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Lawn and Garden



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VOLUME 1, NUMBER 1

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September Plant of the Month . . .

Coral Vine

Antigonon leptopus

By Dr. William C. Welch, Landscape Horticulturist
Texas A&M University, College Station, Texas

This native of Mexico is widely cultivated in Texas and the Gulf South for its striking, lacy pink flowers. Like many of our popular heirloom plants, it has at least several common names, such as 'heavenly vine' and 'rose of Montana'. It is a vigorous vine, with heart-shaped leaves, that needs the support of a trellis, fence, or tree. The first hard freeze of autumn kills all the top growth, but established plants return readily the next year from sweet-potato like tubers that some sources describe as edible. It is generally root hardy in the southern half of our state, and can be easily grown in containers elsewhere.

Coral vines are easily grown, but must have good drainage and at least a partially sunny exposure. They are very drought tolerant, and really begin their landscape display after the first good rains of late summer and fall. A white form is sometimes available. Propagation is by division or seeds. It is best to start the seeds early in the spring so that the vines will grow and develop tubers before frost.

A. Leptopus is an integral part of many southern gardens. At its best, it graces a garden like fine lace.



The foliage is attractive and sufficiently dense to provide summer shade on trellises and arbors. I planted one in combination with a vigorous old climbing rose, and it is a very successful combination, with the rose ('Trier Rambler') having a pale pink color and the coral vine much darker. The rose provides support for the coral vine, and the combination is striking.

Horticulture Field Lab Garden

By Dr. William C. Welch Landscape Horticulturist
Texas A&M University, College Station, Texas

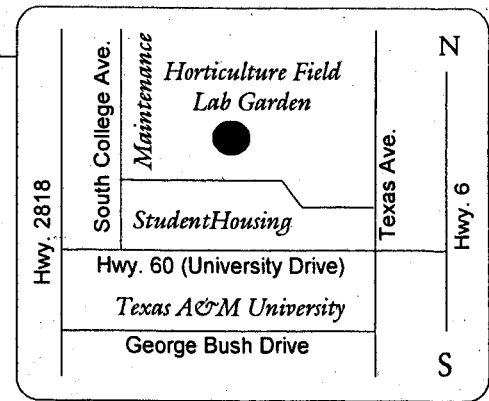
Due to dedicated efforts of Drs. Don Wilkerson and Mike Arnold, graduate students, workers from the Bryan Federal Prison, and many others, the Horticulture Field Lab Garden is becoming a magnet for faculty, students, and visitors who have an interest in gardening. Located on the far north side of the campus between Old College Drive and Texas Avenue, it is easily accessed once you know where it is. The map should help you to get oriented; remember that the very tall radio tower is located on the garden site. Visitors are welcome during daylight hours, and most of the plants are labeled. Priscilla Files, Extension Assistant, and Garry McDonald, Research Associate, both graduate students in the Department of Horticultural Sciences, are usually on the premises. Garry and Priscilla are completing work on a garden plan and plant list for the garden that should be ready in the next few weeks. I plan to write a short column in each issue of *Lawn and Garden Update* with observations about what is happening in the garden that may interest you.

Late summer is a stressful time in the Texas garden, and this year has been particularly troublesome with so many 100-degree-plus days and little or no rainfall. Such periods make us aware that water conservation and low-water use plants make a lot of sense. The xeriscape garden at the field lab has an interesting collection of small trees, shrubs, annuals, and perennials. Of particular interest in late summer and early fall are the handsome gray-foliaged mounds of *Artemisia* 'Powis Castle'. This is a fairly new form of artemisia that seems to thrive over most of Texas. It likes well drained soil and at least a half day of direct sun, and should be pruned back every six months or so. Most artemisias are either overly aggressive or don't grow well in our climate. This one seems to do fine, and offers a dependable source of gray foliage that contrasts nicely with green foliage and many flower colors. Earlier in the season it was particularly nice with the perennial verbenas. *Artemisia* 'Powis Castle' usually lives for about two years, sometimes three, before it succumbs to rot. New plants root very easily from tip cuttings placed in moist potting soil. They are usually ready to transplant to the garden in three or four weeks.

Also of interest in the xeriscape garden are several salvias such as *Salvia leucantha* which should begin flowering in the next few weeks with dozens of spikes of purple and white flowers. *Salvia* 'Indigo Spires' has bloomed all summer with 12- to 18-inch spikes of purple flowers covering a 3- to 4-foot mound. It should be putting on a good flush of flowers and foliage, especially if we get some rain. Both of these salvias combine nicely with the Mexican marigold-mint (*Tagetes lucida*) that should begin blooming in October. The foliage of Mexican marigold is resistant to spider mites, and is also useful for making teas and vinegars. It is often substituted for tarragon, which is difficult to grow in Texas gardens. It is a dependable perennial in all but far North Texas and the Panhandle counties. One of the best plants for attracting butterflies to the garden is also located in this section: *Eupatorium greggii*, blue mist flower, a native perennial that blooms prolifically in late summer and fall with frilly lavender flower clusters.

Some of the old garden roses are useful in low-water use gardens, and the two specimens of *Rosa chinensis* near the xeriscape sign are good examples. I first saw these single red-flowering roses at the Chelsea Physic Garden in London, and was able to secure plants for trial and evaluation. They were labeled *Rosa Bengal* 'Crimson', and dated 1885 (date of acquisition) in the Physic Garden. Like many of the China roses that have been popular in Texas gardens since pioneer times, they bloom most of the year and make a fairly full 3- to 5-foot shrub with few insect or disease problems. Although they have been blooming all summer, as the days shorten and cool a bit we will see a much more impressive display of flowers until the first hard frost. There is also a nice specimen of the bush form of 'Cecile Brunner', the "Sweetheart Rose," in this area of the garden. It, too, blooms most of the year and adds a delightful fragrance to the area.

Next month . . . the new Water Garden



IRRIGATION SYSTEMS FOR WATER-WISE LANDSCAPES

By Dr. Douglas F. Welsh, Landscape Horticulturist,
Texas A&M University, College Station, Texas

There are two types of irrigation systems for use in landscapes -- sprinkler irrigation and drip irrigation. Within a water-wise landscape, use a combination of these two systems in watering lawns, trees, shrubs, ground covers, and flowers.

The goal of an irrigation system is to give plants a sufficient amount of water without waste. By zoning the irrigation system, plants with high water requirements can be watered separately from those requiring less water.

Sprinkler Irrigation

Sprinkler irrigation is the most commonly used method of watering. The two kinds of sprinkler irrigation systems are the hose-end sprinkler and the permanent underground system with raised sprinkler heads. The differences between these two systems lie in cost, convenience, and efficiency. Permanent sprinkler systems are much more expensive than hose-end sprinklers, but the permanent system is convenient, and can be more efficient in applying water.

The major use of sprinkler irrigation is in lawn watering. A sprinkler system, hose-end or permanent, is the most widely accepted way to water a turfgrass area. However, there are some drawbacks to sprinkler irrigation. First, sprinklers wet the plants as well as the soil. Water which remains on a plant through the night increases disease susceptibility. Therefore, sprinkler irrigation should be used early in the day, to allow time for the plant leaf surface to dry before nightfall.

Another disadvantage of sprinkler irrigation occurs on windy days. Watering in as little as a five-mile-per-hour wind will distribute water unevenly over the soil surface, and result in a great deal of evaporation.

Drip Irrigation

Perhaps the most efficient way to water the home landscape is with a properly-designed and well-maintained drip irrigation system. Drip irrigation slowly applies water to soil. Water flows under low pressure through emitters laid alongside the plants. Water applied by drip irrigation has little chance of waste through evaporation or runoff. The water is applied directly to the plants' root zones. This also eliminates the waste that results from applying water to unplanted or weedy areas.

Overall irrigation requirements will vary according to plant species, soil type, rainfall, and temperature. Established, well adapted plants require less frequent watering than newly planted trees and shrubs. A minimum length of time to operate a drip irrigation system is three hours. However, it may take six to twelve hours to thoroughly wet the root zone of an established large shrub or small tree.

Covering the drip system with mulch is often recommended, to hide the drip tubing from view and add to the life expectancy of the system.

COMING EVENTS

Turf & Ornamentals Field Day

September 16, 1998, College Station
\$20 pre-registration or \$25 at the door
CE units for Licensed Irrigators and TDA Private
Pesticide Applicators

Topics: turf selection and management, landscape management, water quality, and integrated pest management.

For information call (409) 845-3496
or (409) 834-7341

Home Landscape School

October 8, 15, 22, and 29, 1998, 7-9 P.M.
Lewisville Municipal Center Community Room
1197 West Main Street, Lewisville, Texas
\$35 per family, preregistration required

Topics: landscape design, installation, and maintenance, with emphasis on design principles and attractive, low-maintenance plant materials.

Contact Denton County Extension office
at (940) 565-5536 or (972) 434-2052.

Thatch Control in Home Lawns

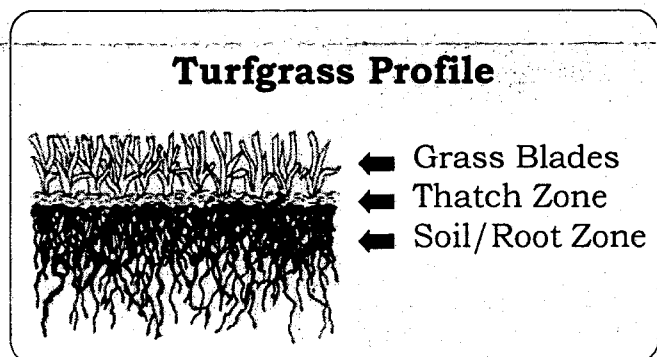
By Jason L. Gray and Gene R. Taylor, Ph.D.

Department of Soil and Crop Sciences, Texas A&M University, College Station, Texas

What is Thatch?

Thatch is the intermingled layers of living and dead stems, roots, rhizomes, and stolons that form between the live green vegetation of your lawn and the soil surface. The thatch layer is composed of plant parts at various stages of development. Grass clippings are not considered part of thatch because they are 85 percent water, and easily decomposed by soil microorganisms. Grasses that spread by rhizomes and stolons are prone to forming thatch layers. Rhizomes are underground plant stems that form new plants at nodes, and stolons are above-ground horizontally-growing plant stems. Most lawn turfgrasses used in the southern United States are perennial grasses that spread in this manner and, therefore, form thatch.

Figure 1



Having a moderate thatch layer (between $\frac{1}{4}$ and $\frac{1}{2}$ inch thickness) is beneficial, as it makes a lawn more tolerant to traffic, decreases soil compaction, protects grass crowns (growing points) from temperature extremes, and acts as a "mulch" to decrease water loss from the soil surface. Thatch decay is also beneficial, since it returns nutrients to the turf environment. However, having an excessive thatch layer -- greater than $\frac{1}{2}$ inch -- can lead to serious problems. Grass species vary significantly in their rate of thatch production. Some new grass varieties have especially vigorous growth characteristics that can lead to quick thatch accumulation.

Why Does Thatch Accumulate?

Thatch accumulation occurs when the production of plant parts (stems, rhizomes, and stolons) is faster than the rate of thatch decomposition by the soil microorganisms. There is a balance between thatch production and decomposition that can be achieved through proper lawn maintenance techniques.

Thatch production is greatly affected by maintenance practices such as fertilization and mowing. Excessive fertilization (especially using a soluble nitrogen source such as urea) leads to rapid production of plant parts that adds to thatch. Please follow the fertility recommendations of the Texas Agricultural Extension Service for your specific turf type. These fertility recommendations are designed to meet the nutritional requirements of the grass without stimulating excessive growth. Also follow recommendations for mowing height and frequency for your specific turfgrass, as this is important in managing thatch. Excessive mowing heights greater than 3 inches in most southern lawns should be avoided.

Thatch decomposition is greatly affected by soil microorganism health and activity, and can be aided by maintenance practices. The factors influencing soil microorganism activity are soil pH, soil moisture, and the use of fungicides or pesticides that damage beneficial microorganism populations.

Soil pH that is too acidic (below 6) or too basic (above 8) reduces microorganism activity. A soil that is too wet from poor drainage or excessive irrigation leads to microorganism death from anaerobic (without oxygen) conditions. Fungicides and pesticides can kill some soil microorganisms, and should be used sparingly in a home lawn.

The key is to create a good environment for soil microorganism activity, have adequate lawn qual-

(continued on page 5)



Thatch Control in Home Lawns (continued from page 4)

ity and growth from fertility recommendations, and employ some mechanical practices to remove excessive thatch if and when it occurs.

Thatch Problems

Excessive thatch accumulation (greater than ½ inch thickness) can create problems that will affect the quality of your lawn. Problems include reduced water, nutrient, and air infiltration into the soil (which leads to reduced rooting and decreased drought resistance), and increased disease and insect damage. A lawn with an excessive thatch layer declines in quality and becomes much harder to manage. The turf becomes less responsive to fertilizer applications, and much more water will be required to wet the soil profile through a thick thatch layer.

How to Check for Thatch?

A lawn that has too much thatch will feel spongy and tend to scalp when mowed. To estimate thatch thickness, use a soil probe, spade, or knife to remove a small section of turf that extends into the underlying soil. Use figure 1 to determine what the thatch layer is, and measure it with a ruler. If the estimated thatch thickness is greater than ½ inch, plan to use mechanical dethatching practices in the near future.

How to Control Thatch

Thatch control is a preventive and curative process. Thatch prevention can be achieved through proper fertilization, pesticide use, and mowing at proper height and frequency. Avoid applying nitrogen at a rate exceeding 1 pound per thousand square feet. Use pesticides sparingly. Maintain a soil pH near 7 with adequate (but not excessive) soil moisture to encourage thatch decomposition. Topdressing, or the addition of a thin layer of soil to the lawn surface, is also beneficial in aiding microorganism activity. Please note that topdressing material should closely match the existing soil of

your lawn so that no layering occurs which would inhibit water movement into the soil. The use of composted or organic materials, like peat moss, for topdressing is strongly discouraged. The addition

of these highly organic materials only adds to the already decomposing organic thatch layer, and can increase your thatch problems. The amount of soil topdressing to be applied should not exceed 1/8 inch per application. If you add too much topdressing material at any one time, you may create a layering problem that will prevent water movement down into the soil. Light, frequent topdressing throughout the year is recommended; it will help maintain a healthy environment for soil microorganism activity while avoiding any serious layering problems.

Curative practices, like dethatching and core aeration, are designed to remove excess thatch that has built up in your lawn. The machines specifically designed for thatch removal (vertical mowers, core aerifiers, and power rakes) can be rented from most tool and equipment rental companies. The best time for thatch removal is in early spring.

If using a vertical mowing unit be sure that the blades penetrate through the thatch layer to the soil surface. Vertical mowing should be done in two or three directions.

Core aeration is the process of pulling soil plugs (2 to 3 inches long and ½ to ¾ inch in diameter) out of the ground. Ideally you want to get 8 or 9 plugs removed per square foot. This may require making several passes over the lawn. Plugs can be removed or left on the lawn.

Various other products on the market claim to control thatch through the addition of bacteria or enzymes to the soil. These products have not been proven through research, and cannot be recommended for use.

RULES OF THE ROAD ON . . .

By Dr. Daniel Lineberger, Webmaster

The Information Highway

Horticulture is a subject near and dear to the hearts of many Texans. For over half a century, home owners and commercial producers alike have depended on the Extension Horticulture Program to be an unbiased source of research-based information related to growing horticultural crops. Our publications and newsletters fill thousands of offices and libraries throughout the state.

The costs of printing and delivering this information by traditional means have become overwhelming. The news is not all bad, however. You see, at the same time our traditional means of printing and mailing information, and stocking county extension offices with tons of pamphlets and brochures, have become prohibitively expensive, new information technology that will al-

low us to provide the same high quality information has been adopted.

Aggie Horticulture, the World Wide Web server of the Texas Horticulture Program, has been up and running for over two years. We now have a majority of our publications and newsletters available for viewing and printing. Most contain high-quality color illustrations and photos; we could not afford to produce material like this without this new technology.

We're committed to continue serving the horticultural information needs of all Texans. We hope you log on soon and find all your questions answered!

Logging On

Aggie Horticulture is accessed by logging on to the World Wide Web using browser software: Netscape Navigator, Mosaic, Internet Explorer, or similar programs, or by using a WebTV device. The address (URL) is:
<http://aggie-horticulture.tamu.edu/>

Navigating

The Aggie Horticulture Web site is organized into sections. Movement through the sections can be done several ways. The title page has clickable buttons that move to different sections; the underlined and colored links on the pages are hypertext links -- they move you to a new location when clicked. And, for those who do not load images in their browser, the links on the title page are repeated in text at the bottom of the page.

Keyword SEARCH

All sections of Aggie Horticulture are keyword searchable. Just click on the "search" button on the title bar or in the text links. All documents containing the word or combination of words that you enter are returned as a list of clickable links, with the most likely sources given a higher score.

Major Sections

- About the Horticulture Program
Information about people, classes, and places at Texas A&M; Texas A&M searchable electronic directory.
- Crop Production and Gardening
Growing information for professionals and home gardeners about all horticultural crops.
- Horticulture at Other Locations
Links to horticulture programs at other universities.
- Extension Information Index
Comprehensive access to all Extension information.
- Other Internet Sites
Links to other locations of interest to horticulturists

Features

- PLANTanswers for the Southern US
Popular collection of articles and information with a focus on the gardener. Archive of questions and answers; direct e-mail links to Extension specialists.
- Extension Commodity Pages
Nursery/Floral, Fruit, and Vegetable sites that contain newsletters, crop-specific publications, links to crop information from other states, and links to commercial sites.
- Extension Publication Index
Comprehensive listing of horticulture publications that can be accessed and printed directly from the Web.
- kinderGARDEN
Gardening information for and about kids, including resources for school gardens, community gardens, and a fun page.
- Wildflowers in Bloom
High-quality color pictures of more than 70 wildflower species, including planting information, seed sources, geographic distribution, and links to other wildflower sites.
- Master Gardener Home Page
Information of interest to home gardeners with a focus on the Master Gardener program.

Printing

The options setup of the Web browser controls many of the features of printed documents. What looks good on screen may not look as good in the printed form. The font and font size are the most common variables. Remember to print publications in a font which looks good on your printer. The resolution and quality of the printed page is determined by your printer. Most of the pages in Aggie Horticulture will be printed in color if the attached printer allows.

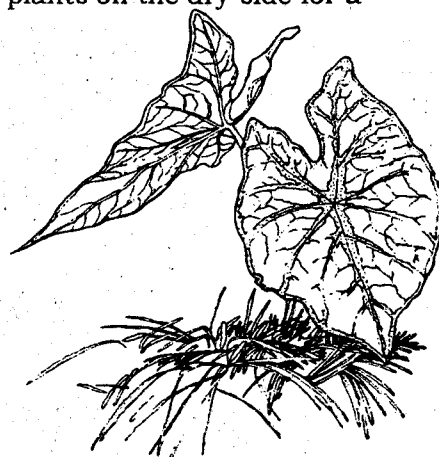
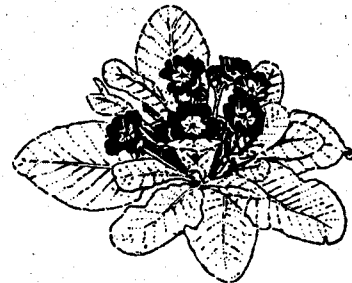
Be sure to visit the online version of this newsletter at:

<http://aggie-horticulture.tamu.edu/home/update/update.html>

Garden Checklist for September

By Dr. William C. Welch, Landscape Horticulturist
Texas A&M University, College Station

- ✓ Rejuvenate heat-stressed geraniums and begonias for the fall season by lightly pruning, fertilizing, and watering.
- ✓ Caladiums require plenty of water at this time of year if they are to remain lush and attractive until fall. Fertilize with ammonium sulfate at the rate of 1/2 to 2 pounds per 100 square feet of bed area, and water thoroughly.
- ✓ Don't allow plants with green fruit or berries to suffer from lack of moisture. Hollies will frequently drop their fruit under drought conditions.
- ✓ Prune out dead or diseased wood from trees and shrubs. Hold off on major pruning until midwinter. Pruning now may stimulate tender growth prior to frost.
- ✓ Divide spring-flowering perennials such as irises, Shasta daisies, gaillardias, cannas, day lilies, violets, liriopse, and ajuga. Reset divisions into well prepared soil with generous amounts of organic material worked into the top 8 to 10 inches.
- ✓ Prepare the beds for spring-flowering bulbs as soon as possible. It is important to cultivate the soil and add generous amounts of organic matter to improve the water drainage. Bulbs will rot without proper drainage.
- ✓ Plantings at this time can provide landscape color for three seasons in central, east, and south Texas. Annuals set out early enough will bloom as soon as Thanksgiving, and frequently last until Memorial Day. Annuals that should soon be available in nurseries and garden shops include petunias, calendulas, pansies, snapdragons, stock, sweet peas, and violas (from seed).
- ✓ Continue a disease-spray schedule on roses, as blackspot and mildew can be extremely damaging in September and October. Funginex, used every 7 to 14 days, will usually give excellent control.
- ✓ Christmas cactus can be made to flower by supplying 12 hours of uninterrupted darkness and cool nights (55 degrees F.) for a month, starting in mid-October. Keep plants on the dry side for a month prior to treatment.
- ✓ Replenish mulches around trees and shrubs, and water every 3 to 5 days.
- ✓ Start cool-season vegetables, such as mustard, lettuce, arugula, broccoli, carrots, and turnips, from seed in well prepared beds.
- ✓ Harvest okra, peppers, squash, and other vegetables often to keep them productive.



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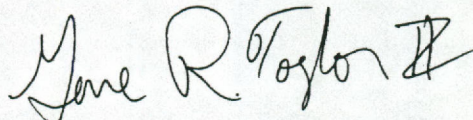
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SEPTEMBER 1998

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Contributing Editors: Drs. Gene R. Taylor, William C. Welch, and Douglas F. Welch



Gene R. Taylor, Editor September 1998