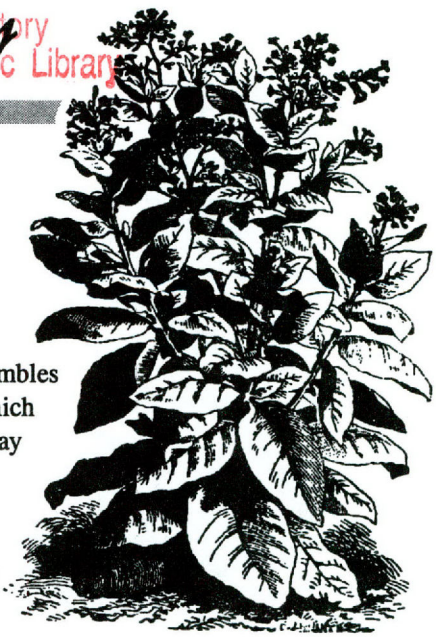
Texas Agricultural Extension Service
The Texas A&M University System

Horticultural Update

Plant of the Month . . . May

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

Nicotiana, Flowering Tobacco
Family: ***Solanaceae***



Nicotianas are tender perennials that overwinter in mild parts of the state and reseed wherever planted. *Nicotiana alata* and certain other species are often planted for their fragrance, which is most apparent in the evening.

Tubular-shaped flowers appear on branched stems during summer in white, rose, red, scarlet, lime green, and mauve. Recent years have seen a significant increase in the number of dwarf varieties that bloom on short stems. Although the more compact types are very useful for mass color displays, they usually lack the fragrance of the larger-growing, older types.

Foliage is large, somewhat coarse and sticky, and resembles commercial tobacco, to which it is related. New plants may be started easily from seed sown directly into the garden or as transplants. Cuttings will also root, but are rarely used since the seed grows so readily.

The fragrant types are sometimes planted near a window where the fragrance can move indoors. A renewal of interest in fragrant plants has brought a new interest in the larger-growing, more fragrant types. They are attractive in border plantings, and the soft colors mix well with other perennials and annuals. Some plants have been perennials even during severe winters in my College Station garden. They survive well during periods of low rainfall but flower best when moisture is more abundant. Insects and diseases have not been a problem.

The large leaves are sometimes made unsightly by grasshoppers or caterpillars, but the plants seem to persist. Cutting back old flower stalks, fertilizing, and watering the plants after the first flush of blooms can hasten re-bloom and make plantings much more attractive. Nicotianas can be spectacular when in full bloom and deserve wider use.

May 1996

In this issue . . .

Tomato Foliage Problems

Kim Fuller, Former Extension Horticulturist
Texas Agricultural Extension Service, Nueces County

The warm, humid weather found in much of Texas is the perfect environment for several diseases of the tomato. Tomato foliage can be attacked by a number of fungal diseases, such as early blight, septoria leaf spot, and leaf mold. Of these, early blight is the most common.

Approved fungicides usually give satisfactory control of the diseases when used in combination with good cultural practices, such as ample spacing, caging, proper fertilization, and watering.

Early Blight. Early blight is a fungal disease of tomatoes which causes early defoliation of the plant. It reduces the size and quality of fruit. This fungus is characterized by irregular brown spots. They first appear on the older foliage. With age, the spots develop concentric rings that form a target pattern. A yellow halo is formed around each spot. Although spotting is observed throughout the year, it is most common during the fruiting period. This disease organism thrives in high humidity and mild temperatures.

Septoria Leaf Spot. This is a destructive foliage disease of tomatoes. It may attack tomatoes at any time; however, it generally causes problems at fruit maturity. In checking plants for this disease, look at the older foliage. The fungus is characterized by circular lesions with gray centers surrounded by dark margins. Old spots are covered with tiny black specks from which spores are released. The lesions are smaller and more numerous than the early-blight organism. Fruit is rarely affected, but the stems and blossoms are attacked. The disease overwinters on old tomato vines and wild relatives of the tomato family. The fungus is most active when the temperatures are between 60 and 80 degrees F., and during periods of high humidity.

Leaf Mold. Leaf mold is a disease which previously was a problem in greenhouse tomatoes. In excessively wet years it can be found on many field-grown tomatoes. It first shows up as light yellow spots on the upper surface of the leaf. This enlarges and becomes a deeper yellow. An olive-green, velvety coating is formed on the undersurface of the leaf. Symptoms occur on the older foliage, and can cause severe defoliation. High humidity and temperatures of 65 to 80 degrees F. favor this disease.

Tomato Damage

William D. Adams, CEA Horticulture
Texas Agricultural Extension Service, Harris County

The past few years, we have had area gardeners bring in a number of tomato samples that we assumed were infected with a virus disease. Unfortunately, virus symptoms very often look like herbicide symptoms, especially herbicide damage from the hormone-type herbicides often used on pastures or turf grass.

Even our test garden was not exempt from these problems. Except for the fact that the symptoms seemed so widespread, we probably would have written off the sick tomato plants as virus infected. Initially, we noticed that plants mulched with hay seemed infected, while those mulched with alfalfa looked healthy. Gradually, it became apparent that this was not virus damage; it looked like weed-killer (herbicide) damage. Symptoms of this kind of damage include distorted growth, and twisting and curling, with shoestring-like appendages at the end of yellow-to-pale-green leaves. As our suspicions grew, we talked with Dr. Larry Barnes, Extension Plant Pathologist at Texas A&M University. He noted they had diagnosed a number of similar problems that they suspected were caused by herbicides used on hay crops. The herbicides either leached out of the hay when it was being used as a mulch or, in some cases, passed into the manure used on the plants; this herbicide was still toxic to sensitive plants. The material that seems to be particularly bad is Picloram, and it is widely used on hay crops. Our tomatoes mulched with alfalfa were not exhibiting symptoms, since hormone herbicides are not used on alfalfa.

However, one of the alfalfa-mulched rows had some sick plants. It turned out that earlier in the year, before an anticipated frost, we had tucked some hay around the plants as insulation, and apparently enough of the herbicide used on the hay had leached out of it, through the alfalfa, into the tomato plants. While using organic mulches in the garden is a great idea, it is important that hay from Coastal Bermuda grass or Prairie Hay be stored for at least 6 months, to allow the herbicides to break down. Also beware of insecticidal soaps, which can cause severe foliar burn. This 'organic' product may have low toxicity to humans, but it can be devastating to plants. Generally, virus symptoms will show up on a few plants, and not be a general problem throughout the entire row.

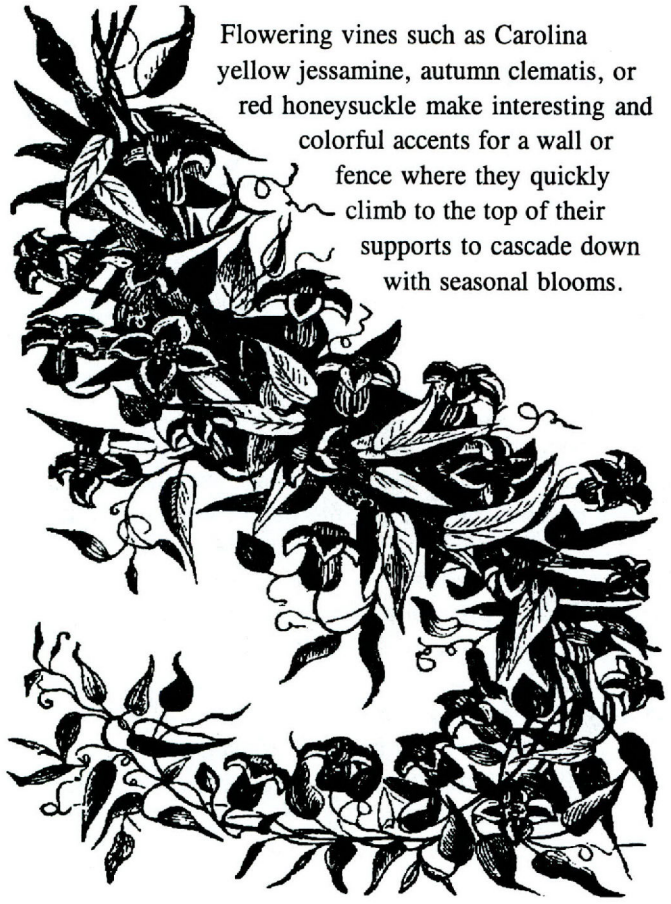
Vines for Summer Accent

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

Vines have several advantages in the landscape. Most vines trained on a support require very little "ground room" in that they grow vertically. This is a real advantage for the small garden or for limited planting areas.

Many vines are fast-growing and provide a quick effect, or accent, for the garden. The impatient gardener should plant vines for the fast lushness which is only achieved after a number of years with trees and shrubs. The annual flowering vines are particularly fast-growing. Abundant vine and bloom may be had from morning glory, hyacinth bean, and cypress vines in one growing season.

Evergreen vines may be used for privacy screening and make attractive drapes for often austere chain-link fences. English ivy will grow quickly on wire fencing when shade or partial shade is available. Asiatic jasmine will drape a wire fence for screening in sun or shade in Central and South Texas.



Flowering vines such as Carolina yellow jessamine, autumn clematis, or red honeysuckle make interesting and colorful accents for a wall or fence where they quickly climb to the top of their supports to cascade down with seasonal blooms.

There is a vine for every season . . . one that will provide rich, seasonal color. The early blooms of Carolina yellow jessamine, crossvine, wisteria, and red honeysuckle greet the spring. In early summer, star or confederate jasmine perfume the air, to be followed by the summer blooms of morning glory, hyacinth bean, cypress vine, and the vivid pink blooms of coral vine. Autumn clematis cloaks its support with white blossoms, come fall, in an effort to outdo the vivid red fall color of the native and abundant Virginia creeper. Due to their quick growth and seasonal attractiveness, vines are often used for quick shade over sunny patios or at pool-side. When a vine is selected for shading purposes, use one that will lose its foliage in winter to allow for the welcome winter sun. Popular East Texas vines for overhead structures and arbors include wisteria, roses, muscadine grapes, and Carolina jessamine.

Central, North, and West Texas can have Champanel grapes, roses, wisteria, and silver lace vine.

Vines such as wisteria and common honeysuckle, as lovely as they are, are often unwelcome in the garden due to their persistent and rapid growth. Vines with fast growth often demand fast and routine control to keep them in their place.

Some large twining vines such as wisteria may injure a tree by actually choking the tree or cutting off the flow of food from the root area or trunk; therefore, they should never be planted with desirable trees as support. English ivy will not injure a tree, unless it becomes so dense as to cut out light to the tree, or it prevents open wounds in the trunk or branches from drying out, which may be conducive to rot. English ivy does not feed off the tree. Fast-growing and dense vines should not be allowed to grow over the tops of shrubs and to cut off proper light and aeration.

The Aristocrat Pear

J. Benton Storey, Professor of Horticulture
Department of Horticultural Science, Texas A&M University, College Station

This story started in September 1925, when William D. Armstrong came from Wharton to the A&M College of Texas to study horticulture under a young assistant professor named Fred R. Brison. William Armstrong became "Army" Armstrong when he excelled in the Corps. He rose to the Corps' number-one leadership role as Cadet Colonel. He graduated in 1929, and was active in the Former Students Association for many years.

He moved to the University of Kentucky, where he became the Extension Horticulturist for the Bluegrass State. He gained national recognition during his many years in that position. He was active in the American Society for Horticultural Science and the Southern Region of ASHS. I always looked forward to visiting with Army each time I attended the Southern Region meetings. He had a way of inspiring his audience and bringing them under conviction.

One of Army's county Extension agents was Mr. William T. Straw, who came to Kentucky in 1936 from Pennsylvania. Mr. Straw became a good observer and gained a keen eye for exceptional performance of horticultural plant material. He was growing a large number of *Pyrus calleryana* seedling pear trees near Independence, Kentucky. He noted that there were many different growth habits. One tree in particular caught his eye in 1969. It had a strong central leader with strong branching, an early pyramidal form, and matured into a round-headed tree of 30 to 35 feet.

He took graft scions from this special seedling and bench-grafted them, using the whip-grafting technique, onto other seedling *Pyrus calleryana* root stocks, known in the nursery trade as liners. The White Rock Nursery at Austonio in Houston County, Texas, has grown and shipped millions of these liners for many years all over the nation. The grafted trees had the characteristics of the original seedling tree. Because these trees had wide-angle crotches, freezing rains during the winters did not break the limbs and destroy the tree shape, as happens with many other landscape trees.

The upswinging branches of this tree allow future lower-limb removal without altering its form, which makes it an outstanding street tree as well as a beautiful shade or accent tree.

Mr. Straw named his favorite pear tree the 'Aristocrat' and patented it in 1972, which is about the time he retired from the Extension Service and went into the nursery business.

I tried to call Mr. Straw in Independence, Kentucky, and talked to Mrs. Straw, who told me that Mr. Straw had passed away in July 1995. She said that she and her sons were carrying on, and that although the patent ran out in 1989, people are still honoring the trademark that she has on the 'Aristocrat'. She added that the 'Aristocrat' is growing as far away as Holland, Canada, Michigan, New York, on the Capitol grounds in Washington, D.C., in California, and in Florida. Dr. Dan Struve, who is a leading woody-plant material specialist from The Ohio State University, addressed our graduate seminar at Texas A&M, and said that the 'Aristocrat' was a favorite landscape tree in Ohio; they like its rapid growth, burst of white flowers in the spring, cold hardiness, disease and insect resistance, small fruit that does not create a hazard in the fall, and, most of all, its beautiful fall color. We know that 'Aristocrat' trees are successful in Texas as far south as Houston. We have a handsome grove of 'Aristocrat' pear trees in front of the Horticulture/Forest Science Building on campus.

Recently an 'Aristocrat' pear tree was planted at Texas A&M in memory of the children who lost their lives in the Federal Building disaster in Oklahoma City. Mrs. Straw expressed to me how deeply touched and honored the entire family was to be part of that memorial.

Fire Ants in Season

John Cooper, CEA Horticulturist
Texas Agricultural Extension Service, Denton County

With summer coming on strong, people are moving their activities to the great outdoors. In Texas, going outdoors means coming in contact with the red imported fire ant. Usually, these pesky insects inflict pain equal to a mild bee sting, but they may cause life-threatening toxic shock in a few individuals who are especially allergic to their venom.

Babies and young children are especially subject to the dangers of fire ants. Although young children may know the risks of being around fire ants, they often have not developed the awareness of their surroundings necessary to recognize when they are in danger. Almost everyone has stood in a fire ant mound long enough to get bitten.

Public grounds and park-maintenance departments have, for years, budgeted chemical controls to combat fire ants. Fire ant control remains a priority for most public maintenance directors, so fire ants are usually not a big problem in areas of public access. At the same time, budgets are limited, so priority is given to areas of highest traffic.

Rapid increases in mound numbers occur during the spring and fall rainy seasons, when major flights of large numbers of mating sexuals result in the production of new queens. Proper timing for application of control treatments should coincide with these period of highest fire ant breeding activity.

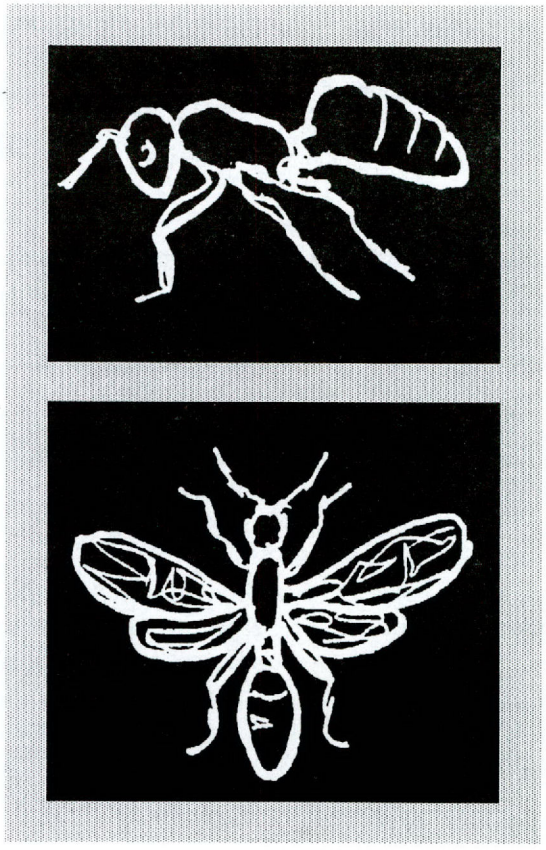
Fire ant control materials are applied two ways. Toxic chemicals can be applied to individual mounds, or less-toxic 'baits' can be broadcast over an entire area. The biggest advantage of the broadcast method is that mounds are killed before they are large enough to see. The biggest advantage of treating individual mounds is that immediate control is achieved. Broadcast baits are less toxic, less expensive, and require less time to put out, but they take longer to achieve control. Both methods are effective.

Fire ant baits are distributed through a broadcast seeder at the rate of 1 to 1½ pounds per acre, or about ½ ounce per 1,000 square feet. Result demonstrations have shown that the bait materials Award™, Amdro™, Ascend™, and Logic™ all provide 70 to 90 percent control when used properly.

By broadcasting the fire ant bait, you spread it evenly across the area and give foraging ants from all existing mounds equal access to the control agent. This controls the mounds that you can't see as well as the ones you can see.

Baits should be applied in the spring and fall each year to keep mounds from developing in great numbers. Four or five days after the broadcast application, treat individual mounds with a product with higher toxicity, such as one containing acephate, diazinon, chlorpyrifos, or propoxur, or use synthetic pyrethroids where immediate control is desired.

When using fire ant baits, the most common cause of failure is using stale bait. Baits must be fresh to be effective. When applying a bait, test it for freshness: find ants foraging for food and sprinkle some granules in front of them; if they collect them and take them to the mound, the bait will work. If the ants pass over the bait like any other obstacle, get some fresh product.



DO YOU WANT A BEAUTIFUL LOW-MAINTENANCE LANDSCAPE? THEN . . . Revisit Xeriscape . . .

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

The easiest way to define Xeriscape landscaping is to identify what it is not. Xeriscape is not cactus and rocks, skulls and crossbones landscaping. It is quality, low-maintenance landscaping that conserves water and protects the environment. Xeriscapes are beautiful, colorful landscapes not unlike those which adorn the pages of *Southern Living* and *Better Homes and Gardens*.

Xeriscape is not just for the desert regions of the nation. It is commonplace in "water-rich" regions of the nation, such as Atlanta, South Florida and Long Island. By following the principles of Xeriscape, you can create a beautiful, water-wise landscape, plus help preserve water for future generations.

SEVEN BASIC PRINCIPLES WHICH LEAD TO WATER AND COST SAVINGS

1. Planning and Design
Developing a landscape plan is the first and most important step in a successful Xeriscape. A properly planned Xeriscape takes into account the regional and microclimatic conditions of the site, existing plant materials, the needs and desires of the property owner, and the zoning or grouping of plant materials by their water needs. A landscape plan also allows landscaping to be done in phases.

2. Soil Analysis
Soils will vary from site to site and even within a given site. A soil analysis based on random sampling provides information that enables proper selection of plants and any soil amendments needed. When appropriate, soil amendments can enhance the health and growing capabilities of the landscape by improving water drainage, moisture penetration, and a soil's water-holding capacity.

3. Appropriate Plant Selection
Plant selection should be based on the plant's adaptability to the landscape area, the effect desired, and the ultimate size, color, and texture of the plants. Plants should be arranged to achieve the aesthetic effect desired and grouped in accordance with their respective water needs. Most plants have a place in a Xeriscape. Maximum water conservation can be achieved by selecting those plants which require a minimal amount of supplemental watering.

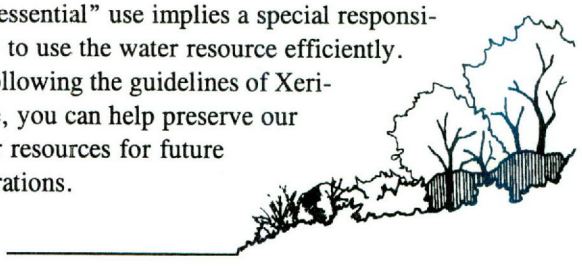
4. Practical Turf Areas
Turf shouldn't be treated as a fill-in material, but rather as a planned element of the Xeriscape. While turf provides many practical benefits in a landscape, proper placement of turf areas can result in a significant reduction in water use. Most turf varieties require supplemental watering at frequencies that differ from other types of landscaping plants, and turf should be placed so it can be irrigated separately.

5. Efficient Irrigation
Watering only when plants need water and watering deeply encourages deeper root growth, resulting in a healthier, drought-tolerant landscape. If a landscape requires regular watering and/or if an irrigation system is desired, the system should be well planned and managed in order to conserve water.

6. Use of Mulches
Mulches applied and maintained at appropriate depths in planting beds will help soils retain moisture, reduce weed growth, and prevent erosion. Mulch can also be used when conditions aren't adequate or conducive for growing quality turf or ground covers. Mulches are typically wood bark chips, pine straws, nut shells, small gravel, or shredded landscape clippings.

7. Appropriate Maintenance
Proper landscape and irrigation maintenance will preserve and enhance a quality Xeriscape. When the first six principles have been followed, maintenance of a Xeriscape is easier and less expensive. Because a Xeriscape is more adapted and uses a minimal amount of water, less fertilizer and fewer pesticides and other chemicals are needed to maintain the landscape.

Water conservation must be a vital concern for everyone. The water used to irrigate lawns and landscapes is considered by many to be a luxury use of water. This "nonessential" use implies a special responsibility to use the water resource efficiently. By following the guidelines of Xeriscape, you can help preserve our water resources for future generations.



☑ Garden Checklist for May

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

☑ Cut off old blossoms on spring-flowering annuals such as pansies, snapdragons, stock, and calendulas to prolong the flowering season.

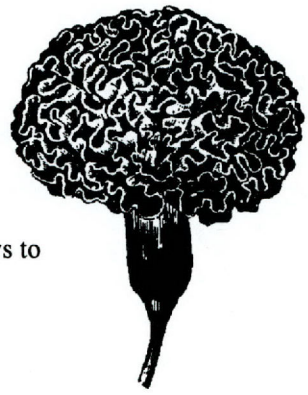
☑ Continue to fertilize roses every four to six weeks with small amounts of a balanced fertilizer.

☑ Allow foliage of spring-flowering bulbs to mature and yellow before removing.

☑ Set out plants of portulaca and purslane in sunny areas. Root cuttings of your favorite colors by placing 3- to 4-inch stems in moist, sandy soils.

☑ It is not too late to sow directly into the soil seeds of sunflower, zinnia, morning glory, portulaca, marigold, cosmos, periwinkles, and gourds. Achimenes, cannas, dahlias, and other summer-flowering bulbs can also be planted in May.

☑ Do not forget to spray roses for black spot control. Use triforine, phaltan, benomyl, or maneb at 7-day intervals.



☑ Pinch back the terminal growth on newly planted annual and perennial plants. This will result in shorter, more compact, well branched plants with more flowers.

☑ Time to plant caladium tubers, impatiens, and begonias, and pentas in shady areas.

☑ Make cuttings of your favorite chrysanthemums and root them in a mixture of sand and peat moss. Cover cutting box with plastic and place in shaded area for 5 or 6 days to prevent wilting.

☑ Replace or replenish mulch materials in flower beds and shrub borders to conserve moisture and reduce weed growth.

☑ Prune climbing roses as they complete their spring bloom season. Remove dead or weak wood as needed.

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