

# NORTH COAST YARD & GARDEN

## HORTICULTURAL NEWS AND INFORMATION FOR THE OHIO GARDENER

BY ROGER S. BOLGER  
Roger@RogerBolger.com



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### IN MY GARDEN

A drier-than-usual season has given us some beautiful weather, but it has also created some problems in the garden. New plants need special care to make sure they are getting enough water. Since the entire root system is confined to the original root ball, it depends on the gardener to supply moisture when rain is lacking. Even well-established plants are feeling stress. 2005 and 2006 were wetter than average, damaging the deepest roots. Under this year's drier conditions, shallow roots are having trouble absorbing enough water to keep plants healthy.

The dry weather has kept plant disease problems to a minimum. Fungi that cause disease need to have moisture for several hours in order to penetrate into plant tissue, so less rain means less fungal disease. Powdery mildew is a notable exception, since it grows best under drier conditions. Watch susceptible plants, including lilac, phlox, rose, dogwood, honeysuckle, chrysanthemum, zinnia, snapdragon and fruit trees.

Japanese beetles are making their annual appearance, and some homeowners are horrified to see hordes of them emerging from the ground as new adults, or swarming into nearby trees and shrubs to perform their mating rituals. It is wise to patrol your garden each morning or evening with a jar of soapy water. Knock Japanese beetles into the water, where



*Echinacea 'Sunset'*

they will drown. If beetles are left on the plants to feed, they release pheromones that attract more beetles, and you will have a major problem on your hands. Removing early scouts will pay off with less damage and less need for insecticide.

If you haven't applied a season-long grub control containing Merit (imidacloprid) to your lawn, do it now. Most lawn grub eggs are dehydrated, so well-watered stands of turf are in danger. Since fields and vacant lots are really dry this year, lawns under irrigation should be especially hard hit.

If you are watering your lawn daily, expect to find turf disease problems, if you haven't already. It really is best to give your grass all the supplemental watering at one time, once a week, so the soil is moistened deeply. This encourages grass roots to grow down deep and become more tolerant of drought. Lightly watered lawns grow shallow roots that are entirely dependent on frequent watering to prevent them from rapidly browning out.

## FEATURED INSECT

### *POPILLIA JAPONICA*

Few insects are more despised by gardeners than the Japanese beetle. Introduced in to the United States from Japan in 1916, these beetles are known to feed on over 400 species of plants. Adult beetles feed on leaves, but do not consume the leaf veins, creating a lacy appearance. These skeletonized leaves often wither and die, even if they are not completely destroyed. The beetles are also known to feed on flower buds and fruits. Japanese beetle larvae feed on the roots of many different types of plants, but are especially fond of the roots of turf grass.



Japanese beetle adults emerge from underground beginning in late June through July. They begin feeding soon after emergence, and release a congregation pheromone to attract other beetles. Female beetles also release a sex pheromone to attract males. If disturbed, the beetles do not fly up and into the air, but drop off the leaf as if they are dead. They may fall all the way to the ground, but if they are high enough, they will usually take flight and escape while falling. This tactic is presumed to make them harder to catch by predators, or to seem to be already dead and therefore not tasty.

After feeding and mating for a couple of days, the female Japanese beetle will fly to the ground and burrow a few inches down to lay several eggs. The next day she will resurface and resume feeding and mating, then once again dig down and lay more eggs. This continues through the summer until she has produced around fifty eggs. Most all Japanese beetle eggs will have been laid by the middle of August.

Eggs are laid in a dehydrated state, so moist soil is necessary for the eggs to absorb water and begin developing into grubs. The grubs tunnel through the soil looking for roots to eat through the summer and fall before tunneling four to eight inches down to wait out the winter. In spring, the warming soil prompts the grubs to return close to the surface and feed until entering the pupa stage. By July they will emerge as a new generation of adults to vex gardeners once again.

Japanese beetle control is difficult, and it is best to use several approaches together. Use a grub preventative containing imidacloprid between May and July to reduce the number of larvae in turf grass. Avoid irrigating turf to make the soil less hospitable to the dehydrated eggs. Milky spore is a bacterial disease of Japanese beetle larvae, but tests have shown that it is not very effective in Ohio or Kentucky. This may be due to the nature of our soils or resistance in our beetle population.

Adults can be controlled by selecting plants that are less desirable to beetles, with traps, or with insecticides. Hand picking the adults early in the summer can prevent large congregations of damaging beetles. Carry a jar of soapy water to dispatch the beetles. Hold the jar under the beetles as you try to catch them, because any beetles that “play dead” will drop down into the jar. Traps use pheromones to attract the

beetles, where they get caught in a bag. Traps can actually attract more beetles to your garden, so place them as far away as possible from susceptible plants. Garden professionals often say that the best place for a beetle trap is in your neighbor's yard. Numerous insecticides are rated for Japanese beetle control, including malathion, esfenvalerate, and permethrin.

Japanese beetles are a reminder that exotic insects can sometimes be very damaging in a new environment. While they are a nuisance that will not go away, other imported pests like the emerald ash borer threaten to permanently change our environment. Killing and controlling these pests helps restore the natural balance that existed before their accidental introduction.

## TIPS AND TECHNIQUES

### WATERING

One of the most difficult techniques to master in gardening is proper watering. Each plant has different needs to grow its best. Fortunately, plants have ways to tell us whether they are not getting the right conditions, so we can do better for them.

Wilting is a strong sign that there is a problem with watering. What most people do not realize is that a plant will wilt if it needs more water, but it will also wilt if it is getting too much water. Waterlogged roots can not get the oxygen they need to pump water up into the leaves, so the leaves dry out and begin to wilt. The best way to determine why a plant is wilting is to check the soil moisture an inch or two below the surface. If this is not possible, observe what happens after you water the plant. If it perks up an hour or so after watering, it was too dry. If it stays wilted, the soil was already too wet. Some plants, such as hydrangea and impatiens, will wilt on a hot

day even though there is plenty of water in the soil. They just can't pump water up to the leaves fast enough to prevent wilting. You will know this is the case when evening comes and the plant is no longer wilting, even though it hasn't been watered. Try to give these plants more shade in the middle of the day, if that is possible.

Many plants die in the first few months after they are planted because they got too little or too much water. The new plant's roots are confined to the original root ball, so it falls upon the gardener to meet its moisture needs correctly. New plants need more water in hot, sunny, windy weather than on days that are cloudy, cool and calm. Check the soil moisture around new plants frequently to ensure the right amount of moisture is present. Be sure to check the original root ball as well as the surrounding soil. The different types of soil may dry out at different rates. It is possible for a root ball to be almost completely dry even when it is surrounded by damp soil.

A plant becomes "established" in place when its root system is of adequate size and condition to supply the plant with moisture under almost all natural situations. Plants that need drier roots will have shallow root systems, while plants that must compete for water will send their roots deep. The depth of the root system is also limited by the density of the soil. Sandy, well-drained soils have lots of pore space to allow oxygen to get to the root tissues. Clay soils allow little oxygen to penetrate, so roots can not grow as deeply.

Clay soils are very slow to absorb water and very slow to dry out. During wet spring weather, clay soil becomes waterlogged. If you dig a hole in wet clay soil, it will quickly fill with water. Unfortunately, this often happens in the planting hole. Water flows easily into the nice soil surrounding the

root ball, but can't penetrate the surrounding clay. The plant's roots are soon swimming in dirt soup. If your soil is like this, plant the root ball high, so that almost half of the root ball is above the clay. Then mound up good soil around the exposed parts of the root ball. This will avoid having the roots drown at the bottom of the planting hole during wet weather, but during dry spells the plant will need extra water to keep from drying out.



Watering must be done correctly for plants to thrive

After prolonged drought in the summer, clay soil becomes very hard and water just runs off the surface and into storm drains. Sudden thundershowers and sprinkler systems deliver water much faster than the ground can absorb it. If your soil has dried out like this, water slowly over a long period of time to give it a chance to seep into the hard ground. Check to see how far the water has penetrated by digging a small hole. You may be surprised to find that two hours of watering only moistened the top inch of soil.

Plants in containers need special watering care. Their roots are confined to the pot and can not seek out water reserves deep underground. Light potting mixes dry out

faster than garden soil, and the sun warms the pot, increasing the rate of evaporation. You can easily check if containers need water by lifting it to feel its weight. Heavy pots are wet and need no more water, while dry pots are very light. Containers have excellent drainage, so a severely dried out container planting may need to be watered several times, a few minutes apart, so that the water can soak through all the soil instead of just running out the bottom. If the container has a saucer, let water stand in the saucer for several minutes to give it a chance to get soaked up into the soil.

Most lawns need one inch of water per week, whether from rain or from sprinklers. Turf grass also wilts, but the leaf blades are so small it can be hard to notice. A lawn in need of water will have a bluish appearance, and footprints will remain in the grass. Areas under large trees may need two inches of water per week during hot, dry weather to compensate for moisture lost through the tree leaves. Calculate how much water comes out of your sprinkler by placing a rain gauge or straight-sided can in the watering zone. Let the sprinkler run for 15 minutes, and see how much water is in the gauge. Multiply that amount by four to determine how many inches of water per hour that sprinkler delivers.

Be careful with sprinkler systems that water lawns and landscape plants at the same time. Lawns require much more supplemental water than trees, shrubs and flowers, so a sprinkler system can easily over water ornamental plants. Water runoff from the lawn can also collect in new planting holes and drown the roots. Sprinkler systems should have separate zones for turf and ornamental plantings.

Overhead watering wets the leaves and may promote fungal disease if the leaves do not dry off soon. For this reason, it is often said that you should not water in the evening or at night, since the plants will likely stay wet until morning. On the other hand, a plant that is in dire need of water should get water immediately. The plant will suffer far more from dryness than from leaves that stay wet all night. Early morning is the best time to water because there will be less evaporation and the leaves will dry quickly as the sun climbs high in the sky. Plants are most in need of water at the hottest part of the day, around 3 pm, so emergency watering may be necessary in the afternoon. If you use drip irrigation or soaker hoses, you can water anytime because the water never touches the leaves or sprays into the air where it can evaporate.

Conserving water saves natural resources, saves money, and may save plants from root rot or disease. Water plants only when necessary, and water slowly and deeply to thoroughly moisten the root zone. Then let the soil become mostly dry before watering again. Drip irrigation or soaker hoses deliver water slowly to eliminate runoff, and little if any water evaporates because it is not sprayed up into the air. Up to thirty percent of sprayed water evaporates on hot, windy days. If you use a sprinkler system, turn it on manually instead of letting it run on a schedule whether the yard needs water or not. Turn off sprinklers when rain is expected. Select plants that are adapted to your climate so there is less

need for supplemental water, and plant them in spring or fall when natural moisture is abundant. Use mulch to preserve soil moisture. Keep weeds out of your garden because they use water, too.

## GARDEN CALENDAR

- July is National Water Gardening Month and Smart Irrigation Month.
- Harvest new potatoes for a July 4<sup>th</sup> picnic treat.
- Small “baby” vegetables often have better flavor before seed production begins.
- Water plants deeply and infrequently to encourage deep roots.
- Apply a heavy mulch layer to strawberry beds to protect the crowns.
- Water planters and hanging baskets daily during hot, dry weather.
- Remove spent flowers on perennials to encourage more blooming.
- Pinch back chrysanthemums, cosmos and dahlias for the last time this year.
- Weed killers stop working over 85°, so wait for cooler weather to spray.
- Apply a grub preventative containing imidacloprid now to avoid lawn damage later.
- Provide water for birds and wildlife. Squirrels that raid tomatoes are usually just looking for moisture.
- Turn your compost pile frequently for fast, free humus.
- Inspect the garden daily to catch insect and disease problems early.



**ROGER S. BOLGER** HAS OVER TEN YEARS OF PROFESSIONAL HORTICULTURAL EXPERIENCE AND HAS GARDENED ALL HIS LIFE IN NORTHEAST OHIO. HE HAS GIVEN DOZENS OF GARDENING TALKS AND SPECIALIZES IN WOODY PLANTS, PERENNIALS, TURF, ENTOMOLOGY, INTEGRATED PEST MANAGEMENT, ORGANIC GARDENING, PONDS AND BACKYARD WILDLIFE.

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