


IRAC Susceptibility Test Methods Series

Method No: 005

Version: 3 (June 2009)

Details:

Method:	No 005 (Formally Method No.5)	 <p><i>Nilaparvata lugens</i></p>
Status:	Approved	
Species:	<i>Nilaparvata lugens</i> <i>Nephotettix cincticeps</i>	
Species Stage	Adult	
Product Class:	Suitable for all insecticides	
Comments:		

Description:

Materials:

Transparent plastic or glass tubes, or suitable glass jars. Cut plastic stoppers (see figure), fine, soft spring tweezers, containers for solution preparation. 30-50 ml plastic syringes, 100-1000- μ l micro-pipettes for liquids or microbalance for solids, Extravon (Invadin) or a similar non-ionic wetting agent, untreated rice seedlings 10-12 days old (BPH susceptible cultivar grown in seedling box), paper towel, maximum/minimum thermometer.

Method:

- (a) Make test solutions in water containing 0.03 % w/v Extravon (or similar wetter) using formulated insecticides. At least five to six concentrations are required. The highest concentration should be based on the use recommendation in g ai ha⁻¹ converted into p.p.m. (e.g. 500 g ai ha⁻¹—500 p.p.m.; 200 g ai ha⁻¹—200 p.p.m.). Use a 0.4-fold dilution or if necessary, other dilution factors (0.5- or 0.8-fold) to obtain two different mortalities above and below 50 %, respectively. Use water-Extravon alone for untreated control.
- (b) Prepare treatment tubes as shown in Fig.
- (c) Dip seedlings completely for 5 s in the test solutions and leave them to dry in air for 10-15 min depending on the ambient relative humidity.
- (d) Field populations of hoppers may be collected by hand or by suction and kept in holding cages containing potted rice plants. Insects should be collected at random from several points in a field and from a few fields in an area then pooled together as parent stock.

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- (e) Collect adult females of hoppers (for insect growth regulators, use 3rd-4th instar nymphs) from the holding cages by suction and transfer them to the testing tubes.
- (f) Depending on availability, use either short-wing (or long-wing) form in any one test, but do not mix the two forms in the same test. Use 10-15 insects per tube.
- (g) Each dose should be replicated at least three times, i.e. three tubes per concentration.
- (h) Mortalities should be checked at 24 h and 48 h for organophosphates or carbamates. For slow-acting compounds such as buprofezin, they may be checked after 5 and 10 days, respectively. Those insects that fall on their back and are unable to recover normal posture should be counted as dead.
- (i) Discard data if control shows mortality readings above 20 %.
- (j) Express results as percentage mortality and correct for untreated mortality using Abbott's formula. Untreated mortality should be recorded.
- (k) Indicate test temperature, which should preferably be between 25-30°C.

References & Acknowledgements:

None

Figure:

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Figure:

