

Bacchus[®] WG

BIOLOGICAL INSECTICIDE

GROUP **11C** INSECTICIDE

Active Constituent: **Bacillus thuringiensis**
Berliner subsp. aizawai strain GC-91

Poison Schedule: **Unscheduled**

APVMA Approval No: **58991**



Eligible containers
5kg
10kg

For the control of certain caterpillars in Vegetables, Macadamias, Fruits, Vines, Oilseeds, Cereal, Grains, Herbs, Tobacco, Ornamentals, Forestry, Amenity Trees, Turf

Pack Size:

1kg 12 x 1kg per carton)
5kg bucket
10kg bucket (2 x 5kg pre pack)
30kg cardboard container
(6 x 5kg pre pack)

Dangerous Goods Class:

Not classified as a dangerous good under the Australian Code for Transport and Storage of Dangerous Goods in Australia.

DIRECTIONS FOR USE

RESTRAINTS:

DO NOT apply during the day in hot weather.
DO NOT apply if rain is expected within 6 hours.

- DIRECTIONS FOR USE TABLE STARTS ON NEXT PAGE -

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CROP	PEST	RATE	CRITICAL COMMENTS
Agricultural and non-agricultural uses:	Susceptible Lepidoptera larvae including:	High Volume (Dilute) spraying: 50-200g/100L water	Apply the same total amount of product to the target crop whether applying this product by dilute or concentrate spraying methods. Typically the range of rates will vary between 1.0 - 4.0 kg/ha, however this will not always be the case and the calculation in the general instructions must be used before application. Do not use at rates greater than 2kg/100L of water. All application methods Time spraying to coincide with egg hatch. Monitoring of crops is essential to ensure correct timing. Best results are achieved when BACCHUS WG is used in combination with beneficial arthropods (e.g. spiders, Trichogramma parasitoids). Avoid use of broadspectrum insecticides when using BACCHUS WG.
Vegetables Macadamias Fruits Vines Oilseeds Cereal Grains Herbs Tobacco Ornamentals Forestry Amenity Trees Turf	Armyworm (Spodoptera spp.) Cotton bollworm (Helicoverpa armigera) Native budworm (Helicoverpa punctigera) Cabbage moth (Plutella xylostella) Cabbage white butterfly (Pieris rapae) Loopers (Chrysodeixis spp., Ectropis excursaria, Thysanoplusia orichalcea) Lightbrown apple moth (Epiphyas postvittana) Vine Moth (Phalaenoides glycinae, Agarista agricola)	Concentrate spraying Refer to the Mixing/ Application instructions	
			Increase rate of application under higher egg laying activity, to achieve longer residual activity or if larger larvae are present. Higher rates should be used for control of Helicoverpa spp. Best control of Helicoverpa spp. is achieved if larvae are less than 8mm long. Control of Spodoptera spp. is most effective if larvae are less than 15mm.
			In tomatoes, when Helicoverpa spp. egg pressure is high or larger larvae are present, increase the rate of BACCHUS WG and mix with Larvin 375 at rates recommended on the Larvin375 label.
			Ensure thorough spray coverage as BACCHUS WG must be ingested to control target larvae. Addition of a nonionic wetting agent will improve coverage on hard to wet surfaces. Where larvae feed in protected sites, e.g. sweet corn whorls or the heart leaves of cabbages or lettuces, spraying to run-off may be required to get product into those protected sites. Once ingested, larvae quickly stops feeding but may take several days to die. Control may be slower in cooler conditions. Best results are obtained if BACCHUS WG is applied in the late afternoon or early evening (before dew settles) when larvae are feeding actively. The residual activity of BACCHUS WG is influenced by factors such as growth of the plant and rainfall/irrigation. In rapidly growing crops (e.g. sweet corn silks, tomato shoots) apply BACCHUS WG twice at no more than 3-day intervals and then at 3-5 day intervals. It may be necessary to reapply BACCHUS WG if heavy rains or overhead, irrigation occurs after application.

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER CONTRARY TO THIS LABEL,
UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.
WITHHOLDING PERIOD: NOT REQUIRED WHEN USED AS DIRECTED.
TOMATOES: REFER TO THE LARVIN 375 PRODUCT LABEL WHEN TANK MIXED WITH THIS PRODUCT.

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General Instructions:

BACCHUS WG is a biological insecticide specifically for use against Lepidopterous larvae listed on this label. BACCHUS WG must be eaten by the larvae to be effective. Since BACCHUS WG is most effective against small newly hatched larvae, a scouting programme to determine early infestations is recommended. After consuming a lethal dose of BACCHUS WG, larvae stop feeding usually within an hour, but may remain on the foliage until they die, usually within several days. Insecticide

Resistance Statement:

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For insecticide resistance management BACCHUS WG is a Group 11C Insecticide. Some naturally occurring insect biotypes resistant to BACCHUS WG and other Group 11C insecticides may exist through natural genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if BACCHUS WG or other Group 11C insecticides are used repeatedly. The effectiveness of BACCHUS WG on resistant individuals could be significantly reduced. Since the occurrence of resistant individuals is difficult to detect prior to use Colin Campbell (Chemicals) Pty Ltd accepts no responsibility for any losses that may result from the failure of BACCHUS WG to control resistant insects. BACCHUS WG may be subject to specific resistance management strategies. For further information contact your local supplier, Colin Campbell (Chemicals) Pty Ltd representative or local agricultural department agronomist.

Mixing:

Add required amount of BACCHUS WG to half filled spray tank with the agitator or by-pass in operation. Maintain agitation while filling tank with remainder of water. Agitation must also be maintained through the spray operation.

Application:

As BACCHUS WG has to be ingested to be effective, thorough spray coverage is essential for good control of pest insects. Apply as a spray in a minimum of 150 L of water per hectare for ground application or, for aerial application, in a minimum of 20 L of water per hectare, to assure thorough coverage to the crop. To improve coverage and of residual effectiveness of BACCHUS WG, the addition of a spreader/sticker approved for use with insecticides to the spray tank is recommended for all crops and especially hard to wet crops such as cole crops.

High Volume (Dilute) Sprays:

Use a sprayer designed to apply high volumes of water up to the point of run-off and matched to the crop being sprayed. Set up and operate the sprayer to achieve even coverage throughout the crop canopy. Apply sufficient water to cover the crop to the point of run-off. Avoid run-off. The required water volume can be determined by the application of different test volumes, using different settings on the sprayer, from industry guidelines or expert advice. Add the amount of product specified in the Directions for Use Table per 100 L of water and spray to the point of run-off. The required dilute spray volume will change and the sprayer set up and operation may also need to be changed as the crop grows

Concentrate Sprays:

Use a sprayer designed and set up for concentrate spraying and matched to the crop being sprayed. Set up and operate the sprayer to achieve even coverage throughout the crop using the chosen water volume. Determine an appropriate dilute spray volume (see High Volume (Dilute) Sprays above) for the crop canopy. This is needed to calculate the concentrate mixing rate as shown in the example below. The chosen spray volume, amount of product per 100 L of water and sprayer setup and operation will change from crop to crop and may need to be adjusted as the crop grows. For further information on concentrate spraying, users are advised to consult relevant industry guidelines, undertake appropriate competency training and follow industry Best Practices.

Low Volume Sprays: Broadacre applications –

When applying by ground boom spray use the highest practical water volume. DO NOT apply less than 200 L total spray volume per hectare, unless

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otherwise stated.

Concentrate Spraying: Example Only

1. Determine the appropriate dilute spray volume. Assume 1500 L/ha.
2. Note the concentrate spray volume selected. Assume 500 L/ha.
3. Determine the concentration factor: $1500 \div 500 = 3$
4. Determine the intended rate of application. Assume dilute application rate of 75 g/100 L.
5. Multiply rate of application by concentration factor: $3 \times 75 = 225$ g/100 L of concentrate spray.

Compatibility:

BACCHUS WG is compatible with most insecticides and fungicides. DO NOT apply as a tank mix with, or within 2 days of application of alkaline products such as cupric hydroxide, lime sulphur or Bordeaux mixtures as they may impair efficacy.

PROTECTION OF WILDLIFE, FISH, CRUSTACEA AND ENVIRONMENT:

Avoid contamination of any watercourse (ponds, waterways or drains) during handling, spraying, disposing of the product or its container and during cleaning of equipment. DO NOT apply when run-off is likely to occur. DO NOT apply when weather conditions favour drift from areas treated.

STORAGE AND DISPOSAL:

Store in the closed, original container in a dry, well-ventilated area, as cool as possible. DO NOT expose to extremes of temperature or to direct sunlight. DO NOT re-use containers. Single rinse before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemical on site. Puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for the purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

RE-ENTRY PERIOD:

DO NOT enter treated area until spray has dried.

SAFETY DIRECTIONS:

Will irritate the eyes and skin. Repeated exposure may cause allergic disorders. Avoid contact with eyes and skin and open wounds. Do not inhale dust or spray mist. When opening the container and preparing and using the prepared spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and face shield or goggles. If product in eyes, wash it out immediately with water. If product on skin, immediately wash area with soap and water. After use and before eating, drinking or smoking, wash hands and face thoroughly with soap and water. After each day's use wash gloves, face shield or goggles, and contaminated clothing.

FIRST AID:

Additional hazard and precautionary statement required by WHS

Keep out of reach of children.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do then continue rinsing cautiously. If eye irritation persists: Get medical attention.

If poisoning occurs, contact a doctor or Poisons Information Centre on 13 11 26.

SAFETY DATA SHEET:

If additional hazards information is required, refer to the Material Safety Data Sheet.

CONDITIONS OF SALE: Agricultural, horticultural and pastoral preparations in their application involve varying factors such as differing conditions, soil, climate and methods of application over which Colin Campbell (Chemicals) Pty Ltd (Company) does not have control. Whilst the Company believes that all goods sold by it are true to label and are effective and safe for the purpose indicated, the Company expressly excludes all conditions, guarantees and warranties, whether express, implied, statutory or otherwise, relating in any way to the goods and accepts no responsibility for any loss, harm or damage whatsoever suffered from the use of the goods for any purpose or purposes. Notwithstanding the foregoing, where any legislation implies any condition, guarantee or warranty (each, a Statutory Guarantee) and that legislation prohibits provisions excluding, restricting or modifying the application of, the exercise of a right conferred by or liability under such Statutory Guarantee, such Statutory Guarantee shall not be excluded. However the Company's liability for any breach of such Statutory Guarantee shall, if permitted by that legislation, be limited at the Company's option to the replacement of the goods or the supply of equivalent goods, or the payment of the cost of replacing the goods or of acquiring equivalent goods.

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