



BioCarb-K

Reg. No. L11339, Act No. 36 of 1947

Bio Crop Protection



Andermatt
Madumbi



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A biological fungicide for the suppression of *Botrytis* and powdery mildew on table and wine grapes, as well as powdery mildew on cucurbits. Ideal in IPM, zero residue and resistance management programs.

Why use *BioCarb-K*?

Features	Benefits
Broad spectrum fungicide containing potassium bicarbonate.	Well researched product of high quality delivering consistent results.
No Maximum Residue Levels (MRL).	Helps growers meet demands of export markets in terms of minimal/zero residue management programs.
Pure potassium bicarbonate (99-100%) with no added co-formulants.	Food grade-quality active reduces potential mixing and application risks (e.g. compatibility and phytotoxicity).
Active ingredient available on GRAS (Generally Recognised as Safe) list.	The active ingredient – potassium bicarbonate – has no carcinogenic activity, and is not harmful to humans, beneficial insect populations, or the environment.
Fungicide with a novel Mode of Action.	Increase the pH of the surface causing dehydration and desiccation of infective bodies.
Mineral-based active ingredient.	No need for refrigeration.

Mode of Action:

BioCarb-K is a contact fungicide that suppresses fungal pathogens in both preventative and curative ways.

1. It increases the pH of the environment where the fungus is infecting to pH 8.2 to 8.4. This inhibits fungal growth and infection.
2. It has an impact on osmotic pressure causing susceptible fungal pathogen hyphae and spores to dehydrate and desiccate.
3. Potassium disrupts fungal pathogen cell wall balance, affecting spore and hyphae survival and infectivity.



Powdery mildew on baby marrow

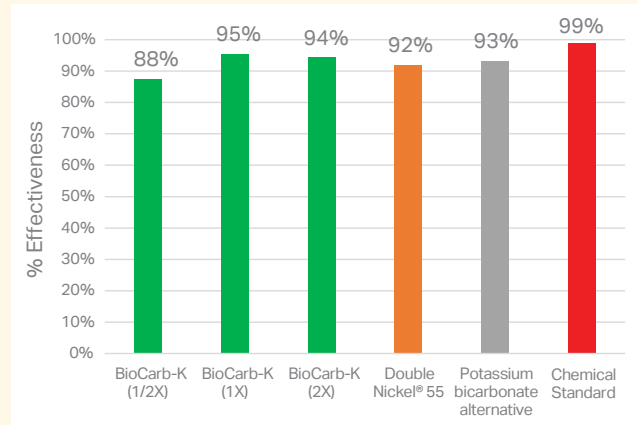


Untreated *Botrytis* on grapes

1. *BioCarb-K* management of powdery mildew on grapes

Cultivar: Crimson Seedless.
Location: Paarl, Western Cape.
Applications: Weekly applications, starting when young fruit begin to swell and flower remains are lost (BBCH 71).
Evaluation: Done 14 days after 7th application.
Chemical Standard: Sulphur and Penconazole program.

BioCarb-K performed as well as the registered Double Nickel® 55 and alternative Potassium Bicarbonate product at the registered dose rate.

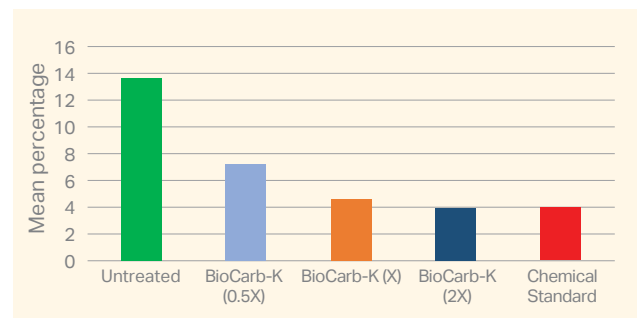


Efficacy of BioCarb-K at various dose rates, compared with biological, mineral and chemical standards against Powdery Mildew severity of grape bunches expressed as the corrected level of effectiveness compared with the untreated control.

2. *BioCarb-K* management of *Botrytis* on grapes

Cultivar: Sultana.
Location: Piketberg, Western Cape.
Applications: Application starting at 70% of flower hoods fallen (BBCH 67), repeated when berries start touching and at ripening.
Evaluation: After storage (28 days (-0.5 °C) followed by 7 days (12 °C)).
Chemical Standard: Cyprodinil / Fludioxonil and Fenhexamid (hydroxyanilide) program.

Mean percentage disease severity on bunches after storage

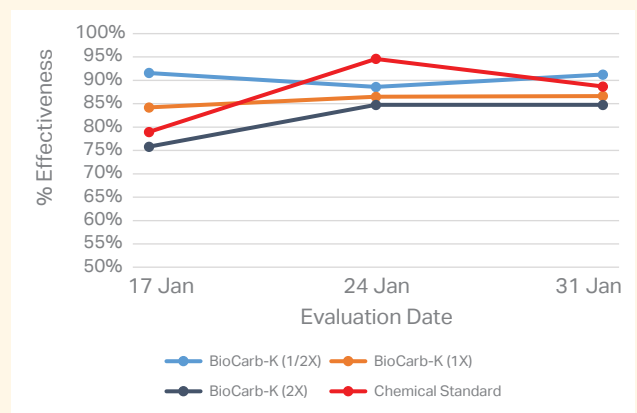


BioCarb-K at the registered dose rate reduced the percentage severity of *Botrytis* on grape bunches after storage compared with the untreated control.

3. *BioCarb-K* management of powdery mildew on cucurbits

Cultivar: Butternut, Atlas cultivar.
Location: Tulbagh, Western Cape.
Applications: 7 day intervals as a full cover spray (500 L/ha).
Evaluation: Based on powdery mildew disease severity ratings on leaves 7 days after the previous application.
Chemical Standard: Penconazole and Azoxystrobin program.

BioCarb-K at various dose rates suppressed powdery mildew on butternut compared with the untreated control.



Efficacy of BioCarb-K at various dose rates, compared with a standard chemical program against Powdery Mildew severity of cucurbit leaves expressed as the corrected level of effectiveness as compared with the untreated control.

Application instructions:

Crop/Disease	Dosage	Instruction
Grapes (table and wine) Botrytis (<i>Botrytis cinerea</i>) Powdery mildew (<i>Erysiphe necator</i>)	3-6 kg/ha	<ul style="list-style-type: none">• Apply as full cover spray but not to point of run off.• Use as part of an integrated disease management strategy in combination with other management practices.• Start powdery mildew preventative applications with onset of flowering, repeat every 7 – 14 days as required.
Cucurbits Powdery mildew (<i>Sphaerotheca</i> spp., <i>Podosphaera</i> spp.)	3-6 kg/ha	<ul style="list-style-type: none">• Start preventative applications for <i>Botrytis</i> at flowering, and repeat at berry touching and start of ripening stages.• Use the higher dosage rate with increased disease pressure, plant size and high plant densities.• Use lower dose rates and longer intervals as preventative measure under low disease pressure.

Available in: 1, 5 and 25 kg

- BioCarb-K works best at an alkaline tank mix pH of between 8.2 to 8.5. A buffer is not necessary except in the case of extreme water pH levels.
- Addition of adjuvants is not needed for BioCarb-K, but should it be required for other tank mix partners, please consult the area representative for compatible options.
- BioCarb-K is not compatible with products that require an acidic spray solution.
- Do not tank mix with calcium or magnesium.
- Do not exceed a final tank mix concentration of 0.5% (500 g BioCarb-K / 100 L water) for sensitive crops and varieties.
- Do not exceed a final tank mix concentration of 1.5% (1.5 kg BioCarb-K / 100 L water) for hardy crops and varieties.
- Ideal timing for application is early in the morning, or late afternoon or evening.
- Phytotoxicity may occur under extreme environmental conditions and on plants under stress.
- Build-up of active can lead to phytotoxicity.
- BioCarb-K does not impose any risk of residues on harvested crops.

Registered, Marketed and Distributed by:



BioCarb-K, contains potassium bicarbonate. Reg. No. L11339, Act No. 36 of 1947. Andermatt Madumbi (Pty) Ltd, Postnet Suite 20, Private Bag X6011, Hilton 3245, Reg. No. 2009/020798/07.

DISCLAIMER: Although this remedy has been extensively tested under a large variety of conditions the registration holder does not warrant that it will be efficacious under all conditions because the action and effect thereof may be affected by factors such as abnormal soil, climatic and storage conditions, quality of dilution water, compatibility with other substances not indicated on the label as well as by the methods, time and accuracy of application. The registration holder, furthermore, does not accept responsibility for damage to crops vegetation, the environment or harm to man or animals, the lack of performance of the remedy concerned due to failure of the user to follow the label instructions or to the occurrence of conditions which could not have been foreseen in terms of registration. Please consult the supplier in the event of any uncertainty.



Healthy Food and Healthy Environment, for all



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