

Integrated Pest Management (IPM) for Powdery Mildew



BioDox[™]
CONCENTRATED LIQUID STERILIZER

Powdery Mildew (PM) is a common fungal disease found on many different types of plants. The development of PM is influenced by environmental factors, mainly air circulation, temperature, light and relative humidity. Optimum conditions for outbreaks usually occur in greenhouses year round and in the late summer for outdoor crops.

Powdery Mildew is best managed with a preventative integrated pest management program that begins at the beginning of the crop life cycle.

Other common treatment methods for powdery mildew are Potassium Bicarbonate and sulfur burning or liquid applications. These methods raise safety concerns for workers and reduce photosynthesis and crop yields. Damage to the crop can occur if these products are used right before harvest.

If these methods are used during the early stages of the plant cycle, Biodox can be used in conjunction or used after those methods are no longer advisable in the late season. Biodox will remediate these compounds and continue to offer protection against infection.



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Application Frequency

Preventative: Spray once per week

During an Outbreak: Spray twice per week



Handling and Mixing

Biodox should always be added to water, not vice versa. **Biodox** is a gas in solution and dissipates quickly under certain conditions. **Biodox** is completely miscible into water and does not need to be stirred or shaken. Always mix solution at 50ppm or two ounces per gallon or 60ml per gallon. Test strips can be used to confirm concentration. **Biodox** is one of the world's most powerful oxidizers, less is more. Use at the recommended dosage and monitor plants for sensitivity.

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Standard Spray Procedures

Plant Prep Make sure that plants are fully hydrated. If the plant is dehydrated yellowing of the leaf or leaf spots can occur. Saturate the plant before beginning the spray application.

Lighting It is crucial that Biodox is not applied in direct sunlight or artificial light. Light will accelerate the dissipation of the chlorine dioxide gas and will increase the likelihood of stress to the plant.

Mixing Fill the spray vessel with water, then add Biodox, no stirring or shaking is required.

Spray Saturate all surfaces of the plant including the underside of the leaves. Spray the soil or media as well. Spray any other surfaces near the plant including greenhouse walls, floors, pots or any other surfaces.

Dry Allow Biodox to dissipate fully (1-2 hours) before closing the greenhouse or turning any lights back on.

Observe Biodox works quickly and effectively. Powdery Mildew will still appear white on the surface of the leaves. These are the remnants of the PM. If the PM is eradicated it will be dry to the touch and easily come off of the leaf. If the PM is sticky and not able to be dusted off the leaf then schedule an additional application. Biodox can be applied as many times as the plant allows. Plant stress can be observed by yellowing of the leaves or yellow spots. If yellowing happens reduce frequency of use directly on the plant and continue using Biodox on all other surfaces around the plant.

Other common treatment and prevention methods for (PM) are Potassium Bicarbonate and sulfur burning or liquid applications. These methods raise safety concerns for workers and reduce photosynthesis and crop yields. If these methods are used, Biodox can be used in conjunction with these products to limit their negative effects on the plants. Do not combine the products. Use them alternately in your spraying regiment. Unlike these products, Biodox can be used in the last weeks of fruiting or flowering all the way through harvest and does not accumulate on the plants. Biodox can be used to oxidize unwanted chemicals at harvest time to ensure the highest level of food safety.