

THE PURDUE LANDSCAPE REPORT

“Life starts all over again when it gets crisp in the fall.” —F. Scott Fitzgerald

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As the 2020 gardening year draws to a close, now is the time to ensure a successful gardening season next year, for you or your customers! Sanitation is a cornerstone of integrated pest management and is essential for good plant health management. Throughout the year, we have been plagued with both unusually wet and unusually dry weather sometimes within weeks of each other. This weather incited normally minor disease problems to epidemic levels, encouraged the development of new disease problems and made for a difficult year to garden, particularly for first time gardeners. However, now is not the time to give up!

Good sanitation, in the form of removing diseased plant material this fall will help minimize or even prevent disease problems next spring. Many disease-causing organisms can survive the winter in infected plant debris. Cutting back infected plants, disposing diseased plants (by burning or the garbage—do not compost!), or tilling under crop debris can also help prevent over-wintering of plant disease causing organisms.

Evaluate and Investigate



Figure 1. Failure to divide perennials can result in crown rots.

Before you begin your sanitation program, bring out a notebook to take records of what did and did not work, what will need dividing in the spring, and what needs to be moved to a different site. Remember to accurately identify which pests you have and

what crops they attack!

For numerous perennials, failure to divide is a leading cause of crown (Fig. 1). If you haven't started a pest management, customer yard, or gardening log, consider doing so. Make notes about problems and research potential solutions over the winter. Evaluate which varieties did well and which you should consider replacing. Did your rose defoliate in July? Look for the many disease resistant roses or investigate what fungicides or insecticides you may wish to purchase if you or your customer wants to keep the problem child. The [rose blackspot bulletin](#) can help you with both. Was powdery mildew a problem for your bee-balm? Consider moving it to a sunnier location in the spring (with better air flow) or remove it and replace it with a powdery mildew resistant variety, like 'Jacob Cline', or many of the new, petite and [disease resistant](#) bee balms.

Get Down and Dirty

After you've filled up several pages of notes, its time to put the notebook down, and put on the heavy gloves. Clean up leaves and crop residues from all gardens. As soon as crops are harvested, pull up and dispose of all plant material, including roots. After a hard freeze, remove and compost all disease-free, but frost-blackened, tender annuals, from African daisy to zinnia, and everything in between.

A common question asked by gardeners is whether diseased plants can be safely composted. The answer is NO! Do not compost diseased plants! In Indiana (and most of the Midwest), compost rarely reaches the temperatures required to kill most plant pathogens. Be sure to discard the material properly, by bagging it or by burning it if this is permitted.

Did you have really bad leaf spots on certain perennials? After your perennials have died back, the leafy material can be removed. Carefully cut the tissue with shears or scissors and dispose of the infected leaves. Consider applying a chlorothalonil-based fungicide next year if leaf spots were particularly severe. Some diseases may require multiple applications for adequate control. There are many common leaf diseases that good

sanitation practices will help control, such as leaf spot of iris or botrytis of peony, to name a few. Cut back late flowering perennials like asters and chrysanthemums to a few inches. Did your peonies develop spots? Pull out the shears! Peonies can be cut to the ground, but be sure to remove all the infected foliage so it doesn't re infect the new growth next year. Don't forget the mulch, or a row cover to protect against freezing and thawing.



Figure 2. This year, many clematis across the state were infected with Ascochyta blight.

Clematis, "Queen of the Vines" commonly gets dethroned by a variety of fungal diseases, the most common and most serious of which is Ascochyta blight (Fig. 2). Remove infected vines and dispose of them. For some varieties, you may lose flowers, particularly if they flower on old wood (not commonly grown in the Midwest, but at least you were warned). Mulch heavily with several inches of both soil and mulch—Because this disease commonly attacks at the soil line, by preserving the crown through deep planting or mulching, you can regenerate your clematis after infection—even severe infection, although the plant may take several years to recover. In the spring, consider preventative applications of a chlorothalonil based fungicide to minimize the likelihood of reinfection. If powdery mildew is also a problem, be sure to add a FRAC 3 fungicide, like Eagle/Systhane, Torque, Tourney, or Banner Maxx.

Clematis isn't the only plant to benefit from mulching: Add mulch to your perennials to create a protective layer that insulates plant roots from the [freeze-thaw damage](#). Mulch also conserves moisture and improves soil structure. Straw, hay and compost are all excellent mulch materials. Leaves and grass clippings are less effective as mulch material because neither holds much air space for insulation, but the price is hard to beat! (Remember in the coming spring to remove the mulch layer promptly, to prevent crown rots from occurring.)

Colorado Purple Spruce Syndrome

Conserving moisture isn't enough, though. The dry to drought-like conditions are setting trees and shrubs up for failure come spring. Be sure to thoroughly water all plants as we head into winter. Spruce, pine and other conifers especially can become desiccated by the harsh winter winds if a fall drought should develop. When symptoms develop in the spring (purple Colorado blue spruce, reddish brown white pines and red pines), nothing can be done to "cure" the problem. While watering the bigger

plants, don't forget sheltered perennials, such as those under the eaves, or under the trees. Plants that become too dry in fall are less likely to survive the winter. And you won't know this until the late spring when they fail to return!

Install simple windbreaks, or cover (Fig. 3) the entire tree, or cover the trunk of vulnerable, thin bark trees with plastic "tree guards." to protect them from drying winter winds. Anything that encourages snow accumulation will help provide excellent protection against low temperature or wind desiccation (Fig. 4). Questions regarding the use of anti-transpirants and evergreens need to be put to rest: Anti-transpirants are tools that help plants endure stressful, short-term periods, like transplant shock. Only the most hardcore lover of snow and ice could define an Indiana winter as "short term." For this reason, anti-transpirants are not a replacement for proper fall watering or proper plant selection.



Figure 3 Many trees are better able to survive the winter (despite the embarrassment) when wrapped to protect them from winter burn.



Figure 4 Snow provides ideal winter protection—protection ended at the snow line.

No Shears Here

If there weren't enough chores in the yard this time of year, there is one you should not be doing: Pruning fruit trees. In climates

such as ours, pruning should be done in spring just as the buds begin to swell. Freezing injury and dieback can occur to fruit trees if they are pruned in fall or early winter. Even though you can't prune, you can remove fallen fruits, or hanging "mummies" (desiccated, infected fruit that often serves as an inoculum source for next year's infection). Don't forget to protect trees with mouse-vole/rabbit/deer guards. Wrap tree trunks with hardware cloth (¼ inch openings) up to the expected snow-line to provide the necessary protection. Be sure to remove this protection in the late spring to protect the crown of the tree as it continues to grow.

After the Bulbs of Summer Have Gone

Okay, that's not what Don Henley sang, but you get the idea. Don't forget to lift and harvest tender bulbs and corms (cannas, caladiums, gladiolas, dahlias and tuberous begonias) for next year. Lift after a good frost blackens their tops. Carefully dig bulbs/corms and place the bulbs in a well-ventilated location to dry for a two- to three- week period. This will prevent storage rot from destroying your bulbs. Stems can be cut off with a sharp knife or scissors (except for begonias—keep reading!) near but

not at the point where they emerge from the bulb. Allow begonia stems to dry until they are brittle enough to break off from the bulbs or cut off the stems about 1 inch above the tubers. Place the tubers in a cool, dry area to cure for 2 to 3 weeks. After curing, store tubers between layers of peat moss or vermiculite. Store bulbs in a cool, dark place, that does not drop below 40 degrees F. Consider dusting the bulbs with a preventative fungicide, like captan or, Bordeaux or another copper to prevent storage rot. Consider pouring yourself a fine Bordeaux wine to toast yourself and all the work that you've accomplished!

Lawns

Don't forget to rake and compost fallen leaves. Leaf litter left on lawn provides an infection court for snow mold. Be sure to sneak that last mowing in, too, as long grass provides an excellent place for snow mold, too. Finally, fall is a great time to reduce weed levels—besides, you want your fertilizer to go to the plants you love. And unfortunately for me, no one wins prizes for growing the biggest dandelions!

All photos by Janna Beckerman.

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