BY A.R. CHASE AND MIKE ZEMKE

Sanitation — Why Bother?

That's right … Why bother, just keep the production going. Don't stop; keep the pace going. Just make a pile off to the side of all the used pots or trays and labels. Better yet, if they are on the ground underneath the benches, don't worry; after all, they're not in the way. If you like harboring diseases, this is a fantastic way to do it.

Good sanitation practice is crucial in the greenhouse business. Not only does it make your greenhouses look good, but also you are better off fighting a lot of plant diseases and insect pests than simply using more pesticides, more often, at a higher rate.

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Look up, all around, not just what's in front of you. Not only is it a good idea to clean and disinfect benches, pots or trays before reusing them, don't forget about also cleaning and disinfecting all the tools, golf carts, etc. I saw firsthand where a grower picked up a few diseased plants, put the pots in the back of their cart and drove off to put them on a table. The next thing I saw, they were putting a few good plants on the back of the cart and moving them to a different area. How about the surface? What kinds of diseases were on it? When we clean, we need to clean most, if not all, surfaces.

Make time to walk around your facility once a week and look around. If you cannot clean up at that point, make a note to clean it as soon as possible.

Sanitation is the first line of defense in the battle against disease in the greenhouse or nursery. Many diseases can be avoided all together if a thorough and consistent sanitation program is in place. It is important that everyone in your business understands the ways diseases spread and how simple sanitation can stop them in their tracks.

There are many aspects of sanitation depending on who is describing it. Sanitation includes "cleaning" with physical and chemical means. It can include cleaning the greenhouse surfaces, pots and flats and even cleaning seeds or other plant propagules. The best sanitation program is a combination of physical and chemical means.

PRACTICES TO CONSIDER

One of the best examples of "physical" cleaning is removal of weeds, volunteer plants, pet plants and even leftover, washed-out, potting media debris. It can be very hard to clean the ground since organic matter disables many "oxidants" like bleach and chlorine dioxide.

You should also consider removing dead flowers (even fallen petals) since they are easily infected with botrytis, giving the pathogen easy entry into the leaves and stems of plants below them. Using a blower may be one way to remove fallen petals on small flowers but hand picking is often the best method for larger flowers. Be sure to remove old leaves too since they are often the first place botrytis attacks a plant.

Throw away un-salable plants immediately. They may be diseased and not salable or simply be overage. But they still act as hosts of pests and diseases. Holding onto these plants until they can qualify for dumping is not a good way to improve the bottom line. It just ends up with higher pesticide costs thus hurting the bottom line anyway.

> Good sanitation practice is crucial in the greenhouse business.

Porous surfaces like wood and dirt (floors) makes a sanitation job much harder than nonporous surfaces like metal, concrete and plastic. Gravel is a sort of combination of porous and non-porous surfaces. The rock itself may be easy to clean, but gravel always has a lot of crop and potting medium debris that are nearly impossible to really clean.

Using heat to "steam" or treat flats and other containers and potting media can be superior to using a chemical disinfectant. I have seen steaming effectively used in cut flower ground beds — especially where fusarium is an issue. Research has shown that steaming is more effective in killing fusarium in soil than fumigation. Steam is also used to treat heat-resistant flats, making them reusable. Testing has shown that steaming is more effective in removing killing pathogens like thielaviopsis (the cause of black root rot) than a chemical dip.

Chemical cleaning methods include: quaternary ammoniums, peroxy acids, bromine or chlorine products. If you are disinfesting water, many more methods are used including UV, ozone and copper ionization. Most commonly we use products based on chlorine (bleach to chlorine dioxide), peroxy acids (hydrogen peroxides) and quaternary ammonium. They have varying ability to clean benches, walkways, pots and tools, and even the type of surface (wood, plastic or concrete) can influence which product may work best.

BOTTOM LINE

Back to sanitation … it is the first defense. How many of you would use the same pots and pans, forks, spoons and plates for breakfast, lunch and dinner everyday for days on end without cleaning them? Remember that lack of sanitation is not overcome by liberal applications of fungicides, herbicides and insecticides. Sanitation is probably the least costly and most beneficial input you can use in your greenhouse or nursery operation. gpn