



Products for Sanitizing Tools, Equipment, and Hard Surfaces for Managing Boxwood Blight S. M. Douglas

The Connecticut Agricultural Experiment Station (www.ct.gov/caes)

Active Ingredient	Trade Name	Use	Rate	Comments*/ Personal Protective Equipment (PPE)	Contact Time
**Sodium hypochlorite (5.25%)	Clorox; commercial/household bleach	Disinfesting	10% (1:9 ratio of bleach to water)	Irritating to eyes and skin; inactivated by organic matter, so make fresh solutions as needed; exposure to sunlight reduces efficacy; corrosive to metal, so tools should be oiled after treatment.	10-15 min for equipment, pots, flats, and surfaces; 5 min for tools;
**Hydrogen dioxide	OxiDate	Clean, non-porous surfaces, pots, flats, cutting tools, benches	1:100-1:300	Commercial greenhouse and storage facility use, Personal Protective Equipment (PPE) required; corrosive, oxidizing agent; surfactant can be added;	5-10 min
		Surfaces that aren't pre-cleaned	1:50	See above	5-10 min
**Hydrogen dioxide	ZeroTol	Greenhouse surfaces and equipment	1:50 (2.5 oz/ 1 gal)	Commercial greenhouse, garden center, landscape, nursery use; PPE required; corrosive, oxidizing agent; surfactant can be added;	At least 5 min
		Non-porous surfaces	1:300 (0.5 oz/ 1 gal)	See above	At least 5 min
**Hydrogen peroxide, peroxyacetic acid, and octanic acid	Xeroton-3 (X3)	Walkways/floors	1:250- 1:500	Greenhouse use; PPE required; corrosive; best if surfaces are cleaned prior to treatment	10 min
		Clean, non-porous surfaces	1:500-1:1,500	See above	10 min
		Unclean, non-porous surfaces	1:150	See above	10 min

***Organic matter should be removed prior to treatment.**

**** Most effective sanitizers at label rates for boxwood blight (caused by the fungus, *Calonectria pseudonaviculata*)**



Products for Sanitizing Tools, Equipment, and Hard Surfaces for Managing Boxwood Blight (cont'd)

Active Ingredient	Trade Name	Use	Rate	Comments*/PPE	Contact Time
**Hydrogen peroxide, peroxyacetic acid, and octanic acid	Xeroton-3 (X3) (cont'd)	Cutting tools	1:300-1:1,000	See above	10 min
**Phenolic compounds (O-Benzyl-p-chlorophenol)	Lysol Brand Concentrate Disinfectant	Cleaning	1.25 oz/ 1 gal		At least 5 min
		Disinfecting	2.5 oz/ 1 qt		At least 5 min
Alcohol (e.g., ethanol, isopropanol)	Many brands, including Lysol Brand Disinfectant Spray, which contain alcohol (some include quaternary ammonium compounds)	Equipment, flats, and pots; sprays can be used on boots, shoes, and pant legs	70% alcohol or premixed spray	Organic matter reduces efficacy; evaporates quickly so adequate contact times may not be met; flammable; inconsistent results;	5-10 min
Quaternary ammonium compounds	Green-Shield CA	Benches, pots, flats, tools	1 tbs/ 1 gal	Greenhouse use; oil tools after cleaning	10 min
Quaternary ammonium compounds	KleenGrow	Hard, non-porous surfaces	1 oz/1 gal	Greenhouse, storage barn, cooler use; PPE required;	10 min
		Tools, equipment	0.5 oz/1 gal	See above	10 min
Hydrogen peroxide and peroxyacetic acid	SaniDate 5.0	Greenhouse surfaces, pots, tools, equipment	0.5 oz/ 1 gal	Field equipment, greenhouse, tractor/trailer use; strong oxidizer; corrosive; use protective equipment when handling;	10 min

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