Title	IMDG Code 2016 / SUPPLEMENT / Recommendations on the Safe Use of Pesticides in Ships / 2
Effective Date	1-1-2012
Invalid from	1-1-2014
Note	Incorporating Amendment 35-10

2 PREVENTION OF INFESTATION

2.1

Maintenance and sanitation

2.1.1

Ship cargo spaces, tank top ceilings and other parts of the ship should be kept in a good state of repair to avoid infestation. Many ports of the world have rules and by-laws dealing specifically with the maintenance of ships intended to carry grain cargoes; for example, boards and ceilings should be completely grain-tight.

2.1.2

Cleanliness, or good housekeeping, is as important a means of controlling pests on a ship as it is in a home, warehouse, mill or factory. Since insect pests on ships become established and multiply in debris, much can be done to prevent their increase by simple, thorough cleaning. Box beams and stiffeners, for example, become filled with debris during discharge of cargo and unless kept clean can become a source of heavy infestation. It is important to remove thoroughly all cargo residue from deckhead frames and longitudinal deck girders at the time of discharge, preferably when the cargo level is suitable for convenient cleaning. Where available, industrial vacuum cleaners are of value for the cleaning of cargo spaces and fittings.

2.1.3

The material collected during cleaning should be disposed of, or treated, immediately so that the insects cannot escape and spread to other parts of the ship or elsewhere. In port it may be burnt or treated with a pesticide, but in many countries such material may only be landed under phytosanitary supervision. Where destruction ashore is not practicable, the sweepings should be jettisoned well out to sea. If any part of the ship is being fumigated the material may be left exposed to the gas.

2.2

Main sites of infestation

2.2.1

Tank top ceiling: If, as often happens, cracks appear between the ceiling boards, food material may be forced down into the underlying space and serve as a focus of infestation for an indefinite period. Insects bred in this space can readily move out to attack food cargoes and establish their progeny in them.

2.2.2

'Tween-deck centre lines, wooden feeders and bins are often left in place for several voyages and because of their construction are a frequent source of infestation. After unloading a grain cargo, burlap and battens covering the narrow spaces between the planks should be removed and discarded before the holds are cleaned or washed down. These coverings should be replaced by new material in preparation for the next cargo.

2.2.3

Transverse beams and longitudinal deck girders which support the decks and hatch openings may have an L-shaped angle-bar construction. Such girders provide ledges where grain may lodge when bulk cargoes are unloaded. The ledges are often in inaccessible places overlooked during cleaning operations.

2.2.4

Insulated bulkheads near engine-rooms: When the hold side of an engine-room bulkhead is insulated with a wooden sheathing, the airspace and the cracks between the boards often become filled with grain and other material. Sometimes the airspace is filled with insulating material which may become heavily infested and serves as a place for insect breeding. Temporary wooden bulkheads also provide an ideal place for insect breeding, especially under moist conditions, such as when green lumber is used.

2.2.5

Cargo battens: The crevices at the sparring cleats are ideal places for material to lodge and for insects to hide.

2.2.6

Bilges: Insects in accumulations of food material are often found in these spaces.

2.2.7

Electrical conduit casings: Sometimes the sheet-metal covering is damaged by general cargo and when bulk grain is loaded later, the casings may become completely filled. This residual grain has often been found to be heavily infested. Casings that are damaged should be repaired immediately or, where possible, they should be replaced with steel strapping, which can be cleaned more easily.

2.2.8

Other places where material accumulates and where insects breed and hide include:

The area underneath burlap, which is used to cover limber boards and sometimes to cover tank top ceilings.

Boxing around pipes, especially if it is broken.

Corners, where old cereal material is often found.

Crevices at plate landings, frames and chocks.

Wooden coverings of manholes or wells leading to double-bottom tanks or other places.

Cracks in the wooden ceiling protecting the propeller shaft tunnel.

Beneath rusty scale and old paint on the inside of hull plates.

Shifting boards.

Dunnage material, empty bags and used separation cloths.

Inside lockers.