



As of August 2, 2002, a drought emergency was declared in Delaware and watering restrictions were imposed. Unfortunately, the first communication to the general public in the *News Journal* included some incorrect information about how those restrictions would apply to watering landscape plants. While the restrictions specify that no one can initiate a new landscape or turf project after enforced restrictions are in place (in this case, August 2, 2002), the *News Journal* reported that people were forbidden to water an individual plant planted after that date. Not true.

You are allowed to water your landscape plants if you follow the watering guidelines, which specify the use of a hand-held hose or a watering container and only between the hours of 5 p.m. and 9 a.m.

Retail garden centers are allowed to water their stock in order to keep it alive. If you think about it, it takes much less water to keep alive a plant that was purchased and placed in the ground than it takes to keep plants alive in above-ground containers filled

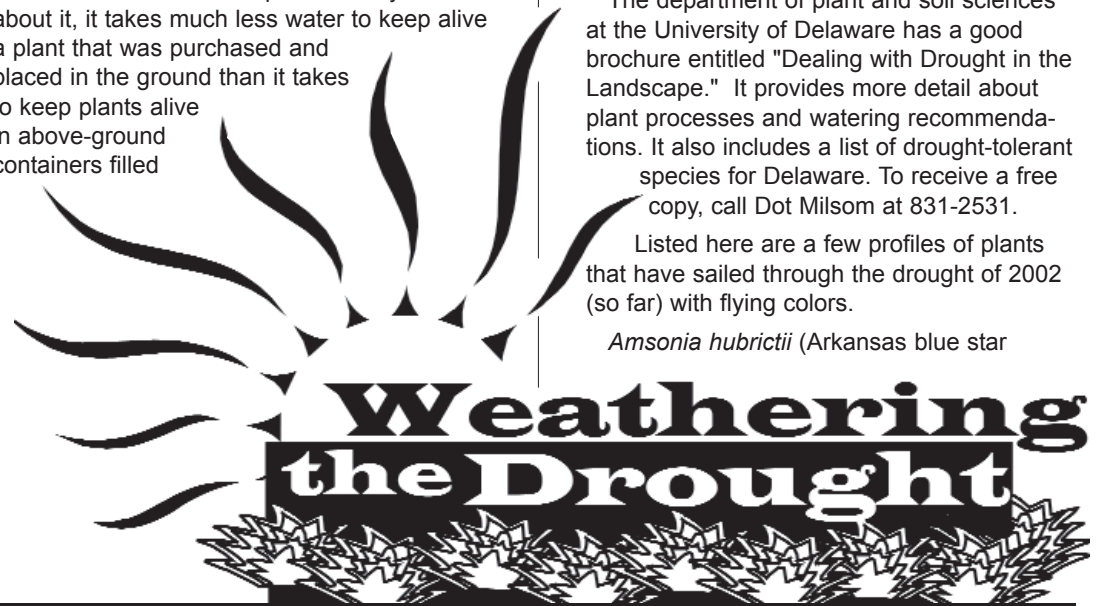
with artificial media. In fact, we should be encouraging everyone to go out and buy plants, plant them, and water them properly to conserve water overall.

It is also important to keep valuable plants watered during a severe drought, because it is much more costly, environmentally, to replace a lot of plants than to save the ones already planted and becoming established. It takes approximately one year per inch of trunk caliper in order for a tree or shrub to become established. So, if you planted a 2-inch caliper shade tree during the spring of 2001, that tree will need supplemental water until the spring of 2003. Even well-established plants may need supplemental water when the soil becomes completely dry. I have seen established trees and shrubs wilting in the woods this year, so I am sure many landscape plants that are in need of extra water.

The department of plant and soil sciences at the University of Delaware has a good brochure entitled "Dealing with Drought in the Landscape." It provides more detail about plant processes and watering recommendations. It also includes a list of drought-tolerant species for Delaware. To receive a free copy, call Dot Milsom at 831-2531.

Listed here are a few profiles of plants that have sailed through the drought of 2002 (so far) with flying colors.

*Amsonia hubrichtii* (Arkansas blue star)



## THINGS TO DO THIS MONTH.

- Plant great fall-blooming perennials.
- Plant trees and shrubs.
- Think about fall and winter interest when making fall plantings.
- Plant spring-flowering bulbs in masses.
- Divide perennials every 2 to 4 years.
- Keep strawberries well weeded.
- Fertilize strawberries with 2 cups 10-10-10 per 100-foot row.
- Clean up and move houseplants indoors when temperatures fall below 50 F at night.
- Sow herbs for pots indoors.
- Core-aerate and fertilize your lawn.
- Renovate poor lawns or reseed bad spots.



## GOOD DROUGHT-TOLERANT PLANTS

flower) is a lovely, fine-textured perennial that hasn't skipped a beat this summer. Small, light blue flowers are borne in terminal clusters in early spring. For the remainder of summer, the plant exhibits a lovely light green, the perfect backdrop to other blooming plants. In fall, the foliage of *Amsonia hubrichtii* turns a brilliant yellow. Best planted en masse so it can be fully appreciated, the plant grows about 2 to 2-1/2 feet tall and can be used as an edging plant or a mid-border plant.

*Panicum virgatum* (Switchgrass) comes in a wide variety of cultivars. This native warm-season grass is very tolerant of drought and poor soil conditions. Like other grasses, it tends to curl its leaves in dry weather, but that doesn't seem to hurt the plant at all. Following are some of the best cultivars:

'Cloud Nine' — This cultivar grows to a height of 5 to 6 feet and has wispy flowers clusters that open in early August. Flowers turn to seed heads and remain on the plant throughout the winter. It can be quite awe-inspiring when it catches the dew and, during winter, the frost. The foliage is a lovely blue-gray color.

'Raebraun' — Somewhat shorter, this cultivar grows to a height of 2 to 3 feet and has reddish coloration throughout the year, which becomes more intense in fall. It is a good mid-size ornamental grass.

'Dallas Blues' — This fantastic blue cultivar has a broader leaf blade and a coarser texture than other switchgrasses. It is also tall, 5 to 6 feet blooms later than 'Cloud Nine.' The broadleaf blade will flag a little in very dry weather but it comes right back once it gets a little moisture.



*Sporobolus heterolepis* (Prairie Dropseed) is another great native warm-season grass. It forms a fabulous ground cover or edging to a garden. Very delicate flowers are borne atop a graceful, wiry mass of foliage. The foliage itself is about 1 foot tall. With the flowers, the total height is about 2 feet. There is a fantastic planting

of *Sporobolus* at the entrance to the parking lot at the Delaware Center for Horticulture on DuPont Street in Wilmington.

*Sedum* 'Matrona' (Stonecrop) is just one of many good, drought-tolerant sedums. It is a lovely cultivar with blue green succulent leaves tinged maroon along the leaf edge. 'Matrona' get about 2 ½ feet tall and blooms in late August.

*Solidago* 'Fireworks' (Goldenrod) is another trooper in drought. Growing 2 ½ to 3 feet tall, it forms a solid mass in the perennial garden and explodes into bright yellow blooms in September. During severe drought, some of the lower leaves may turn brown, but the flowering will remain unaffected.

*Baccharis halmifolia* (Groundsel Bush) is about as drought-tolerant as plants come. Native to sandy, salty conditions, it doesn't flag in dry weather. This shrub has somewhat fleshy leaves. In fall, the bush covers itself with fleecy white flowers and is quite showy in bloom, but doesn't really attract much attention the rest of the year. It also can get gangly and require pruning back to the ground every 3 to 5 years.

*Myrica pennsylvanica* (Bayberry) is another tough plant that is native to southern Delaware and grows along Highway 1 through all the beach communities. Stems are covered in blue gray berries and have a wonderful characteristic fragrance.

Surprisingly, the two toughest trees I've observed this year are *Amelanchier x grandiflora* 'Autumn Brilliance' (Serviceberry) and *Malus* 'Donald Wyman' (Crabapple). The Amelanchier is a tough hybrid with white flowers, clean summer foliage, persistent leaves and brilliant red fall color. The Donald Wyman crabapple has also performed well even though planted this spring in some very tough conditions. Flower buds expand from red to pink and open white. Glossy, bright red fruit will persist into winter.

There is a silver lining to every cloud (we could use a few of those clouds), and the bright spot in this drought is that it has helped us identify some great tough plants that will perform in any garden.

—Susan Barton



## CANNING THE FRUITS OF YOUR LABOR: OLD PROCESS, NEW RULES

August and September — the bounty from your vegetable garden and fruit trees seems endless. You serve as much fresh as your family will eat, you share the abundance with friends and neighbors, or you pull out canner and jars to preserve the extra produce to enjoy later — a reminiscent taste of summer during the long winter months.

If canning or freezing is your plan, before you begin, review food-safety guidelines and current information on preserving foods. Even if you have used the same canning method for 30 years with no problem, this may be the year you run into trouble. Many things have changed in canning, even the foods are different, so don't trust out-of-date books and recipes. For example, many tomatoes are now low-acid and require the addition of lemon juice.

Checking your pressure gauge on pressure canners for accuracy is the first step. If the gauge is off then you may not have enough pressure to kill spores and microorganisms that can cause food-borne illness. Pressure allows the food to reach temperatures above the boiling point. Some microorganisms are destroyed only under the very high temperatures in pressure canners.

Each step in the canning process serves a purpose:

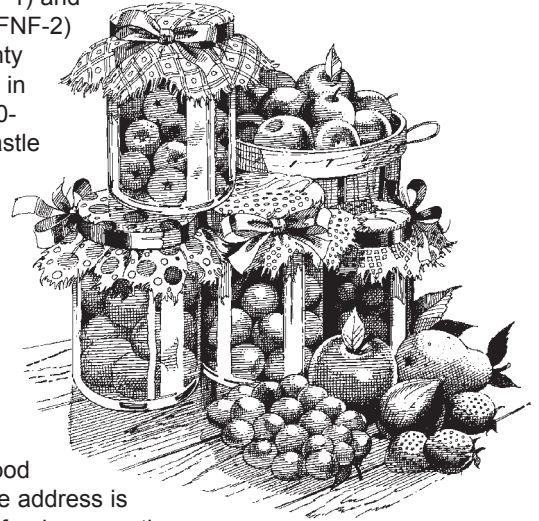
- ◆ The high heat kills bacteria and spores that can cause foodborne illnesses such as botulism.
- ◆ The amount of air or head space left in a jar is also critical. Too little space allows the liquid to boil up and interfere with a tight seal. Too much head space will leave air that encourages growth of molds and bacteria.
- ◆ A tight seal formed within 24 to 48 hours lets you know if your foods will keep. Jars that have not sealed can be reprocessed within this time period.

Whether food is from your garden or a roadside stand, use the highest quality you can find. Don't select produce with bruises and especially avoid produce with mold. Canning won't improve the poor quality and even one bad tomato can ruin the whole batch.

Finally, if you have never canned before, try doing it first with someone who is experienced. See how you like home canning before investing in your own equipment. If canning proves to be a hit with you and your family, you'll find that you can enjoy the fruits (and vegetables) of your labor up to a year later.

For free fact sheets on home canning — Canning Vegetables (FNF-1) and Canning Fruits (FNF-2) — call your county Extension office: in Kent County, 730-4000; in New Castle County, 831-COOP; in Sussex County, 856-7307.

A new food preservation Web site funded by the USDA offers the latest information on food preservation. The address is <http://www.homefoodpreservation.com>



— Sue Snider

## PANSIES ADD COLOR, SCENT TO FALL LANDSCAPES

A favorite in great-grandmother's garden, pansies are still popular today, adding instant color to the fall landscape or porch step pot. Easy to grow and resistant to most diseases and pests, this hardy autumn bloomer sends out a sumptuous scent, and the foliage, with its heart-shaped leaves, is attractive.

Pansies come in a variety of colors, including red, pink, yellow, peach, blue, violet and white. Some sport happy "faces" and are multicolored or multi-petaled.

Blooms range in size from 1 1/2 to 4 1/2 inches, depending on the variety.

When choosing pansies from a nursery, select plants that are stocky, have good green color, and few



blooms but many buds. Place plants in a location that receives morning sun and in soil that drains well. Before planting, water plants while they are still in the containers.

Dig a shallow hole, yet wide enough so each plant's roots are not cramped. Space the holes 6 to 10 inches apart, and place a plant in the hole with the soil surrounding the roots still intact. Cover the plant roots with garden soil and water. Mulch around the plants to help conserve moisture and reduce weed growth.

By late fall, your plants should be filled with blooms. Some of the new hardier varieties can be a colorful display throughout the cold months if the winter is mild.



## STONECROPS: PLANTS FOR ALL SEASONS AND EVERY SITUATION

Describe the perfect garden plant for a dry Delaware summer. Okay, it holds up well under drought conditions and weeks of 90+ temperatures; has thick-leaved foliage and requires little water; invites few disease or insect problems; offers ever-changing charm in all seasons; doesn't end up a tasty treat by grazing deer, groundhogs and rabbits; and adjusts beautifully to even the poorest of soils. Impossible for one plant to have so many attributes? Get ready to salute the sedum — the multi-faceted garden dweller that requires so little care even the gardening neophyte can grow it successfully.

Sedums, common name stonecrop, are typically underused in American gardens, perhaps because of their association with rock gardens, which also are atypical of home gardens in the United States. Growing in the wild, sedums are found in stony places, particularly on cliff faces.

The genus has several hundred species including many cultivars. Ranging in height from 2 inches to 2 feet, sedums are sun-loving, drought-resistant plants that adapt well to poor soil. Sedums have star-shaped flowers in colors of yellow, pink, red, white and rose that attract bees and butterflies in abundance.

Depending on species or cultivar, sedums can bloom in spring, summer or fall. The foliage comes in many shades of green, variegated green and white, purplish-gray and bronze red.

The growth habit varies as well, from a one-inch high thick mat variety, which is charming tucked between stepping stones, to plants that reach 24 inches high in the course of a season. While the taller varieties are beautiful for many months beginning in early summer, they are valued most for their late-season blooms. If left standing after fall bloom, the seed heads and upright clumps remain attractive in the winter landscape.

The versatile sedum is at home in many garden settings, including pots, English trough, sloping rock gardens and garden borders. Trailing sedum plants tucked into terracotta pottery add drama to a patio garden or a touch of the exotic in a garden bed. Because many of the low-growing sedums have

excellent trailing habits, they are perfect for contrast in earthen containers such as a strawberry urn or flat dish usually reserved for cactus displays.

### Some low-growing varieties to consider:

*Sedum album* 'Murale' which grows to 6", has white flowers blooming in mid-late summer above an evergreen mat of bronze foliage.

*Sedum kamschaticum* 'Variegatum' also grows to 6" but its flowers are orange-yellow blooming in summer and its foliage has wide white margins.

*Sedum spurium* 'Red Carpet' another low grower around 3-6", has red flowers blooming in summer over bronze foliage. This variety is extremely tough, spreads rapidly and is one of the showiest stonecrops.

*Sedum spurium* 'Tricolor' also low growing at 6", is tough, spreads rapidly, but has foliage that is striped pink, white and green creating a unique show of its own.

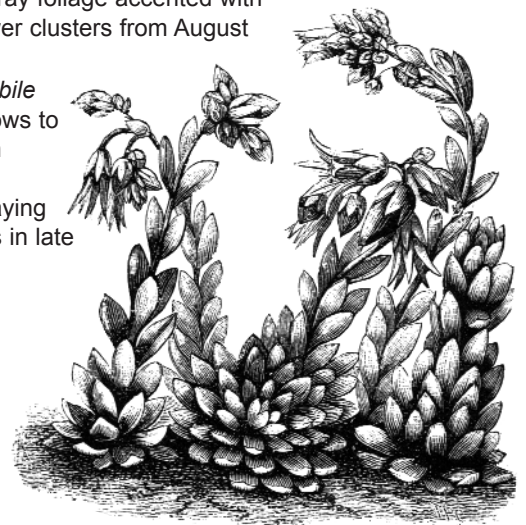
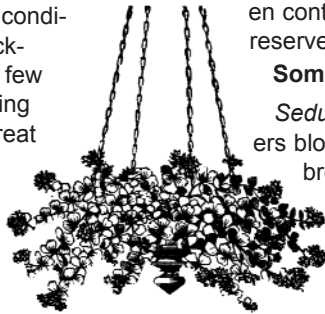
*Sedum* x 'Bertram Anderson grows to 6", is a compact sprawler, has purple stems with dusty lilac leaves on which rose pink flowers appear in late summer into autumn giving an overall smoky blue effect.

### Some taller varieties to consider:

*Sedum* x 'Matrona' grows 2-3 feet, has bronze foliage with dark red stems followed by pink flowers in late summer through fall. Flower heads create a textural effect during winter if not cut back.

*Sedum cauticum* 'Lidakense' grows to 12" with mounds of round purplish-gray foliage accented with intense pink flower clusters from August to September.

*Sedum spectabile* 'Frosty Morn' grows to 2 feet with green leaves edged in white then displaying pale pink flowers in late summer.





## FALL GARDENING WORKSHOPS OFFERED AT UD

As the state suffers through a severe drought, many home gardeners are dismayed that their formerly lush landscapes are now parched, brown wastelands. But there is a way to garden successfully through a drought — and it doesn't involve planting all cactus or resorting to artificial turf.

"Water-Wise Gardening" is a one-night workshop presented by New Castle County Master Gardeners that offers a number of different strategies for making the most of low-water conditions. The Sept. 26 class will include information about native plants and other drought-tolerant annuals and perennials that are suited to local growing conditions.

The class is just one of 11 different workshops available this fall from the New Castle County Master Gardeners, which is a group comprised of horticulture and environmental science educators. The volunteer group is sponsored and supported by the University of Delaware and Delaware Cooperative Extension. Other fall Master Gardener workshops will focus on such topics as shade gardening, composting, pruning and holiday wreath making.

The complete fall class schedule is as follows:

### **Design Your Dream Landscape**

Sept. 17, 24 and Oct. 1: Master Gardeners help you create a complete landscape plan using basic design principals and processes. Held from 7 p.m. to 9 p.m. at the Fischer Greenhouse in Newark. Cost: \$48.

### **Bulbs: Indoors and Out**

Sept. 19: Learn how to grow bulbs for use indoors and out. Held from 7 p.m. to 9 p.m. at the Fischer Greenhouse in Newark. Cost: \$12.

### **Shade Gardening**

Sept. 25: Discover flowers, shrubs and trees that will thrive in the shade. Learn about lighting up shade by using plants that have interesting leaf colors and textures. Held from 7 p.m. to 9 p.m. at the Fischer Greenhouse in Newark. Cost: \$12.

### **Water-Wise Gardening**

Sept. 26: Learn to be a water-wise gardener and help conserve our most precious resource. Held from 7 p.m. to 9 p.m. at the Fischer Greenhouse in Newark. Cost: \$12.

### **Go Native**

Sept. 28: Find and choose shrubs and perennials native to our area, and learn the advantages of doing so. Held from 10 a.m. to noon at the New Castle County Cooperative Extension Building, 910 South Chapel Street, Newark. Cost: \$18.

### **Trees — from Saplings to Seniors**

Oct. 7: Learn how to select, plant and nurture trees that are well suited to your landscape. Held from 7 p.m. to 9 p.m. at the Fischer Greenhouse in Newark. Cost: \$12.

### **Orchids On Your Windowsill: Introduction**

Oct. 28: This class discusses orchid care, including light and temperature control, watering, fertilizing, and potting mix. Class emphasizes plants best suited to the home environment. Held from 7 p.m. to 9 p.m. at the Fischer Greenhouse in Newark. Cost: \$18.

### **Orchids On Your Windowsill: Intermediate**

Nov. 4: Move up to the next level of orchid culture with a class focusing on more challenging species of orchids. Held from 7 p.m. to 9 p.m. at the Fischer Greenhouse in Newark. Cost: \$18.

### **Puzzled by Pruning**

Nov. 7: This course will help demystify when to prune, what equipment to use and which techniques are most effective for pruning a variety of shrubs and trees. Held from 7 p.m. to 9 p.m. at the Fischer Greenhouse in Newark. Cost: \$18.

### **You Can't Not Compost**

Nov. 19: Learn how to transform yard waste and kitchen scraps into compost, an all-in-one organic fertilizer, insect and disease inhibitor and soil amendment. Held from 7 p.m. to 9 p.m. at the Fischer Greenhouse in Newark. Cost: \$12.

### **Holiday Wreath Making**

Dec. 7 or Dec. 14: Use fresh evergreens, berries and other natural materials to create a beautiful wreath. Held from 9 to 11 a.m. at the Fischer Greenhouse in Newark. Cost: \$18.

To register for a Master Gardener Fall Workshop, call the New Castle County Extension Office at 831-2667. Cooperative Extension programs are open to all regardless of race, color, sex, disability, age or national origin.

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## TINY FLIES, BIG NUISANCE

Among all insects, flies continue to have an enormous impact on humans. Flies can be as small as 1/16th of an inch to more than an 1-1/2 inch in size. We see tiny flies a lot as we bring in summer produce and plants. High temperatures support rapid development of these pests. Flies hang out in places where decaying organic matter flourishes, such as sewers and dirty garbage containers, and they may transmit disease organisms and contaminate food as they go from breeding site to food or from one food site to the next.

Four of the smallest flies frequently implicated in causing health problems are the phorid fly, small fruit fly, moth fly and fungus gnat.

**Phorid fly**, sometimes called hump-backed fly, flies in a rapid, jerky motion. Adult flies are tan to brown in color with a small head with dark brown or black eyes. Their thorax is enlarged, which contrasts with the small head and abdomen, giving it a hump-backed appearance. Phorid flies are frequently seen in and around drains, highly lighted areas such as atriums and are found feeding around decaying fruits/spilled beverage areas.

**Small fruit fly** is the most frequently encountered small fly. About 1/8th inch and tan to brown in color, it is also hump-backed in appearance but less so than the phorid flies. The eyes are red, not dark-colored. Other common names include the vinegar or pomace fly. Small fruit flies are strong fliers but settle quickly from flight and like to walk on foods. Fruit flies deposit their eggs on or near decaying organic matter and overripe produce. If ripening fruits/vegetables are not covered or discarded, fruit fly numbers can quickly grow and become a nuisance.

**Moth fly**, otherwise known as sewer or filter fly, has tiny hairs covering its body and wings that give it a moth-like appearance. Black or dark-brown in color, moth flies like dark, shady places where they fold wings roof-like their body. They go from egg to adult in 7 to 10 days. Larvae are found in drains/sinks, showers and tubs, feed on decaying vegetation and microscopic plants and animals, feeding and breeding in the gelatinous film of drains. Locate which drains they inhabit by placing sticky paper (such as index cards with sticky tape on one side) over drainage areas. Clean up any areas capturing adult flies.

**Fungus gnat**, as the name suggests, feeds on fungi. The dark-winged adult is small and mosquito-like, with long legs and antennae. The adults are found close to plants such as Poinsettia, African violet and other household foliage plants. The actual plant is not attractive to the fly; it's the fungus on the soil in which it grows that draws the insect. Over-watered and over-fertilized soils are most likely to harbor fungus gnats.

When it comes to managing these four, and a host of other

small flies, correct identification is essential. Adult-only management is not enough unless the breeding area is identified. Although these flies are capable of some flight, they are seldom found far from where they breed.



Fungus gnat

Search carefully in areas in which decaying organic matter might occur, such as trash/garbage areas, wet mops/cleaning items, discarded beverage containers, drains, fermenting /decaying vegetation, moisture areas beneath sinks/appliances, sump pumps/French drains, drainage/sewer areas and places moisture accumulates. Persistent numbers of adult flies can be a symptom of a serious problem such as bad sanitation or plumbing leaks beneath or close to structures where they appear.

Once you find the breeding area a major cleanup usually solves the problem. Space sprays with a non-residual flying insect aerosol can reduce adult numbers, but sprays alone will not eliminate the problem.

—Dewey Caron

## READ PESTICIDE LABELS BEFORE USING

Pesticides should not be the automatic choice for pest control; however, they quickly can take care of pest problems or reduce the pest population to the level at which other alternatives can better be used. Pesticides remain the most efficient, easiest way to control yard and garden pests.

Once you decide you need to use a pesticide for a lawn or garden problem, read the label. Each label contains vital information for your protection and the protection of the environment. Organized by law in a standard way, the label will help you make proper choices of product and to determine how and when to correctly use the material. One goal should be to protect your health and preserve beneficial and non-target organisms.

To determine if the pest will be controlled read the "Directions for Use" section of the label. This section will also explain how



to mix (if necessary) and apply the product properly.

Read the label's "Precautionary Statements" before you leave the store. Sometimes this information will change your mind about buying a particular pesticide product. For instance, the material may present hazards to your property, family or pets so it might not be practical for you to manage. Or the pesticide may be too toxic for you to handle comfortably.

The signal words — CAUTION, WARNING, DANGER — refer to the product's level of toxicity and its potential danger if it is misused. Of the three, CAUTION indicates the lowest risk level (lowest toxicity) when the product is used as directed on the label. WARNING indicates a higher toxicity. Pesticides labeled with the signal word DANGER are the most toxic. It is a good idea to buy the least toxic material that will still do the job.

If you purchase a pesticide, buy the safety equipment required to handle and apply the product. If you think you cannot adequately comply with the safety and first aid requirements stated on the label, choose another pesticide or a different control method.

The last section of the label to read before you buy a particular pesticide is the section called "Storage and Disposal." Some points to consider when you are ready to purchase a pesticide include:

- ◆ When will I need it again?
- ◆ Can I use it to control other pests?
- ◆ Will the material remain active in storage and still control target pests?

Purchasing the smallest amount of the product necessary to do the job will help you reduce the risks associated with storing the pesticide, save some money, and, perhaps, avoid the necessity to have to consider disposal at a later date.

—Dewey Caron

## YELLOW-JACKETS BECOME END OF SUMMER NUISANCE

Yellow jackets are serious scavengers common in late summer/early fall. Until August, they build underground nests and raise young. Now that the nests are full-sized and there is little for the adults to do, they turn to scavenging, mostly sweets. This change in daily activity each summer leads to encounters with humans, which sometimes results in stings.

Yellow jackets are useful predators around our yards during most of the year. They feed their developing young meat which

they secure by capturing flies, caterpillars and other potentially damaging insects. But now their populations have peaked and there is little work to do.

Adults seldom fly far from the nest, so searching an area may reveal their nest site. Look for heavy, directed flight, especially at ground level. If you find a nest wait to spray the entry area after dark using the special wasp and hornet aerosol available at many outlets. Plug the entry area with an insecticide sprayed dirt plug so adults attempting to repair the damage contact enough of the material and die. Repeat a second night if activity is noted after initial control effort.

There are a large number and variety of wasp and yellow jacket traps on the market. They can trap and eliminate an impressive number of adults. Be sure to locate these traps away from the immediate area you wish to clear and use enough traps at the perimeter to trap them. Start your trapping about a week before you want to use the area. Trapping, especially combined with searching for and destroying of nests in the immediate area, can reduce incidences of pestiferous yellow jackets in your yard or on your deck.



Yellow jacket

—Dewey Caron

## DIAGNOSING DROUGHT STRESS *(Continued from page 8)*

they need to be watered deeply. Apply enough water each time to saturate the entire root zone. This typically takes more water than people realize. Take your time when watering by hand or allow soaker hoses to run long enough to provide an adequate amount of water.

You may want to dig down beside some of your plants to check just how deep the moisture has penetrated the surrounding soil. Water retention is increased in soils with good levels of organic matter. Water is a valuable resource. Try to irrigate early in the day, using a soaker hose or watering can, and reduce the frequency of any type of sprinkler irrigation. One to two inches of mulch over the soil will help retain moisture and reduce heat damage to roots of plants.

Just because your woody plants have lost a lot of foliage and look absolutely devastated, they still have the ability to survive. Do not remove them, do not prune them, do not fertilize them and do not over water them. Keep the root areas moist and give nature a chance to do its thing.

— Jay Windsor

## RETURN SERVICE REQUESTED

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Ornamental Horticulture

## DIAGNOSING DROUGHT STRESS

The unrelenting drought of 2002 is taking its toll on our trees and shrubs. Even older trees, especially large oaks, maples and sycamores, are showing signs of distress. Leaves are scorched around the margins or have been desiccated entirely and are already falling to the ground. Many landscapes look like fall, and some homeowners have been raking leaves since July!

Deciduous shrubs that have gone unwatered look dead or dying. Evergreen trees and shrubs are less likely to be showing immediate signs of drought damage, but they are also in trouble from the extended drought. Evidence of damage as a result of root death and desiccation may not show up until later in the season or next year. Leyland Cypress are particularly prone to drought damage because of a shallow root system.

It's important to remember that the majority of tree roots are located in the top 6 to 8 inches of the soil. They absorb most of their moisture and nutrient requirements in this very shallow zone. Feeder roots die rapidly without adequate moisture. The addition of fertilizers at this time simply adds to the problem because of higher concentrations of soluble salts in the soil, which can actually burn and kill feeder roots.

Even though plants have shallow root systems,



(Continued on page 7)