

Information on the Bio-insecticide Green Guard® ULV Australian Plague Locust Commission (APLC)

- **Green Guard® ULV** is a bio-insecticide containing a naturally occurring Australian fungus, *Metarhizium anisopliae* var. *acridum*, mixed with a spray oil. It is produced by Becker Underwood Pty. Ltd. for the biological control of locusts and grasshoppers and is registered for this use by the Australian Pesticides and Veterinary Medicines Authority (APVMA).
- The APLC began using Green Guard® ULV operationally in 2000 and since then it has been used extensively where there are land use limitations on chemical pesticides such as near waterways, wetlands or certified organic production properties.
- Green Guard® ULV is produced as a concentrate of fungal spores suspended in corn oil. It is mixed with Summer Spray Oil and applied by aircraft using ULV (ultra low volume) spraying equipment. Green Guard® ULV has been passed as suitable for use on organic properties by the National Association for Sustainable Agriculture-Australia (NASAA).
- The standard dose for control of Australian plague locust is 25g of spores in 700 mL of spray oil per hectare. In cooler conditions, tall or thick vegetation, a dose of 30 to 75 g/ha may be required.
- Locusts and grasshoppers are infected when *Metarhizium* spores attach to the insect. The spores then germinate and penetrate the cuticle growing into the body and internal organs of the insect. Mortality usually occurs 8-21 days after treatment, though this can take longer when temperatures are cool. The delay in mortality means it is advisable to treat when locusts and grasshoppers are in the early nymphal stages and less mobile than the winged adults.
- The *Metarhizium* isolate present in Green Guard® is relatively specific to locusts and grasshoppers. However, there is a potential hazard to honeybees as they may collect high numbers of spores while foraging on flowering plants. To limit this possibility, aerial application of Green Guard® by the APLC will not occur within 5 km of active beehives.
- **No withholding periods and/or slaughter intervals apply when using Green Guard®.**
- As a precaution to limit the possibility of unintended drift from aerial spraying near waterways and other sensitive areas, the current (2004) registered label specifies use of a **100 m no-spray zone between a treated area and any wetland, water body or watercourse downwind.**

ALWAYS CHECK and ADHERE TO THE REQUIREMENTS OF THE CURRENT REGISTERED LABEL OR OFF-LABEL PERMIT FOR ALL AGRICULTURAL CHEMICALS.