Get ahead by overwintering

BY SARAH BRACKMAN

AUTUMN CAN BE a useful time of year in the nursery industry. As the intensity of spring wanes, fall affords greater bandwidth to complete to-do lists.

It's the season for stepping back and considering the problems you may have encountered the past year: Equipment failures? Labor shortages? An insect pest that caused significant loss?

Prioritizing and completing certain tasks during autumn can lead to a more successful spring the following year. Setting up a calendar and filling it in with realistic goals can help manage the time you have.

Focusing on specific strategies can help ensure that next season's production gets off to a smooth start. For instance, you can use this time of year to eliminate next year's weed, insect and disease problems before they begin.

By starting with a solid overwintering strategy, you can protect crops from the ups and downs of a Pacific Northwest winter.

Why overwinter?

Overwintering takes finesse, especially in the Pacific Northwest where weather can be unpredictable. The response within a plant that triggers dormancy is not in our control, either.

However, fertilization, irrigation, pruning practices and, in some cases, light levels can be controlled. If done properly, these cultural practices can bolster the plant's ability to overwinter successfully. Understanding how to overwinter crops to avoid root damage and shoot desiccation is imperative for the following season's success.

The root system of a plant is more susceptible to cold damage than are shoots. Roots do not go dormant: they stop growing at certain temperatures, depending on the type of plant. They develop a cold tolerance in response to cooler root temperatures and a short day signal from the leaves.

Keep in mind, roots do not become hardier with more exposure; they simply die. It can be tricky to discern root damage until spring. Unfortunately, the most visual symptom is failure to put on a spring flush and at that point, nothing can be done.

Be aware of any cultural activities in the fall that may promote additional root growth, as it can delay the cold hardiness of lower stems in some plants and cause bark splitting.

The keys to overwintering

Look at your current methods of winter protection. Can anything be improved or changed to increase your success rate? Consider the amount of protection needed as well as the month when you will remove it, keeping in mind the goal is to prevent root and shoot damage.

Research the root-killing temperatures for your crops, the monthly minimum and maximum temperatures, solar radiation and wind chill factors. This data will help you determine the amount and type of protection needed and when to apply it.

Once plants have acclimated to colder temperatures, it is unusual for them to deacclimate in fall and early winter, even when exposed to increased temperatures. Increasing light levels for container stock grown under shade cloth will speed up the acclimation and hardening off process.

Many operations begin removing protection when the root-killing temperatures stop. When dormancy requirements have been met, any plant shoots that are exposed to temperatures above freezing will lose their cold tolerance. Above 20 degrees, unprotected shoots begin to deacclimate.

Deciding when to remove your winter protection in the spring can be tricky because of unexpected weather shifts that occur in the Pacific Northwest. It's important to stay vigilant and flexible, ready to respond if necessary. A plant's degree of hardiness can change in direct response to the environment.

Protocol for protection

Whether you're a seasoned nursery veteran or a novice, reviewing your overwintering protocol is an important way to identify and make improvements.

A good rule of thumb is to avoid fertilizing six weeks before the first frost date, which can induce plant growth and disrupt the balance of nutrients. Plants prefer a higher level of potassium going into winter, as it helps to keep freeze damage from occurring in the cells. Choose an appropriate controlled-release fertilizer with nutrient levels that decrease as the growing season winds down.

Follow the six-week rule when planning plant maintenance and pruning. These activities can stimulate bud break and cause new growth that is not hardened off. Make sure your tools are properly disinfected between plants to avoid spreading disease. If there is physical damage to the crop, be sure to protect the wound with an appropriate fungicide spray.

Thorough irrigation before dormancy is especially important for next year's success. Nursery stock survival is directly impacted by the moisture content of the root ball. A dry root ball yields low energy — the plant does not have what it takes to break bud and create shoot expansion in the spring. Ensure that containers are watered to the bottom of the pot as they head into dormancy.

Many nurseries have an herbicide program or schedule that they stick to. Applying an herbicide to non-crop areas in the spring and fall is an excellent way to manage weeds in and around containers. In the summer, make sure flowering weeds are controlled before they have the chance to go to seed. Become familiar with the type of weeds on the nursery and their life cycle. This information will help you make the best choice for herbicide and application timing.

Preparing the ground

During autumn, the weather is back on our side, with fall rains providing the perfect way to water herbicide into the plant's root system.

It is also the perfect time to address tougher weeds in containers. A cool stretch of weather in the fall allows us to make herbicide applications to container plant material safely. »

The most difficult to control weeds in the Pacific Northwest are bryophytes, such as liverworts and mosses. Often, these aren't thought of as weeds, perhaps because many traditional control methods do not work. There are products available that can be effective and are labeled specifically for liverworts and mosses. Applications help to reduce the spread of these seemingly impossible-to-kill weeds.

Herbicides that are labeled as a "pre-emergent" spray for dormant crops are useful to burn down and, in some cases, kill liverworts and mosses, which can grow in thick mats on top of the soil. When making applications during cool weather, take the time to research the product to make sure it is not temperature dependent.

Deciduous crops that have reached dormancy can be treated without as much risk as when they are actively growing. Once the soil surface is cleaned up, apply a topdressing to slow the re-growth. These applications will not solve the problem completely, but they will buy you time in the spring and decrease the spread.

Cleaning up empty production spaces and irrigation lines during the fall is much easier than during the growing season, and organizing greenhouses will help consolidate your plan.

While getting prepared for the next growing season, consider what pest pressure you commonly face and do a little research. Does the pest hibernate in bark, weed fabric or soil? This information will help you determine what type and degree of sanitation is necessary.

If you are overwintering plant material, remove leaf debris and other materials that provide the perfect spot for disease and insects to overwinter. Pay close attention to the growing areas where you had the most pest pressure — these should be your priority as you begin fall cleaning.

Consider what you can do this autumn to make your spring as successful as it can be. How you manage your crops now will dictate their health and growth next season. Use your time wisely now, and you'll stand a much greater chance of reaping rewards next year!

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