



BioCarb-K

Reg. No.L11339, Act 36 of 1947

Root Health | Plant Vitality | Bio Crop Protection



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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

Trial data

1. BioCarb-K management of powdery mildew on grapes

Cultivar: Crimson Seedless.

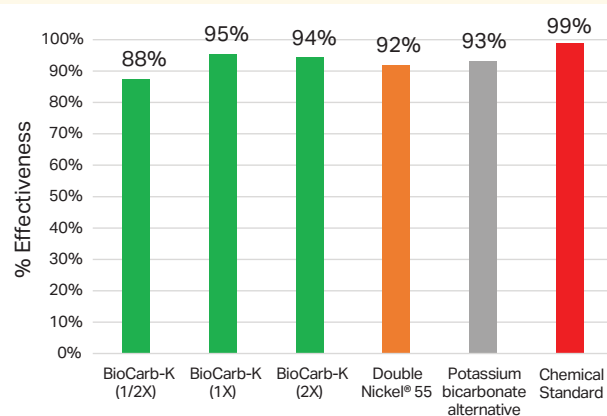
Location: Paarl, Western Cape.

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.

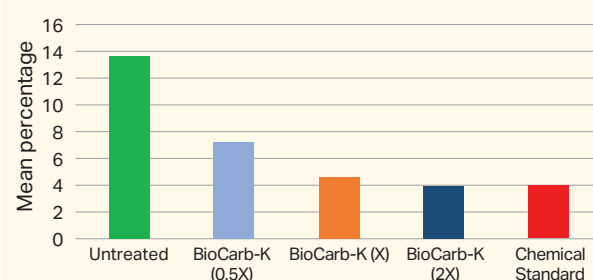
Location: Piketberg, Western Cape.

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 (hydroxylanilide) 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.

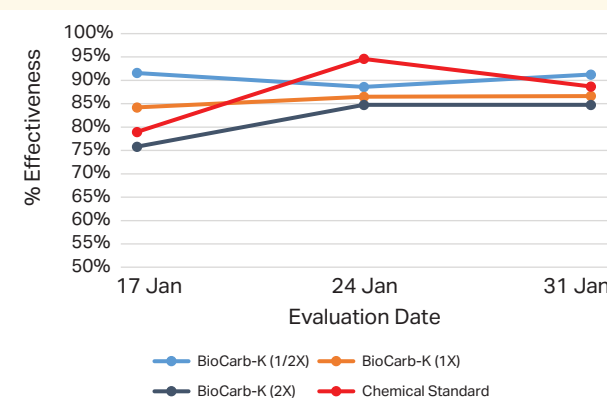
Location: Tulbagh, Western Cape.

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.

Registered Usages

Crop/Disease	Dosage	Recommendations
GRAPES (table & 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. • 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.
CUCURBITS Powdery mildew (<i>Sphaerotheca</i> spp., <i>Podosphaera</i> spp.)	3 - 6 kg/ha	
MACADAMIA Blossom blight (<i>Cladosporium cladosporioides</i> ; <i>Cladosporium</i> spp.)	2.5 - 5 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 applications when first flowers are visible and repeat every 14 days as required. • Do not exceed more than four (4) consecutive applications. • Use the higher dosage rate with increased disease pressure, plant size and high plant densities. • Use lower dose rates as preventative measure under low disease pressure.
POME FRUIT Powdery mildew (<i>Podosphaera leucotricha</i>)	1.5 - 3 kg/ha	<ul style="list-style-type: none"> • Apply preventatively when weather conditions are favourable for the development of powdery mildew, before visible symptoms appear. • 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 preventative applications from when disease is known to occur and repeat every 14 days as required. • Do not exceed more than four (4) consecutive applications. • Use the higher dosage rate with increased disease pressure, foliar development and canopy densities. • Curative use after disease onset may result in limited control.

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.

Attested by:

Product suitable for use in Organic Farming in accordance with: Regulations (EU) No 2018/848 and 2021/1165 and the NOP Regulation.
Controlled by ECOCERT SAS



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