

Fungus & Disease Fundamentals

What you need to know to sell natural solutions, what your customers need to know to make them work.

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CUSTOMERS WALKING INTO Marvin's Organic Gardens in Lebanon, OH, know from the name that they're going to find eco-friendly products and solutions. The company has been a certified organic grower of plants for seven years. They invite customers to wander their 20 acres of growing operations, 20 cold frames and three demonstration gardens to see organic practices in action.

But when it comes to helping customers with organic solutions for fungus and disease problems, nothing beats one-on-one diagnosis and education, says Assistant Manager Leslie Shimer. They ask customers with concerns to bring in a leaf or a branch sealed inside a plastic bag for examination.

Informed diagnosis. Everyone on Marvin's staff of five is trained to identify disease problems. "We go to any kind of trainings that are offered around here," Shimer says. "Even if they're teaching chemical methods, we can learn more about identification and prevalence." They also rely on organic gardening publications like *Rodale's Illustrated Encyclopedia of Organic Gardening* and *The Organic Gardener's Handbook of Natural Insect and Disease Control*.

"Sometimes, there is no organic solution, but we don't recommend the chemical alternative because we don't know what that will do to customers' health or their garden in the long run," Shimer says. "In many cases, there's no guarantee the chemical will work, anyway. That tree they're having problems with may die eventually, no matter what they do."

In some cases, the only way to decide how to treat a problem is to visit the customer's garden. "If somebody comes in with a problem, and we think they might need to consider removing the plant or moving into a better location, we will go to their home and have a look," Shimer says. "Before I tell them to remove something, I want to be sure. For instance,

if a customer orders a delivery of mulch, we'll have our staff take a look while they're there.

And for our good, loyal customers, we'll just drop by on our way to or from work." The service is offered free of charge, she says: "We don't charge for this - it's part of building goodwill, and it's part of our educational mission."

The garden center offers this personalized service for regular customers, as well as for arborists and schools with which they work closely.

Bottom line. The staff at Marvin's offers a few organic products to combat disease, but the real focus is on increasing the health of the soil and implementing a few common sense strategies to keep disease to a minimum.

Fungus and disease problems can be the hardest to treat organically, because the strategies often involve prevention, choosing disease-resistant varieties and tolerating a little unsightly damage. "Even if [customers are] trying to go organic, when they see disease, that's when they'll revert to a synthetic," Shimer says. "If they still have any chemicals at home, they will revert to those."

"PEOPLE WILL CALL US AND TELL US in great detail about the spots on their plants," says Leslie Shimer, Assistant Manager of Marvin's Organic Gardens in Lebanon, OH. "Knowing the time of year and the humidity, we sometimes can help them by phone. But we'd rather see the plant. It's much safer to ID it in person. We tell them that, like a doctor, we really can't prescribe over the phone."

Fungus/Disease Control for Gardeners

TOLERATE COSMETIC PROBLEMS

- "Every August, we have people calling us about powdery mildew on their lilac," says Leslie Shimer, Assistant Manager of Marvin's Organic Gardens in Lebanon, OH. "This is something that happens with the kind of summer humidity we have."

She reassures gardeners that it won't hurt the plant and will clear up by itself. She tells them if they really don't like the look of it, they can pick the leaves off but don't cut the stem, as it may discourage new blooms in the spring. Also, gardeners who elect to pick off the diseased leaves should be reminded that they should go in the garbage, not the compost pile, to avoid spreading the disease.

"[Gardeners] could also use baking powder, but that would probably look worse than the mildew," Shimer says. "Really, they just want to know their plant is healthy, and that [the powdery mildew] won't spread or harm the roots or keep it from blooming next year."

CHANGE WATERING PRACTICES

- "We remind our customers not to use overhead watering because getting the plants wet can bring on mildew," Shimer says. "We tell them not to water overhead and not to water in the evening. If they're getting spots on their leaves, it may just be the sun hitting water droplets." Consider drip irrigation or soaker hoses, which help conserve water and prevent soil from splashing onto the plant and spreading soil-borne disease.

COMPOST

- "Healthy soil is the key to healthy plants," Shimer says. Marvin's makes their own compost from leaves, manure from the local fairgrounds, decayed tree stumps and vegetation that the landscape department removes, if it is clean and pest- and disease-free. "It lays there for decades," she says. "This really is a compost pile that's more than 30 years old. We sell as much as we can screen out. Our customers will order 20 yards at a time."

RETHINK DRAINAGE AND AIR CIRCULATION

- Improving drainage can also make a difference in controlling root rot. In clay soils, Shimer recommends a bed of gravel to help water drain away from the roots. Sunlight and good air circulation are also important, so pruning or transplanting may solve the problem.

FERTILIZE

- Marvin's offers proprietary blends of slow-release organic fertilizer and soil mixes that contain beneficial microbes and micronutrients to help plants fight disease at the root zone. Through handouts and free classes at the garden center, the staff educates customers about the benefits of the mycorrhizal fungi inoculations found in many of these products. These fungi form elongated cells that attach to plant roots and reach out into the soil to access water and nutrients for the plant. This mutually beneficial relationship helps plants take up nutrients, tolerate drought and fight disease.

Shimer also encourages customers to try liquid organic fertilizers that contain seaweed or fish emulsion. Healthy plants that are getting the nutrients they need can often outgrow a short-term disease problem.

TRY DISEASE-RESISTANT PLANTS -

One way independent garden centers distinguish themselves from the boxes is by offering specific plant varieties that resist local pest and disease problems. "We only carried roses for the last two years," Shimer says, "because we just hadn't found any [other] good resistant varieties." Now Marvin's sells Knock Out shrub roses because they need almost no care once established, "just water and fertilizer," she says. "You will never have to spray these roses."

Marvin's staff doesn't hesitate to tell people when the plant they're looking for isn't a good choice. They don't carry anything that might be invasive or succumb to pests or diseases. "People come in, looking for certain plants, and we say, 'We don't recommend that you plant that because it gets diseased,'" Shimer says. "But we do offer alternatives. We say, 'Let me show you another tree that will do the same thing for you.'"

SPRAY LOW-RISK BIO-FUNGICIDES -

Biofungicides are made from beneficial microbes that suppress harmful pathogens. Look for products containing a naturally occurring bacterium called *Bacillus subtilis*, or the fungus *Trichoderma harzianum*. Serenade is one of the most popular biofungicides; it is sold nationwide and has been listed for use in organic production by the Organic Materials Review Institute.

AS A LAST RESORT, USE FUNGICIDES - WITH CAUTION -

"People want to spray before they see a problem," Shimer says. This is particularly true of first-time gardeners who are giving up synthetics and want to replace them with a safer alternative. "They come in because their landscapers have switched, their neighbors have switched, and they know darn well that if the landscape company has to put a red flag in their front yard and recommend that they stay off it, something's wrong." But broad-spectrum spraying before a problem appears won't make a difference. Even organic solutions require safety precautions and should be treated as a last resort.

Marvin's sells Bonide products that offer organic solutions to disease problems. Their bulb dust, which retails at \$7.95 for the 8-ounce size, prevents bulb rot and has the added benefit of repelling squirrels. Bonide's Sulfur Plant Fungicide controls rust, leaf spot and powdery mildew. They also offer copper sprays for fruits, vegetables and flowering shrubs that are prone to fungus, but the staff takes extra care to review the safety precautions on the label with customers. "Just because these products are organic doesn't mean they don't need to take precautions," Shimer says. "This is a very important part of the education we do." Other organic controls include neem oil, which can control black spot, rust and powdery mildew on roses and cucumbers.