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BMSB Heat treatment compliance requirements



The Australian Department of Agriculture (the department) and the New Zealand Ministry for Primary Industries (NZ MPI) have specific requirements to ensure brown marmorated stink bug (BMSB) heat treatments (HT) are effectively conducted and verified. The full requirements are detailed in the HT methodology that is published on the department's website at: agriculture.gov.au/import/arrival/treatments/treatments-fumigants.

The following provides a summary of the key compliance requirements.



BMSB heat treatments require the entire goods to be heated to the minimum required temperature for the minimum required time. To be effective, every surface of the goods must reach the minimum temperature for the minimum required time. This includes all external and internal surfaces accessible to BMSB of the goods being treated. For example, this includes the surfaces of the innermost brick in a pallet of bricks or tiles, the surface of the innermost box in a pallet or stack of boxes, under plastics and carpets in vehicles or machinery, and the deepest points of vehicle engine bays. Failure to do so can result in failed treatments.

Consignment details (also see *Consignment suitability factsheet*)

Full consignment details must be recorded on the record of heat treatment.

Consignment suitability

Goods must not be wrapped or covered in a way that stops the heat from accessing all surfaces of the goods that are accessible to BMSB. Commercial packing/wrapping is not required to be opened, removed or slashed, however all shipping packing/wrapping must be opened, removed or slashed in a way that allows the heat to access all surfaces of the goods.

Free airspace/load capacity

Space must be available in between and around the goods within the treatment enclosure to allow for temperature sensors to be placed in the required locations and the heat to be distributed equally throughout the treatment enclosure.

Temperature sensors

In heat treatment enclosures of 100m³ or less, a minimum of three temperature sensors must be placed within the goods and two temperature sensors in the free airspace.

The three temperature sensors in the goods must be placed:

- deep within the goods in the locations that are deemed to be the hardest to heat (i.e. the coldest surface of the goods),
- as far away from the heat source/s as possible,
- separated from each other.

The two temperature sensors in the free airspace must be placed:

- as far away from the heat source/s as possible,
- out of the airflow from the heat source
- separated on opposite sides of the enclosure.

Additional temperature sensors are required for treatment enclosures above 100m³. See HT methodology for details.

See below for temperature sensor placement examples.

Temperature data recording

Temperature data must be recorded from the time the heat source is turned on.

Temperature data loggers must be readable from outside the treatment enclosure.

Treatment start and end time

The treatment starts when all temperature sensors read above the required minimum temperature plus the error range of the temperature sensor.

The treatment ends when all temperature sensors have simultaneously maintained a temperature above the required minimum temperature plus the error range of the temperature sensor.

Certification

Certification must be issued verifying that the treatment was compliant and effective. Certification details must match the details recorded on the record of treatment.

Documentation

Record of treatment and treatment certification templates are included in the HT methodology and on the department’s website. These should be used to ensure all mandatory information is recorded for all BMSB heat treatments conducted.

Treatment Failure

Consignments will be checked on arrival and failures due to poor application of treatments will result in delays, costs, re-treatment, or discharge refusal or reshipment and suspension of treatment providers. Suspension will affect consignments in transit.



Temperature sensor placement guidance

Scenario	Guidance
Heat source is located at one end of the container (e.g. at the door of the container)	Sensors must be placed in the middle and far end of the container, well away from the heat source out of the air flow. They must be placed within the hardest to heat location/centre of the goods.
Heat source is located at both ends of the container	Sensors must be placed in the middle of the container, well away from both heat sources. They must be placed within the hardest to heat location/centre of the goods.
Container is full of many tonnes of tightly packaged goods	It may take several hours for the coldest part of the goods to reach the target temperature. If the temperature sensors reach the target temperature quickly (e.g. less than 1 hour), it is likely that they have not be placed in the correct location.
Pallet of bricks or tiles/ cardboard boxes	<ul style="list-style-type: none"> • Bricks/tiles may take many hours for the coldest/hardest to heat part of the goods to reach the target temperature. • Sensors must to be placed deep within the centre of the goods, e.g. at the middle brick in a pallet of bricks or in between the centre cardboard boxes in a pallet of boxed goods. • The placement of the sensors must not create additional access for heat in that specific area. E.g. when a temperature sensor is placed in a box, the space created by the sensor should be sealed so the air flow into the box is representative of the other boxes in the load.
Vehicles or farm/ mining equipment	<ul style="list-style-type: none"> • Deep within the engine bay within small enclosed spaces • Under the driver’s seat, under carpets • Within the cab compartment of farm/mining equipment • In the boot/trunk, under spare wheel and carpets • Large units will take a significant amount of time to reach the required temperature. With multiple hard to heat locations, an increase in the number of temperature sensors used is recommended. • Open all windows and compartments (glove box, centre consoles etc.)



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