Pest Control Newsletter

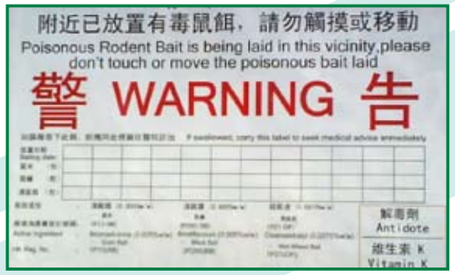
Published by the
Pest Control Advisory Section

Issue No.25 Jan 2012

INSIDE THIS ISSUE

Application of Rodenticides

A tamper-proof bait station (arrow)



Warning notice should be posted up at each baiting station

Rodenticides are poisons that kill rodents. Application of rodenticides is an important component of most integrated pest management programs against rodent infestations, particularly in emergency situations or when the infestations are serious. To achieve good control results, the following points should be noted:

- Eliminate as much of the food source for rodents as possible before and during the course of poison baiting.
- Place baits along rodent travel routes and near their harbourages. Record the location of each bait station so that each station can be properly maintained.
- Enough bait should be provided to ensure all rodents have ample opportunity to obtain a lethal dose. If 0.005% brodifacoum ready-to-use pellet bait is used, about 15g of pellets should be packed in a thin PVC bag and punched with a number of holes before laying at a target site. Each pack is sufficient for killing two to three rats. The thin PVC bag can prevent the bait pellets from being scattered and provide some protection from moisture. Packed bait spaced at a 5m interval should be sufficient to treat most infestations. However, in place with heavy infestation, baits can be laid as close as 1m apart.
- All bait stations should be checked and replenished at least once per week. Replace old, insect infested or moldy baits as rodents are not attracted to them. Nevertheless, rodents may never visit the bait if there are abundant food alternatives, regardless of the quality of the bait.
- On some occasions, rodents may take bait well at the beginning and their population is reduced initially. Then bait acceptance appears to stop although some rodents remain. That the remaining rodents do not accept the bait may be due to the formulation or placement of the bait. In such circumstance, switching to another type or brand of bait, and/or placing baits at different locations can be considered. Should this also fail, use other control methods such as trapping.
- Bait boxes should be used whenever necessary to prevent unnecessary accidental poisoning of non-target animals or humans. Rat/mouse-sized bait boxes also encourage feeding by providing the rats/mice with attractive and protected feeding locations.

Poisonous baiting is considered to be a supplementary measure only as it cannot rule out the possibility of re-infestation. Comprehensive rodent proofing together with good sanitation are the key factors for long term rodent control and prevention.

Rodenticides are hazardous to humans and non-target animals. Always observe the directions and safety precautions as stated on the pesticide labels when handling rodenticides. Besides, adequate verbal and written warning must be given to avoid any accidental poisoning. **Appointment of pest control company for provision of professional and safe rodent control programme is recommended.**

T. W. LEUNG, Pest Control Officer

Common Myiasis-causing Fly

Fourth instar larva of Chrysomya bezziana

Chrysomya bezziana adult

Myiasis is a disease of man and other animals caused by infestation of dipteran larvae. Apart from harming to our health, myiasis also costs animal husbandry industry a significant amount of money and effort for treatment every year. Myiasis can be classified by different host and fly parasite relationships into obligatory, facultative and accidental myiasis.

Obligatory myiasis is caused by fly species which must have the development of their larval stages in fresh living tissue of a host; for example *Chrysomya bezziana* which is widely distributed in Southeast Asia and *Cochliomyia hominivorax* which is dominated in Americas. On the other hand, facultative myiasis-causing flies, such as green bottle fly and flesh fly, normally feed on decaying animal tissue but occasionally on necrotic tissue of a host. Accidental myiasis is usually caused by species that have no preference to feed or develop in a host except on very rare occasions.

In Hong Kong, most of the myiasis cases (both human and animal cases) are the infestation results of *Chrysomya bezziana*, also known as Old World Screwworm Fly, in Family Calliphoridae. An adult fly feeds on decomposing corpses, decaying matters, excreta and flowers to survive. When females reproduce, they are attracted to wound fluids and blood of potential living hosts. Then, eggs are laid at host's superficial wounds or natural body openings. The larvae usually hatch in 24 hours under favourable environmental conditions, and then burrow into the host's tissue for feeding before falling off to the ground to pupate. Dogs, mainly stray dogs, are the most common animal host reported in Hong Kong.

Human myiasis cases reported in Hong Kong mostly related to bedridden or chair-bound patients, who may or may not feed on nasogastric tubes, and ambulatory patients with chronic wounds. Sites of infestation in human mainly happened on lower limbs with pre-existing wounds, oral cavity and breast.

Although myiasis-causing flies pose threats to our health and economy, green bottle flies (a group of flies causing facultative myiasis) have now been used to do good to humans. Disinfected common green bottle fly larvae have already been commercialized to clean out non-healing necrotic tissue of patients, which is known as maggot therapy.

To prevent myiasis, people should keep good personal hygiene, and properly treat and dress all wounds. Caretakers of susceptible persons should practise good environmental hygiene to minimize the exposure of dependants to adult flies and screen dependants' wounds or ulcers regularly for early detection and treatment. Pet keepers should regularly inspect their pet dogs and take them to veterinarians for treatment if wounds are detected. Dead bodies of animals must be managed properly to avoid them from access by flies. In general, improvement of sanitation and taking fly preventive measures can effectively suppress adult flies.

Miss W. S. TSANG, Pest Control Officer