

Ozone Benefits for Greenhouse Disinfecting

The Need for Clean:

Attention to greenhouse sanitation and disinfecting is a primary necessity for insuring a healthy crop. The grower should begin by eliminating plant material, weeds, and spilled soil. Do not accumulate dirty pots, trays or growing media. Over the course of the previous growing cycle, your greenhouse has accumulated infectious microbes, fungus, pathogens, mold, mildew, bacteria, and algae. It is important to fight these problems during the growing period, however, the best opportunity for this procedure is between crops.



The Best Course of Action:

Some greenhouse growers use chlorine bleach, quaternary ammonium, or hydrogen peroxide. These chemicals are undesirable because they leave behind a chemical residue. Chlorine, specifically, will create Tri-Halo-Methanes (THM) when it comes in contact with organic matter.

Ozone is a better course of action. It is a much stronger and faster acting sanitizer than these other options. It does not leave behind a chemical residue. In today's produce market of increasing focus on organically grown product, ozone is a good alternative, since it is on the National Organic List.

Ozone has been used in greenhouses as a primary disinfecting agent in France, Germany, Switzerland, the Netherlands, and parts of Canada since the early 1900's. The use of ozone is beneficial in the following way:

1. Ozone kills spores of many fungi (USDA).
2. Ozone at low concentrations greatly reduces the sporulation of green and blue mold (USDA).



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3. Ozone can also act directly on microorganisms causing a rapid cellular destruction, resulting in reduced levels of microorganisms, including disease causing microbes.
4. It is a powerful disinfectant, and is used to oxidize and destroy pathogens.
5. Ozone destroys a long list of bacteria, viruses, mold, mildew and algae.



After an initial cleaning with a broom and high-pressure washer, a portable ozonated water generator should be used to sanitize floors, walls, benches, hydroponic troughs and irrigation pipes.

Other Greenhouse Uses:

Because ozone is such an effective oxidant to treat water for hydroponic and irrigation applications, many farmers have implemented ozone systems on their farms.

References:

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