

Sporekill®

a unique broad spectrum plant sanitizer
for use in Agriculture



ICA
INTERNATIONAL
CHEMICALS

Stellenbosch | South Africa



5 reasons to use Sporekill in your spray program



Reason 1 To target and destroy all stages of the fungi life cycle:

Most fungicides used in agriculture are fungistatic and not fungicidal. Fungistatic means fungicides work through the inhibition of fungi development, whilst Fungicidal means destruction of the fungi.

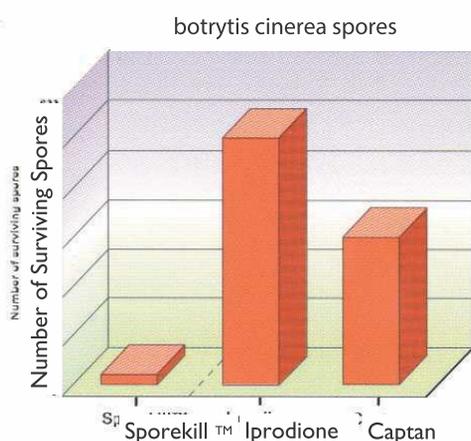
The effectiveness of fungicides lies in their ability to inhibit fungi development through the residues that they leave behind on or in the plants.

Most fungicides do not kill fungi spores efficiently on contact. SPOREKILL on the other hand does kill spores efficiently on contact and is therefore fungicidal.

As an example, in a trial conducted at the Department of Plant Pathology, University of Stellenbosch, South Africa, two hundred thousand *Botrytis cinerea* spores were exposed to SPOREKILL, Iprodione (Rovral) and Captan for one minute at their recommended concentrations. The results clearly show SPOREKILL superior fungicidal activity.



Drop formation on seedling after overhead irrigation can easily create an infection period for pathogens already present on the leaf surface.



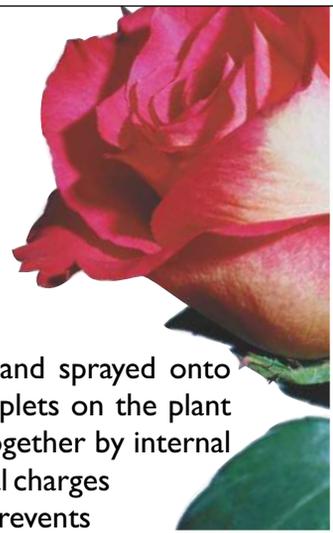
Only 7 spores survived the SPOREKILL treatment, whilst 509 spores survived the Iprodione treatment and 260 spores survived the Captan treatment (see graph). It is important to note however, that the fungicidal efficiency of SPOREKILL on its own does not guarantee disease control. There is no residual activity remaining after application which can inhibit, kill or protect against future re-infestations.

Consequently, we recommend that SPOREKILL be used in combination with your existing spray program.

By combining SPOREKILL with other fungicides in your spray solution, all the stages of the fungi life cycle can now be targeted.

This synergistic approach can be further illustrated by an example in which a trial was conducted against Dicarboximide resistant spores, an Iprodione+SPOREKILL combination showed a substantial increase (more than 8 times) in the inhibition of these fungi.





Reason 2 To reduce the overall Fungi and Bacteria population on your crops:

SPOREKILL kills all known fungi and bacteria found on crops in agriculture. Once SPOREKILL has sanitised the crop's surface, it biodegrades rapidly and disappears. This makes SPOREKILL the ideal partner for Fungicide and Insecticide spray programs, as a grower is now able to regularly reduce the overall population of fungi and and bacteria on the crops.

Most fungicides/bactericides are only able to kill a limited number of species of fungi or bacteria. By combining them with SPOREKILL, the spectrum of activity is dramatically expanded. Lower population of pathogenic fungi and bacteria, but by on crops, will reduce the risk of disease outbreaks. It is important to note that depending on the application frequencies and environmental conditions, SPOREKILL applied on its own will not necessarily control fungal and bacterial diseases since it has no residual activity. Fungi and bacteria could re-attack the crop a few hours or days after the application and SPOREKILL will not be able to defend the crop since it will have already biodegraded.

...SPOREKILL will dramatically reduce the overall fungi and bacteria population...

It is for this reason that we recommend the use of SPOREKILL as part of a spray program cocktail. The presence of pathogenic fungi and bacteria on crops do not necessarily always cause diseases.

Their populations need to reach certain critical levels before they are able to overpower their host and manifest themselves into disease symptoms. By including SPOREKILL in your spray tank, you will dramatically reduce the overall fungi and bacteria population on your crops at that specific point in time.

Trials conducted earlier 50ml SPOREKILL per 100 liters of water reduced the botrytis populations by over 78%. 100 ml SPOREKILL per 100 liters water showed a significant reduction in powdery mildew spores on plants surfaces. The favourable results obtained with SPOREKILL treatments indicate that SPOREKILL can be successfully used in disease control strategies.

Reason 3 To boost fungicide efficacy through SPOREKILL powerful wetting and spreading properties:

Pesticides are mixed with water and sprayed onto plants, forming small rounded droplets on the plant surface. These droplets are held together by internal tensions caused by minute electrical charges inherent in the water droplet, this prevents the efficient distribution and spreading of the chemical solution over the plant surfaces. Inefficient distribution of chemical solutions create escape zones for fungi and bacteria to continue their multiplication unimpeded on the plant. SPOREKILL's unique properties neutralise the phenomena by breaking the droplet surface tension and enabling substantially better distribution of the chemical solutions on plant surfaces, a better distribution translates into better contact and kill rates of fungi and/or bacteria.

Reason 4 To combat fungi and bacteria right up to harvest time and beyond:

Most fungicides used to control diseases have strict withholding periods prior to harvest time. Withholding periods create ideal windows of opportunity for fungi and bacteria to re-establish themselves. SPOREKILL's revolutionary patented Quaternary ammonium compound (QAC) is non-toxic and biodegradable, with a nil withholding period.

Reason 5 SPOREKILL as wetting agent:

If you are already using a wetter/spreader, replace with SPOREKILL and immediately gain all the benefits of SPOREKILL's unique sanitiser properties. If you are currently not using a wetter / spreader in your spray program, put SPOREKILL's unique characteristics to work for you.



SPOREKILL ACTIVITY

Sporekill's activity upon contact is tested and proven by various international research institutes against the following plant & human pathogenic micro-organisms:

Plant Pathogenic Bacteria

Acidovorax, Agrobacterium, Clvibacter, Rrwinia, Pseudomonas, Raslstonia, Streptomyces, Xanthomonas, Xylophilus

Other Pathogenic Bacteria

Acinetobacter, Bacillus, Bordetella, Clostridium, Corynebacterium, E. coli, Haemophilus, Klebsiella, Lactobacillus, Micrococcus, Ornithobacterium, Pasteurella, Proteus, Pseudomonas, Salmonella, Shigella, Staphylococcus, Streptococcus, Vibrio

Plant Pathogenic Fungi

Alternaria, Aspergillus, Botrytis, Cercospora, Colletotrichum, Fusarium, Geotrichum, Mildews, Monilinia, Penicillium, Phoma, Phytophthora, Phythium, Rhizoctonia, Sclerotinia, Sclerotium, Septoria, Stemphylium, Verticillium

Other Pathogenic Fungi

Aspergillus, Candida, Saccharomyces, Trichophyton

Also various viruses, mycoplasma, and algae

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NULAND AGRITECH

Flat 202, Dhanush Res, Block A, 3-6-23,
Basheerbagh, Hyderabad - 500029
+91 9951444634
nulandagritech@gmail.com

Marketed By:

JJOVERSEAS

501- Harmony, 65- Ranade Road,
Dadar (W), Mumbai - 400 028. INDIA.
+91-22-24441989 / +91-77449 00222 / 666
info@jjoverseas.com www.jjoverseas.com

