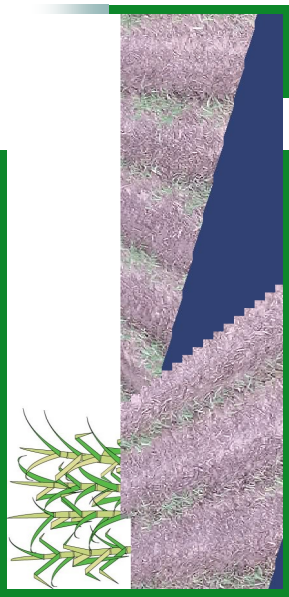

THE CANE STALK

July 2019

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Courses on Offer to all Growers:

- **Six Easy Steps**
- **Integrated Weed Management**
- **Safechem (Chemcert)**

INSIDE THIS ISSUE:

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HCPSL
Herbert Cane Productivity Services Ltd.

sra
Sugar Research Australia

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HINCHINBROOK SHIRE COUNCIL

WEED ALERT

HINCHINBROOK SHIRE

HAVE YOU SEEN THESE WEEDS?

Hinchinbrook Shire Council requires your assistance to locate all known infestations of the following four priority weeds:

- **Mikania Vine**
- **Pond Apple**
- **Thunbergia**
- **Singapore Daisy**

These weed species are defined as restricted invasive matter under the *Queensland Biosecurity Act 2014* and have been prioritised under the Hinchinbrook Local Government Area Biosecurity Plan for eradication in all known locations.

If you think you have sighted any of these weed species, please contact Council's Environmental Services Department on 4776 4607 during office hours.

More information about these weeds can be found on the Department of Agriculture and Fisheries website, **www.daf.qld.gov.au**

Mikania Vine

Pond Apple

Thunbergia

Singapore Daisy

4776 4600 council@hinchinbrook.qld.gov.au HinchinbrookShireCouncil

HINCHINBROOK.QLD.GOV.AU

HINCHINBROOK SHIRE COUNCIL

HINCHINBROOK COMMUNITY

FERAL PIG MANAGEMENT PROGRAM

Feral Pigs are a common and widespread pest animal found throughout the Hinchinbrook Shire. Feral pigs damage crops, stock, property and the natural environments whilst having the ability to spread exotic diseases such as Foot and Mouth Disease.

The *Hinchinbrook Community Feral Pig Management Program*, established in 2009, supports the management and control of feral pigs and aims to reduce the **environmental**, **social** and **economic** impact that feral pigs have throughout the Shire

Assistance is available for landholders to manage feral pigs on their properties and includes:

- The establishment of *Feral Pig Management Programs*
- Best Practice Methodology - Training and Advice
- Feral Pig Trap Loans
- Low Cost Bait Options
- Assistance to Implement 1080 Baiting Programs - eligible landholders only

For further information regarding the *Feral Pig Management Program* please contact Council's Environmental Services Department on 4776 4607 during office hours.

4776 4600 council@hinchinbrook.qld.gov.au HinchinbrookShireCouncil

HINCHINBROOK.QLD.GOV.AU

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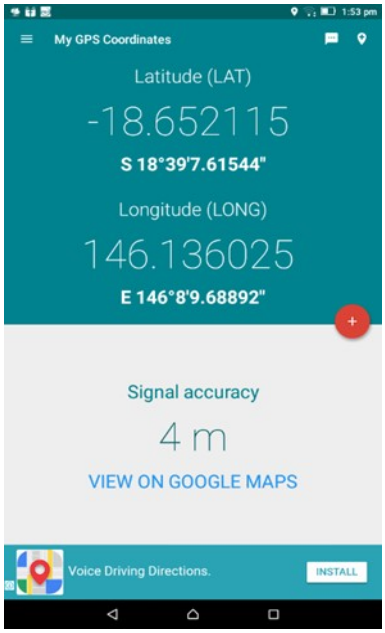

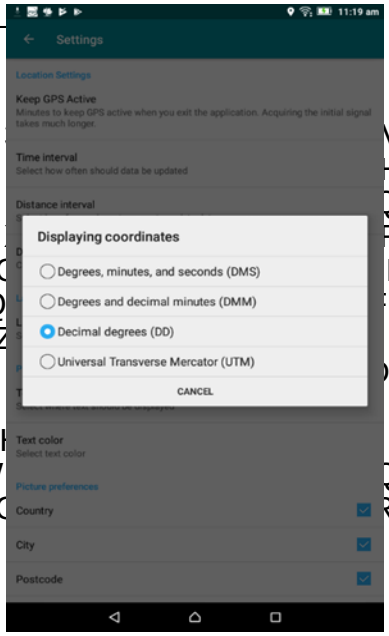

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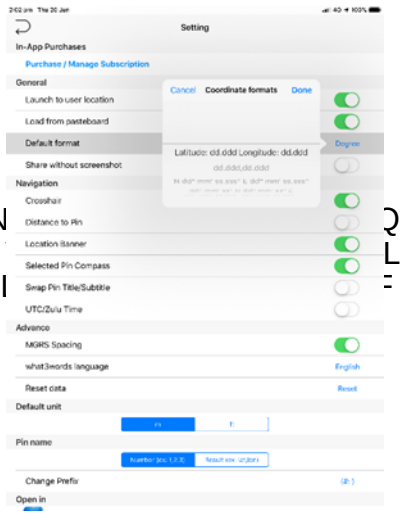
Android Interface

Android settings



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iOS interface

iOS settings

EC$_a$: Apparent electromagnetic conductivity – from a DualEM, EM38 or Veris etc.
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At times HCPSL will provide GPS coordinates for where to WDNH VRLO VDPSOH
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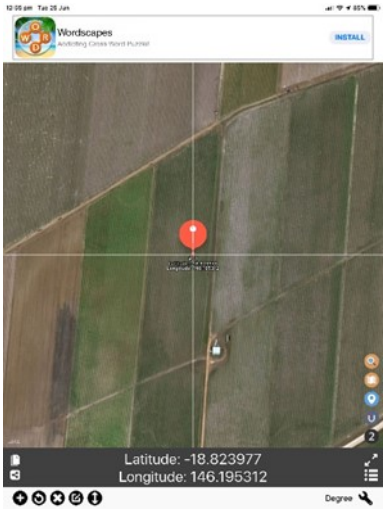
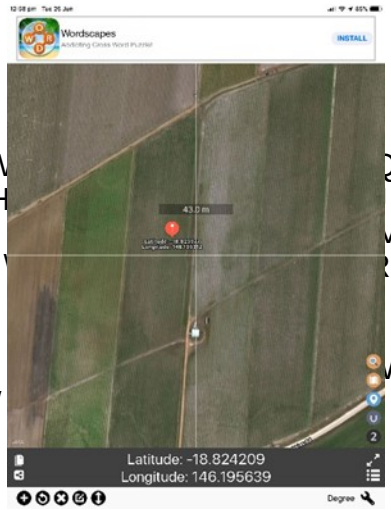


Coordinates interface



Coordinates Settings

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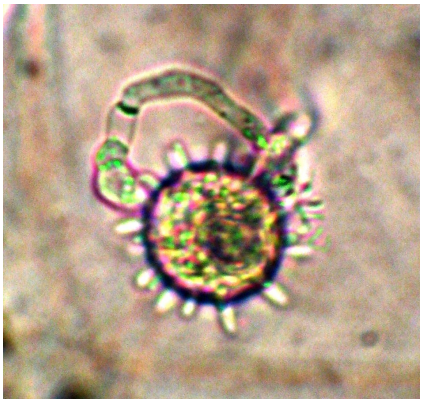

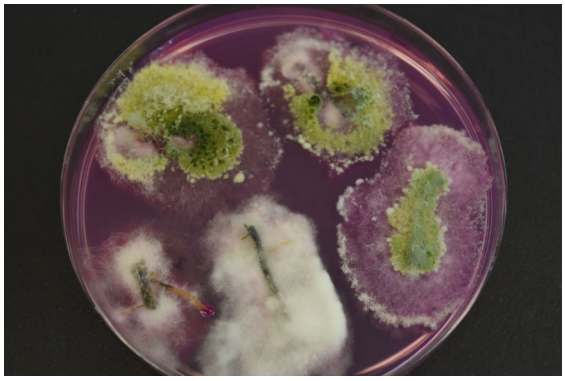

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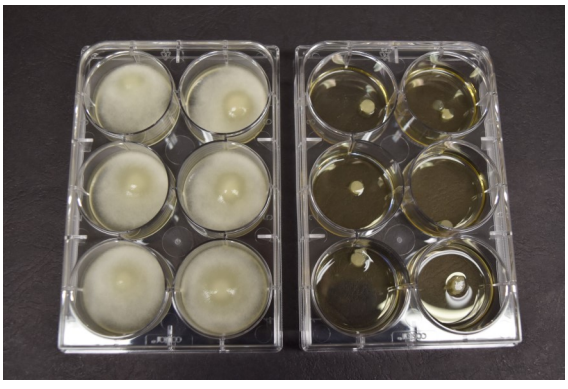

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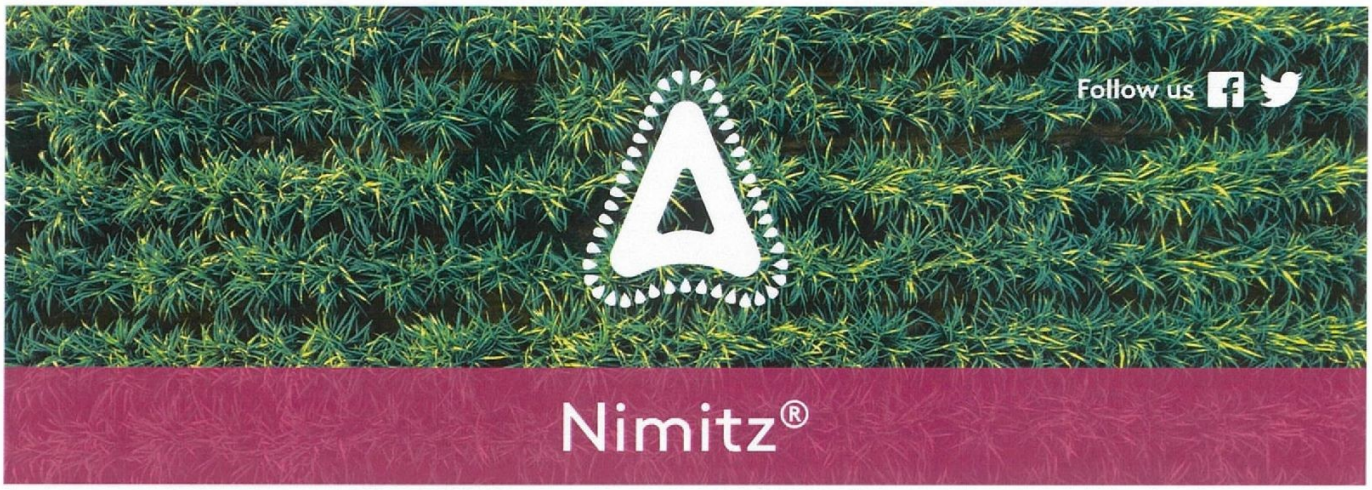
HCPSL
Herbert Cane Productivity Services Ltd.

CSIRO sugarcane SOIL



Nematodes in Australian Sugarcane

Conservative estimations of yield lost from nematodes in Australian Sugarcane systems in 2007 were $82 M Aus (Blair, 2007) in QLD. The most common in the sugarcane growing regions of QLD and Northern NSW that can be economically damaging are plant parasitic nematodes of the *Pratylenchus* spp. and *Meloidogyne* spp.

Pratylenchus zeae tends to be the most common and found in all sugarcane growing regions and all soil types (Blair BL, 1999) however *Meloidogyne* species such as M.javanica are still endemic to low clay content soils
and can reach economically damaging levels if not managed correctly.

Integrated approach to nematode management in Sugarcane

Several factors will reduce populations of nematodes in sugarcane systems:

- Green Cane Trash Blanket
- Legume rotation crops
- Fallow management
- Minimum tillage
- Practices to generally improve soil organic carbon.

Although when economic thresholds are exceeded or traditionally high-pressure sugarcane blocks are identified, there are requirements to look to nematicide options.

There have been limitations on nematicides which often made them ineffective, expensive and unviable for use in sugarcane. Nimitz® however is revolutionary in its ease of use, nematode selective activity and benefit to yield increase.

Application at planting often shows the best response due to targeting the early establishment phase in the crop when nematodes can be most detrimental. Nematodes reduce yield by reducing early root and tiller establishment

Nimitz® at a glance

Active ingredient	480 g/L fluensulfone
Chemical name	5-Chloro-2-[(3,4,4-trifluoro-3-buten-1-yl)sulfonyl]thiazole
Chemical Group	heterocyclic fluoroalkenyl sulfones
Target Pest	Root-knot nematode, Root lesion Nematodes
Formulation Type	Emulsifiable Concentrate (EC)
Application Rate Range	4 – 8 L/ha

Key features

- True nematicidal control
- Fast acting and unique mode of action
- Simple, safe and effective application options at low rates
- Minimal impact on beneficial and non-target species.

Mode of action

Fluensulfone belongs to a unique new chemical class with a new Mode of Action. Studies have shown that fluensulfone is a true nematicide that kills the target by contact, rather than temporary nematostatic (paralysis) activity as seen with current organophosphate and carbamate chemistry.

Nimitz® has rapid activity on nematodes. Within 1 hour of contact nematodes cease feeding and quickly become paralysed. Fluensulfone requires 24 - 72 hours to achieve complete mortality.

Any nematode eggs laid after exposure to Nimitz® are likely to be unviable, or if juveniles do hatch, they do not survive.

Nimitz®

Target species

Root-knot nematode

The Root-knot nematode (RKN) group get their name from the characteristic formation of root galls on affected plants and are among the most damaging of plant-parasitic nematodes.

In Australia, there are five relatively widespread Meloidogyne species (*M. javanica*, *M. incognita* and *M. arenaria* in warm climates and *M. hapla* and *M. fallax* in cool climates).

They are capable of attacking a wide range of plants and can cause economic damage to crops with as few as 1 - 2 nematodes per gram of soil.

In Australia, RKNs have been reported to attack scores of different plant families including some of our biggest crops; Cucurbitaceae (Cucumbers, Melons, Squash, Zucchini), Solanaceae (Capsicums, Tomatoes), Fabaceae (Chickpeas, Soybeans, Peas, Beans, Lucerne), Musaceae (Bananas), Poaceae (Wheat, Barley, Corn and Rice), Vitaceae (Grapes), Sugarcane and Malvaceae (Cotton). The level of susceptibility varies in each host. Adult female RKNs live inside the root gall where they feed, mature and lay eggs.

The characteristic root galls produced by RKN infested plants are outgrowths of the roots themselves.

Photo by Steve Tancred

Root-knot nematode larvae penetrating a tomato root. Once inside, the larva establishes a feeding site, which causes a nutrient-robbing gall.

Photo by William Wergi

Root-knot nematode damage most often results in poor growth and reduced resistance to other problems such as moisture stress and disease. High enough levels of damage early on can lead to total crop loss.

The diminished capacity of the roots due to galling usually leads to a reduction in the number of leaves - and therefore a decrease in photosynthetic ability - a reduction in flowering, and subsequent decrease in the yield of fruit produced.

Symptoms most visually obvious above the ground may include stunted plant growth, yellowing of the leaves and wilting on hot days as plants struggle to draw moisture from the soil effectively.

Root lesion nematodes

Nimitz® is registered for the control of root lesion nematodes (RLN) for sugarcane only. The RLN species that cause serious damage to the sugarcane is Pratylenchus zeae. RLN are an important pest as the occur in all type of soil (while RKN are mostly present in light, sandy soils). The damaged root system limits the ability of the plant to access moisture and nutrients, resulting in slower stalk growth and reduced crop yield.

Further Resources: https://sugarresearch.com.au/wp-content/uploads/2017/02/Nematodes-IS13040.pdf

Application

Crop	Pest	Rate/ha
Sugarcane	Root-knot nematode (*Meloidogyne* spp.), Root lesion nematode (*Pratylenchus zeae*)	4 L

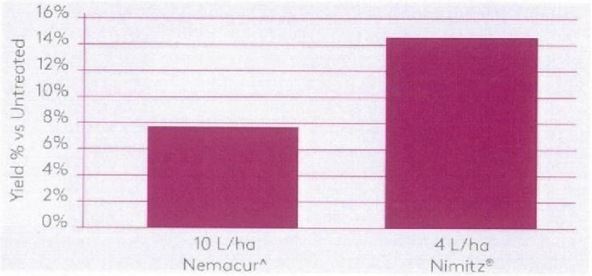
In Furrow

In Sugarcane, apply a single application of Nimitz® as a spray into the furrow at planting. Use a spray nozzle that will deliver a coarse spray quality in a minimum volume of 100 L/ha, in a band 30 – 50 cm wide over the centre of the row immediately prior to soil cover being brought in over the sett.

Compatibility classification Nimitz® Nematicide

Partner Poduct	Rate/ha	Water L/ha	Classification
Strikeout	2.0 L	60	Compatible
Pyrinex® Super	1.88 L	60	Compatible
Venom® 240	156 mL	60	Compatible
Kohinor® 350	1.44 L	100	Compatible
Albatross® 200	65 mL	60	Compatible
Jubilee® 500	500 mL	60	Compatible
Serenade Prime	7.0 L	200	Compatible

Nimitz® Sugarcane Yield (%) results 4 trial average



Conclusions from these trials and other trials

In Sugarcane based on a 4 trial average, a single application of Nimitz® at the rate of 4 L/ha have contributed to a 15% yield increment vs the untreated control whereas Nemacur application at the rate of 10 L/ha have contributed to a 7.7% yield increment vs the untreated control.

FZ-13-N01-13-Mackay, FZ-13-N01-14-South Ballina, FZ-13-N01-15-Oakenden, FZ-13-N01-16-Burnett Heads

^Note - Nemacur is a registered trademark and is now de-registered for this use.

For more information on Nimitz® scan here or visit adama.com

For more information visit: **adama.com**

For Customer Enquiries: **1800 4 ADAMA**

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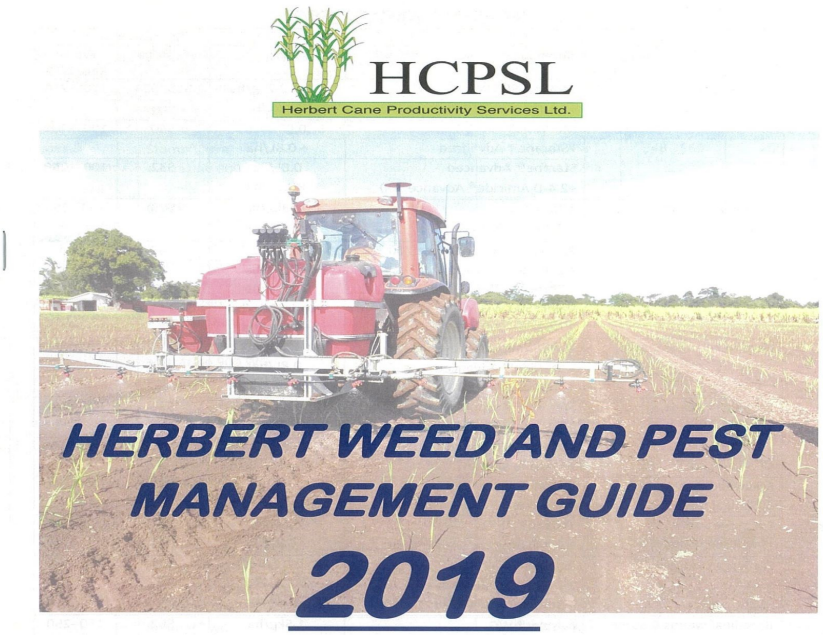

Do not apply unregistered herbicides / pesticides to or within your sugarcane crop

Costing are based on information as at May 2019
Prices are a guide only and can be used to compare the likely cost of treatment options.

There may be other suitable products registered for use in cane in Queensland which are not included in the following document.

To view the full list of registered products for use in cane in Queensland refer to the APVMA website

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- 1HPDWRGH 7HVW
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Introduction

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Yield Loss

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Management

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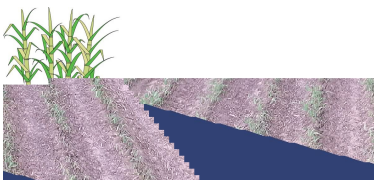
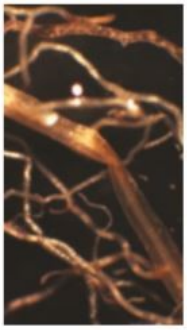


Typical effect of Pachymetra root rot on the thicker sugarcane roots.



Pachymetra root rot is caused by a fungus that principally affects the primary and secondary roots of the cane plant, giving rise to a watery rot.

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AGRICROP
Products for Plants

*info*note
Steri-maX cane smut 07/06

Using Steri-maX Biocide to control Sugarcane Smut*
on equipment and appliances

Introduction
Sugarcane smut is one of the most serious diseases of sugarcane. Affected cane is severely stunted and production losses of 30-100% are common in susceptible varieties. The disease is caused by a fungus, *Ustilago scitaminea* Sydow. The fungus infects plants through the buds on standing stalks or germinating buds in the soil. The fungus grows in the plant in close association with the growing points or meristems.

Symptoms
Sugarcane smut is easily identified by the black whip-like structure that forms from the growing point of the sugarcane plant. This whip replaces the spindle leaf.

Spread
Sugarcane smut is primarily spread by wind dispersal of the spores or by planting infected or contaminated cane cuttings. The spores usually spread only a short distance, 10-15 m. However in gale force winds or cyclones spores can travel many kilometers. Movement of spores on machinery and shoes is also possible.

Control
Resistant varieties are widely used for control in countries where the disease is present. Hot water treatment of cane can be used to eliminate smut from infected planting material. For further information on these forms of control see the BSES information sheet ISO6006.

Equipment and appliance hygiene
are also essential to prevent the spread of spores to surrounding fields or properties. Smut spores are microscopic and where there is dust there may be spores. Spores can be trapped in inaccessible parts of a machine and freed to infect during transport, use or repairs in the field. Spores can remain viable for up to a year. Therefore all plant material, sugarcane smut spores and soil should be removed before transporting sugarcane equipment

Once cleaned the equipment should then be sprayed with a 1% solution of **Steri-maX Biocide.** The equipment/appliance should be ideally kept damp for a period of 5 minutes.

Efficacy Trials
Trials conducted by the BSES concluded that Steri-maX Biocide is 100% effective in killing sugarcane smut spores when applied at a rate of 1% solution with water. Further studies are being conducted to ascertain whether contact times of less than 5 minutes are as effective.

Acknowledgment:-
Agricrop wishes to acknowledge some of the above material was referenced from the BSES information sheet on Sugarcane smut (ref.—ISO6006).

**The APVMA have granted an emergency use permit (PER9440) for the use of Steri-maX Biocide in controlling the spread of sugarcane smut spores on equipment and appliances.*

STERI-MAX BIOCIDE—CONDENSED DIRECTIONS FOR USE:

SITUATION	RATE	CRITICAL COMMENTS
For control of the spread of Sugarcane Ratoon Stunting Disease	100 mL/10L water (1% solution)	Clean equipment of all debris, soil and sugar sap. Immerse or spray with solution for a minimum of 5 minutes making sure equipment is completely covered. Dispose of unwanted solution safely – refer to disposal statements as shown on the product label.
General disinfection of cold rooms, packing sheds, tunnels, seed trays & other hard surfaces.	100 mL/100L water (0.1% solution)	First remove all organic matter from surfaces and keep wet with Steri-maX solution for over 10 minutes for best results.
Aid in the control of the spread of **Sugarcane smut** *(Ustilago scitaminea)* **In sugarcane production areas**		APVMA Permit Number PER9440
Appliances (Any vehicle, machinery, equipment or apparatus of any kind)	100 mL/10L water (1% solution)	Apply to appliances that are clean and free of detergent. Apply to all parts of the appliance and keep the surfaces wet for a minimum of 5 minutes
Prior to leaving a property Equipment *includes* hats, plastic bags (used to enclose, for example, GPS equipment and folders), footbaths, immersion containers, spray equipment	100 mL/10L water (1% solution)	Apply to appliances that are clean and free of detergent. Apply by spraying a 1% solution on all parts of the equipment. Keep the surfaces wet for a minimum of 5 minutes. Alternatively, immerse the equipment in the solution (e.g. a footbath) for a minimum of 5 minutes
General hygiene measures for vehicles	100 mL/10L water (1% solution)	Remove visible soil and plant material from vehicle and tyres. Spray tyres with a 1% solution to run-off.
Disposal		Dispose of used treatment solutions (from footbaths/ immersion containers) on to ground before leaving the property.

NOT TO BE USED FOR ANY PURPOSE OR IN ANY MANNER, CONTRARY TO THE LABEL OR THIS PERMIT UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.

GENERAL INSTRUCTIONS:

- Effective against a range of fungi and bacteria pathogens.
- Stays active as long as it is in solution (does not oxidize).
- Under heavy agitation, foam may form and a defoaming agent (food grade) may be useful.
- Steri-maX has wetting characteristics, so a wetting agent does not need to be added.

For more information on this product contact:
Agricrop +61-7-3348 4113
sales@agricrop.com.au or visit www.agricrop.com.au

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Products for Plants

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