Structural Pest Control, Fogging vs Fumigation

Fogging and fumigation are two methods of pest control that appear similar in nature. Both involve the use of an insecticide or chemical solution that is aerosolized and applied to a given area. While this might lead you to believe that the two are the same, there are some key differences, the most important of which is namely that fumigants penetrate into the products while ULV fogging and misting functions as a space spray. For a more detailed explanation highlighting the differences, see below:

Structural (Health and Nuisance) Pest Control

Many pests can spread diseases that are harmful to human health. Without proper management techniques, pests such as cockroaches, rodents, ticks, fleas, and mosquitoes can cause severe damage and/or pose serious threats to human health.

Pests can transmit a host of diseases to humans and animals with effects ranging from minor discomfort to death.

Before you use any pesticide in a sensitive environment make sure you understand all the specific needs and/or the rules pertaining to the specific pest and site.

What is Fogging?

Fogging or ULV misting is a technique used for killing insects that involves using a fogger or ULV mister to convert a pesticide solution into small particles (mist or fog) that are applied to a specific area. Fast-acting pesticides like pyrethroids are typically used.

Thermal and cold foggers are two different types of devices used for this purpose. The droplets produced by thermal foggers are very small and can even get as small as 0.5 micron in diameter. Because of the small droplet size, these foggers produce, they can spray a higher density of droplets. Thermal foggers are mostly used for insect control alone and are ideally suited for outdoor use.

Ultra-Low Volume (ULV) or Cold foggers are obviously different than thermal foggers. Instead of using heat to vaporize the pesticide solution, it uses high-pressure of air to convert the solution into tiny particles. These usually range from 10–50 microns in diameter. ULV foggers are practically odourless on most occasions. This makes them much more pleasant to use, especially indoors. Note: These days Cold foggers are popular for sanitizing and disinfecting against the Covid -19 virus.

Like thermal foggers, ULV foggers can be used with water or oil-based insecticide preparations. Fogging and misting are not classified as fumigation, but a Structural pest control technique that can be used to combat insects, fungi, bacteria, viruses, and contamination.

Structural Fumigation

People often mistake smokes, fogs, mists and other aerosols for fumigants. However, the devices used for delivery of these pesticide solutions produce particles or droplets that are quite different from fumigants. They are not true fumigants because they are not gases.

Fumigation is a targeted treatment carried out in a controlled environment, in which an enclosed space is filled with toxic gases (e.g. Profume, Methyl Bromide and Hydrogen Phosphide) to control pests in stored goods and commodities.

Fumigation is defined as the act of introducing a toxic chemical in an enclosed space in such a manner that it disperses quickly and acts on the target pest in the gaseous or vapour state. **The goal of fumigation** is to confine enough gas for sufficient time to eradicate the target pest, mostly store-product pests and woodborer beetles, which in normal conditions is achieved in a static chamber under control of a qualified fumigator, in possession of a valid P-registration.

A fumigant is a gas with pesticidal action. Fumigants are gases, or form gases, after application. In a high enough concentration, a fumigant can kill insects and other pests. Fumigants may be odourless, and usually cannot be seen.

At the conclusion of the fumigation operation and after the fumigation area has been declared safe for re-occupation, i.e. when tests show that the area is gas free, the PCO must issue a clearance certificate.

The aim of a fumigation training programme is to build an understanding of the structural pest fumigation principles and applicable legislation; the biology, identification and damage patterns of structural pests; the physical and chemical effects of fumigants and fumigant dosages and concentrations; the safety and health precautions, toxicity of fumigants, symptoms of poisoning and first-aid treatment; the appropriate application equipment, personal protective equipment and gas monitoring and detection equipment; the procedures for fumigation inspection and structure measurement; the determination of volume and dosages; the preparation of the fumigation area; and the procedures for fumigation of residences, warehouses, containers and commodities in various storage modes.