this State. Another common species is the much smaller German roach (*Blatella germanica* (L)), brownish in colour and characterised by the two black stripes on the thorax.

Cockroaches are practically omnivorous but are particularly fond of foodstuffs favoured by man. On this account the insects frequently assume plague proportions in kitchens and galleys.

**Life history**

The eggs of the cockroach are developed in a chitinous capsule or case which is carried for a time protruding from the abdomen of the female. These capsules may be found attached to rafters, books, boxes, or other rough surfaces. In the case of the American cockroach, attempts may be made to cover the egg capsules with bits of chewed paper, etc.

The young, on hatching, have the general form of the adult. They moult several times and reach maturity after a period of some months.

The exact duration of the different stages varies considerably. For the egg stage 70 days at 77 deg. F. has been quoted as the developmental period, but under Australian summer conditions this time is probably reduced. Several months or perhaps a year may elapse before maturity is reached and the longevity of the adults is considerable. An individual under observation in the Entomology Laboratory survived for over two years. The females may lay a number of capsules, each containing approximately 16 eggs so that the rapidity with which cockroach plagues sometimes develop can easily be explained.

**Relationship to disease**

On account of its association with offal and scraps of all kinds the cockroach is a potential mechanical carrier of disease. Roaches have been known to eat infected
excrement and disgorge infective material some time later, but actually the roach does not compare with the house fly as a menace to public health.

Control

The first essential in the prevention and control of cockroaches is hygiene.

All scraps of food and general kitchen waste should be quickly disposed of and spillage of flour, broken biscuits and bread crumbs periodically cleared from shelves and brushed out from cracks and crevices. Accumulations of these food-stuffs in corners of cupboards, etc., are extremely attractive to cockroaches. Where possible food-stuffs should be stored in receptacles with tight fitting lids or doors.

Garbage cans and waste food bins must be tightly closed and may be painted inside and around the base with chlordane, dieldrin or diazinon.

Sprays

The use of kerosene pyrethrum or DDT fly sprays where direct contact can be obtained is quite effective. However, due to the insect’s retiring habits this method is not always very successful.

A spray known as D.D.V.P. has a highly penetrating vapour and will flush cockroaches from their hiding places. This insecticide should be applied strictly in accordance with the manufacturers’ instructions.

DDT, Lindane or B.H.C., chlordane and dieldrin are insecticides which have a long residual life and will leave residues toxic to roaches for a long period. These materials may be applied to skirting boards, etc., behind which cockroaches often lurk. None of these chemicals should be allowed to contaminate food-stuffs or cooking utensils and are best applied with a brush to eliminate the chance of spray drift.

For residual effect use DDT at 4 or 5 per cent., chlordane at 2 per cent. and dieldrin at 0.5 per cent.

Diazinon and Baygon (R) are two insecticides which have also been found effective as residual sprays and can be applied in the same way as dieldrin or chlordane. Diazinon should be used at 0.5 per cent. and Baygon as a 1.0 per cent. concentration for longer lasting effect.

Some insecticide formulations may leave stains, especially when made up as water emulsions, and this should be remembered when treatments are being applied.

Bait

A Baygon bait has now become available to the householder and good control can be obtained by scattering this material along crevices where cockroaches congregate.

Dusts

Toxic dusts applied to cracks and crevices and sprinkled into other situations favoured by cockroaches will give good control. Useful powders are 10 per cent. BHC and DDT. Sodium fluoride was extensively used before the development of the newer insecticides, and borax was also popular. Borax is only a weak insecticide, however, and may not prove effective in controlling a bad cockroach infestation.

Particular care should be taken to see that food-stuffs are not contaminated with either sodium fluoride, DDT or BHC.

Fumigants and insecticidal smokes

In very severe infestations, fumigation with cyanide may be desirable, but under such circumstances the services of a professional fumigator should be obtained.
Insecticidal smoke bombs containing BHC and lindane and lacking the musty odour of earlier types are now procurable. These may be used effectively in some situations and should be used in accordance with the directions given by the manufacturers.

Traps and baits

A cockroach trap has proved most effective in catching large quantities of cockroaches for laboratory purposes and should be useful in any infested premises. The trap may be made from a suitably-sized tin with a flanged edge, such as is found in press-top treacle tins. The flange enables a small quantity of liquid bait to be retained when the tin is laid in position on its side. A tapering cone of fly-wire is fitted into the tin and a flattened hole about \( \frac{3}{4} \) in. broad and \( \frac{3}{8} \) in. high is made in the apex of the cone to give the insects free entry. The cone may be held in position by allowing the gauze at the base to fold over onto the outside of the tin, where it may be secured by a piece of thin wire.

A neater article may be achieved by cutting almost the entire centre out of the press-top lid and soldering the cone into position. This will enable the trap to be easily dismantled for emptying and cleaning.

One of the most attractive materials for cockroaches is stale beer, and traps should be baited with a few drops of his liquid before being placed on their sides behind stoves, in cupboards, or in other likely situations. The best results so far obtained have followed the use of stale beer, but if this is not available moist apple peelings or water scraps may be tried.

The traps should not be cleaned or washed with strong disinfectant materials as the smell may act as a repellent to the cockroaches and reduce the efficiency of the trap.
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