

From Forest Nursery Notes, Winter 2013

**9. Managing algae in the greenhouse.** Pundt, L. Greenhouse Management 32(10):16. 2012.



BY LEANNE PUNDT

**Pundt** is an extension educator at the University of Connecticut and a frequent contributor to *Greenhouse Management*.

#### HAVE A QUESTION?

Reach her at [leanne.pundt@uconn.edu](mailto:leanne.pundt@uconn.edu).

# Managing algae in the greenhouse

Keep your structure safe and healthy from algae

**All plants**, including algae, can thrive when given adequate moisture, nutrients and light. Algae may be especially problematic in greenhouses with high moisture levels. Their growth on walkways and under benches poses a safety hazard for workers.

**D**uring plug production, slower-growing plants can be especially sensitive to algae build-up. If algae growth remains unchecked, an impermeable layer forms on the media surface that interferes with water penetration. Algae also serve as a food source for nuisance shore flies, and provide a breeding habitat for fungus gnats and moth flies.

#### Prevention

Keep all greenhouse floors free of plant debris, spilled potting media and weeds that can be a nutrient source for the growth of algae. Using a weed mat barrier also helps to prevent both weed and algae growth.

Proper ventilation also helps reduce the amount of moisture in the greenhouse. Horizontal airflow fans (HAF) help regulate greenhouse temperatures and reduce excess condensation. Retractable roof or open-roof greenhouses provide superior ventilation benefits.

Avoid overwatering, especially early in the crop cycle. Overwatering recently planted plant material compacts the media surface, and algae like to

grow on a hard, moist surface. Maintain appropriate fertility levels. Excess nutrients, especially nitrogen and phosphorous, favor algae growth.

Water the growing containers only as needed, to prevent excess puddling on the floor. Promptly fix irrigation leaks to prevent puddling on the greenhouse floors and make sure everything drains properly.

Surface water from ponds may be high in nutrients that contribute to algae growth. If you use surface ponds or reservoirs as a water source, see Purdue Extension Factsheet HO-247-W, Controlling Algae in Irrigation Ponds by D.M. Camberato and R.G. Lopez ([www.extension.purdue.edu/extmedia/Ho/Ho-247-W.pdf](http://www.extension.purdue.edu/extmedia/Ho/Ho-247-W.pdf)).

#### Disinfectants and algicides

Use disinfectants/algicides on a routine basis as part of your precrop clean-up program and during the cropping cycle, as needed.

#### Quaternary ammonium compounds

Quaternary ammonium

compounds or Q-salts, such as Green-Shield and Physan 20, can be applied to floors, walls, benches, pots and flats in ornamental greenhouses. Before using, pre-clean all surfaces because contact with any type of organic matter inactivates these Q-salts. Keep treated surfaces thoroughly wet for at least 10 minutes. A fresh solution should be applied daily or when the solution becomes visibly dirty. KleenGrow, a fourth-generation Q-salt, has higher organic tolerances and longer residual activity on hard surfaces and can also be used in ornamental greenhouses.

#### Activated peroxygen chemistry products

Oxidate 2.0 and ZeroTol 2.0 (hydrogen dioxide and peroxyacetic acid) can be applied to greenhouse surfaces, benches, walkways, pots and trays. All surfaces should be wetted thoroughly before treatment. These strong oxidizing agents (ZeroTol, Oxidate) can also be used in chemigation. SaniDate 12.0 (hydrogen peroxide and peroxyacetic acid) is designed for water treatment, especially

re-circulating water systems. For more information on water treatments, see the Water Education Alliance for Horticulture website ([www.watereducationalliance.org/](http://www.watereducationalliance.org/)).

X 3 (hydrogen peroxide and peroxyacetic acid and octanoic acid) is a disinfectant/algicide that can be applied to greenhouse benches, walkways, floors and for irrigation systems. For best results, use with water with a neutral pH and low levels of organic materials. It's not for use on food crops.

GreenClean Pro Granular Algicide (sodium carbonate peroxyhydrate), upon contact with water, breaks down into sodium carbonate and hydrogen peroxide, and it can be used under benches on weed mats and greenhouse floors. Use with care, as non-target plants suffer contact burn if undiluted granules are accidentally spilled on them.

Oxidate, GreenClean Pro, SaniDate and PERpose Plus (hydrogen peroxide/hydrogen dioxide) are organic products (OMRI-listed). **GM**

Consult and follow pesticide labels for registered uses. No discrimination is intended for any products not listed.