Lawn and Garden Update

TEXAS AGRICULTURAL EXTENSION SERVICE
THE TEXAS A&M UNIVERSITY SYSTEM

A PUBLICATION OF THE DEPARTMENTS OF SOIL AND CROP SCIENCES & HORTICULTURAL SCIENCES

MARCH 2000 COLLEGE STATION, TEXAS

March Plant of the Month

Texas Mountain Laurel

Sophora secundiflora

By Dr. William C. Welch, Professor and Landscape Horticulturist

The Texas Mountain Laurel *(Sophora secundiflora)* is an attractive spring-flowering small tree with glossy, evergreen leaves and beautiful purple wisteria-like blooms smelling of grape Kool-aid. Another name by which it is known is Mescal Bean.

Texas Mountain Laurels usually reach a height of six to twelve feet, which allows them to fit well into the scale of the smaller modern garden. They often produce multiple trunks, and over time grow into show-stopping specimens. Texas Mountain Laurels are generally disease and pest-free, and tolerate a wide range of well-drained soils. They are native to the alkaline soils of the Texas Hill Country, and are often found growing among granite rocks.

Plant Texas Mountain Laurel in full sun or light shade. It will probably not be cold hardy north of Interstate 20. Young trees may be purchased at the nursery, or grown from seed. The seeds may not sprout for several years unless they are first nicked with a file to start the process of germination. An easier way is to collect unripe seed, when it is pinkish in color, in late June or early July before the seed coat has had a chance to harden. Plant them immediately, and they should sprout quickly.

Texas Mountain Laurels are not easily transplanted and may require a year or more to overcome the process. One way to overcome this obstacle is to plant the seeds where you want them in the landscape or to plant them in gallon containers. Container grown plants should be handled carefully to avoid disturbing the root ball.

Although these trees are planted in many neighborhoods in the warmer parts of Texas, children should be warned that the seeds contain a poison.

Texas Mountain Laurels are an excellent source of evergreen foliage and beautiful flowers and require little, if any, irrigation once established. They thrive in the dryer areas of Texas but can be grown in East Texas if planted in well-drained soil and sunny locations.

Weed Control in Turf

By Richard L. Duble, Turfgrass Specialist (Retired), Texas Agricultural Extension Service

Aggressive competitors for sunlight, moisture, and nutrients and prolific multipliers even under adverse conditions, weeds present a challenge for even the most experienced turfgrass managers. The color, texture, and growth rate of weeds often contrast markedly to those of the turfgrasses they may be associated with in a lawn or sports field. Consequently, weeds detract from the uniformity of a turf and add to its maintenance requirements.

The origins of weeds are as varied as those of our turfgrasses. Most are introduced species from Asia and Europe that were inadvertently brought to this country. Many were unintentional stowaways in animal fodder or ship ballasts, or simply contaminants in seed or food supplies brought to this country.

In lawns and sports fields, weeds are often the result of poor quality turf, rather than the cause of poor turf. The aggressive nature of weeds and their prolific reproductive capacity enable them to invade thin, weak turf areas. Cultural practices should always be viewed as the first step to effective weed control. Always determine why weeds established a foothold and correct those deficiencies. If the basic problem is not corrected, weeds will continue to occur. An effective weed-control program also requires identification of the undesirable species as to its classification as a grassy weed, a broadleaf weed, an annual, or a perennial. Most turf weeds belong to two principal categories - grasses and broadleaf plants. Chemical controls for these two categories of plants frequently differ.

Grassy weeds have jointed, hollow stems; leaf blades have veins parallel to leaf margins, and are several times longer than they are wide; roots are fibrous and multibranching; and flowers are usually inconspicuous. In contrast, broadleaved plants often have showy flowers; leaves have a network of veins at diverse angles to one another; stems are often pithy; and a taproot is usually present. Another group of turf weeds, sedges, have grass-like characteristics, but require a different group of chemicals for control. Sedges are characterized by three-sided stems (triangular cross-section) which bear leaves in three directions (in contrast to the two-ranked arrangement of grass leaves).

Weeds can be further grouped according to their life span - annual or perennial. From the standpoint of chemical control, the grouping is most important, because preemergent herbicides are only effective for control of annual weeds. Annual weeds germinate from seed each year, mature in one growing season, and die in less than 12 months. Crabgrass and henbit are examples of annual weeds - crabgrass being a summer annual and henbit being a winter annual. Preemergent herbicides must be applied according to the expected date of emergence for each targeted species.

Perennial weeds live more than one year, and recover or regrow from dormant stolons, rhizomes, or tubers as well as from seed. Control of perennial weeds requires a postemergent herbicide during its season of active growth.

Effective chemical weed control requires identification of the weeds as to their classification (grass, broadleaf, sedge, etc.), life span (annual or perennial), and season of active growth (cool season or warm season). Effective chemical control also requires accurate timing of applications, proper rate of application, and uniformity of application. Always follow label directions for a product, and observe all warnings and precautions relative to safety of the application. Herbicide labels should be carefully reviewed for additional details on specific uses of each product.

Louisiana Iris

By Dr. William C. Welch, Landscape Horticulturist

Louisiana irises are perennials that can be grown successfully in every area of Texas and the Gulf Coast, but thrive best in the eastern third of the state where their ancestors are native. They also occur naturally in Arkansas, Louisiana, and Mississippi. Mature plant size varies from 1 to 6 feet and flower sizes from 3 to 7 inches across. Flowers occur in March and April. Because all the primary colors are inherent in the various species that contributed to this group, there is no limit to the color range. The Louisianas, for example, include the purest form of red of any iris.

Louisiana irises prefer an acid soil in the range of 6.5 or lower. They like large quantities of fertilizer and water, but their greatest need for both of these comes during the naturally cool and moist fall and winter seasons. They are among the few irises that will thrive in poorly drained soils, and may be effectively used along streams and lakes where they may be inundated periodically during changing water levels. Foliage is lush and requires heavy fertilization to remain healthy and productive. Some varieties go dormant during the heat of summer, leaving dead foliage that should be cut back or removed. New foliage will appear again in the fall.

Fall is the best season for transplanting. Beds should be well tilled and amended with large amounts of compost, peat, or pine bark. Rhizomes should be planted just below ground level and kept moist until well established. Clumps spread quickly, and individual rhizomes should be spaced several feet apart to avoid need for annual division. Mulching in the summer protects rhizomes against sunscald. Winter protection is not necessary, but could help prevent the evaporation of essential moisture in northern and dry areas of the region. Azalea-camellia fertilizers are recommended, along with water soluble fertilizers designed to lower the soil pH.

After bloom is completed in the spring, the stalks should be cut back to the rhizome. Old rhizomes do not bloom again, but increase to produce the following year's crop. These flamboyant flowers are attractive to bees, and the visits of these insects often result in pollination and the production of fertile seed in the irises' large seed pods. Ripening seeds sap the plant's strength, so they should be removed unless, of course, the grower has decided to raise new plants from seed. If so, leave the pods in place until they turn yellow-green in July or August, shell out the seeds before they dry, and plant at once into pots of well-prepared soil. Provide adequate protection over the winter, and plant the young seedlings into permanent locations in March.

Although not always available in a great variety of colors, Louisiana irises are sold by some garden centers in Texas. Mail order sources are another possibility. Special plant sales, such as the Bulb Mart in Houston each fall and March Mart at the Mercer Arboretum, usually offer a wide variety of Louisiana irises.

Propagating Pecans

By George Ray McEachern, Professor and Extension Horticulturist, January 17, 2000

There is something special about grafting. To make a new tree of the very best variety has been a major part of pecan production since Antoine grafted the first variety, Centennial, at Oak Alley Plantation on the west bank of the Mississippi River just north of New Orleans in 1846.

Magic, thrill, suspense, gratification, and sadness always go hand-in-hand when pecans are grafted. In the old days, according to Harold Hume of North Carolina (in 1906) and Stuckey and Kyle of Georgia and Texas (in 1925), the pecan is difficult to propagate. The old-time grafters did not want others to learn the tricks of grafting, so they would go high in the tree to be out of sight. However, by the time of Brison in 1974, propagating pecans was not difficult, because several systems had been fine-tuned, and survival percentage was very high, even in arid climates such as West Texas. In the year 2000, we take grafting pecans for granted, because it is easy. However, if special attention is not paid to details, propagating pecans can be difficult or impossible.

To propagate pecan trees, grafting or budding is needed, because the seed is not true to type. If one plants a seed, the tree that develops will be different from the tree from which the seed was harvested. All native and seedling trees are different from each other, with no two being the same. Attempts by Nigel Wolstenhome and others to propagate pecans by cuttings or layerage failed to become commercially acceptable. The pecan is different from most plants because its cuttings do not produce roots, and thus grafting is needed to propagate many trees of one variety.

GERMINATING SEED

Collect well-filled seed nuts in October or November, and dry to about 5 percent moisture, or until the kernel snaps when bent. Store the seed nuts in refrigeration at about 45 degrees F. in poly bags, with or without slightly moist packing material. Do not let the temperature drop below 32 degrees F. One week before planting, remove the seed from refrigeration and warm to room temperature. One day before planting, soak the seed in running water. After at least 24 hours, remove nuts, which have swelled, showing a split in the suture. Some may need longer soaking to split. Plant the seed sideways 3 to 4 inches deep in either a nursery row, a raised bed, or a 55-gallon barrel with both ends cut out. After one year, the seedlings should be 6 to 18 inches tall.

WHIP GRAFTING

In the humid southeast -- from Savannah, Georgia to Tyler, Texas -- one-year pecan seedlings growing in the nursery row can be whip-grafted dormant in January or February, wrapped with wax tape, and covered with soil. The graft can grow 2 to 8 feet in one growing season. The trees can be dug by hand, or with a U-blade, pushed or pulled by a bulldozer, or scooped out with a giant backhoe. These digging systems can be used for all nursery trees less than 10 feet tall.

PATCH BUDDING

In Texas [west of Tyler] and New Mexico, the climate is too dry for whip-grafting, so the patch bud is used in July and August at the end of the second year of seedling growth. The graft will grow the third year, producing a tree with a three-year-old root and one-year-old graft. The patch bud can also be used for top-working mature trees, but it is seldom used because it requires too much after-care. Once the variety scion-shoot begins to grow, it needs to be tied to a stake. Some nurserymen strip the bark off the rootstock, and tie the scion shoot to the stripped rootstock.

Commercial nurserymen use the patch bud to graft in the spring, using dormant graftwood sticks which are collected very late in the dormant season. Spring patch-budding can be difficult and frustrating, because the buds will not slip and pop off of the graftwood stick.

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Dormant graftwood to be used for spring patch-budding needs to be collected late enough for sap flow but before the earliest signs of bud-break, or before the outer bud scale of the primary buds begins to swell and split.

TOP-WORKING

Small trees with a diameter less than one inch can be grafted with the **four-flap graft** in April or May when the bark slips easily. This graft, which is also call the banana graft, was developed in Tennessee but became popular in Oklahoma, and is now used in Texas for small trees. Debs Grantham of Rosharon, Texas developed a special tool which makes the four-flap graft easier to cut. Austin Stockton added a rubber band to the technique, which made it very easy to use, with a very high percentage of takes. Small trees or limbs up to 2 inches in diameter can be grafted when the bark slips, using the Texas-method inlay-bark graft. This graft was developed by L. D. Romberg and Fred Brison; however, Bluefford Hancock is recognized for introducing the graft to all pecan-growing areas of Texas through Extension field-days for over 30 years. More people know how to graft in Texas than in any other state in the country because of the widespread success of the inlay-bark graft with pecans. This is the most successful graft used in an arid climate. Top-worked grafts on mature trees can begin to bear in the third year.

COLLECTING GRAFTWOOD

For the whipgraft, dormant graftwood sticks (the diameter of the seedlings to be grafted) are collected the same day in January or February. Since the sticks are used immediately, no special attention is given to packing or storing. Patch-bud graft sticks are collected in July or August from current-season shoots (with the leaves attached) the same day they are used. The sticks need to be the same size of the seedling trees being grafted; store sticks, wrapped in slightly damp paper, in an ice chest. The grafts do not store well, so collect them daily.

Graftwood for the four-flap graft and the inlay-bark graft should be collected in late January or early February when the wood is most dormant. This is because the new graft in April needs wood and bark to grow together with the rootstock before the buds begin to grow; therefore, dormant wood allows time for the connection. On the other hand, if dormant graftwood is collected for spring patch-budding, the collection should occur just before bud-break so that the buds will pop off the graftwood stick. Dormant graftwood should be straight one-year-old shoots and 1/4- to 1/2-inch in diameter. In cases where graftwood of a rare variety is needed, two-year-old shoots can be used. Young, fast-growing trees or de-horned mature trees make excellent dormant graftwood sources. Store at 45 degrees F. in poly bags, with very little moisture in the bags. The wood needs to be transported to the field in ice chests. Graft sticks can be used for one year only, so label all grafts by variety and year. Throw away all old graftwood before putting new graftwood in the refrigerator.

AFTER-CARE

A new shoot will grow from the graft bud in 4 to 6 weeks if the connection was successful. Care needs to be taken to prevent the new shoot from blowing out. Sometimes the graft shoot grows very fast, in which case it should be pruned back to only 18 inches or secured in place by tying it to a stake. Either support or pruning should be used until the graft grows to at least two-thirds the size of the rootstock. High winds (as in Texas) or birds lighting on a graft are sure blow-outs without support.

Literature

The *Texas Pecan Handbook* has complete instructions, with illustrations, on how to collect graftwood and graft using the four-flap and Texas-method inlay-bark graft. Larry Stein has produced a video on pecan grafting which illustrates in detail how to collect graftwood and make a four-flap graft and an inlay-bark graft. The handbook and video are available from Extension Horticulture, Texas A&M University, HFSB 225, College Station, Texas 77843-2134 at a price of $15 each, with check made payable to 'Pecan Handbook' or 'Pecan Video', depending on whichever is ordered.

Pruning Peach Trees

By George Ray McEachern, Larry Stein, Nancy Roe, and Marty Baker, Extension Horticulturists
January 10, 1996

Peaches have been grown in Texas for more than one hundred years. They have become established as commercial crops at Fredericksburg, Tyler, Mexia, Pittsburgh, Weatherford, and Montague, where deep, well-drained soil, proper varieties and chilling, and good orchard management make crops successful. In addition to these factors, the performance of peach trees depends heavily on proper pruning annually.

Peach pruning is a hard, labor-intensive cultural practice that is easy to avoid or compromise. However, if peach trees are left unpruned, the result is weak trees, overproduction, increased disease, and most important, short tree life. Peaches bloom and bear fruit on second-year wood; therefore, the trees need to make good growth each spring and summer to insure a crop for the next year. Each winter, a large number of red 18- to 24-inch shoots need to be present as fruiting wood. If the trees are not pruned annually, the volume of fruiting wood reduces each year, and the fruiting shoots move higher and higher, becoming out of reach. Alternate-year pruning results in excessive growth the year following heavy pruning, so annual, moderate pruning is essential for the long-term control of tree vigor and fruiting wood.

TIMING PEACH PRUNING

Late spring frost is the most significant factor in Texas peach production, and the grower does not want to prune too early. The peach tree will bloom soon after pruning when chilling is satisfied and warm weather follows. Growers with only a few trees can wait until 'pink bud' to prune. Growers with large crops should not prune earlier than necessary. Pruning in Texas should occur at least by February, just prior to bloom in March.

OBJECTIVES OF PEACH PRUNING

The main idea in pruning is to remove old, gray-colored, slow-growing shoots, which are non-fruitful. However, leave one-year-old, 18- to 24-inch red bearing shoots. Removing 40 percent of the tree annually stimulates new growth each spring. The second objective of pruning is to lower the fruiting zone to a height that makes hand harvesting from the ground possible. A third objective is to open the center of the tree; this increases air circulation, reduces disease pressure, and allows sunlight into the tree to accelerate fruit color. Another goal of pruning is to remove diseased or dead shoots, rootstock suckers, and water shoots.

HOW TO PRUNE A MATURE PEACH TREE

Step One. Remove all hanger shoots, rootstock suckers, and water sprouts in the lower three feet of the tree. This stripping of lower growth clears a path for herbicide applications, and allows air circulation.

Step Two. Remove all shoots above 7 feet other than red 18- to 24-inch fruiting shoots. Cuts need to be at selected points where the scaffold and sub-scaffold limbs extend upward at a 45- to 50-degree angle. Cuts which leave limbs sideways at a 90-degree angle should be avoided.

Step Three. Remove all shoots which grow toward the inside of the tree.

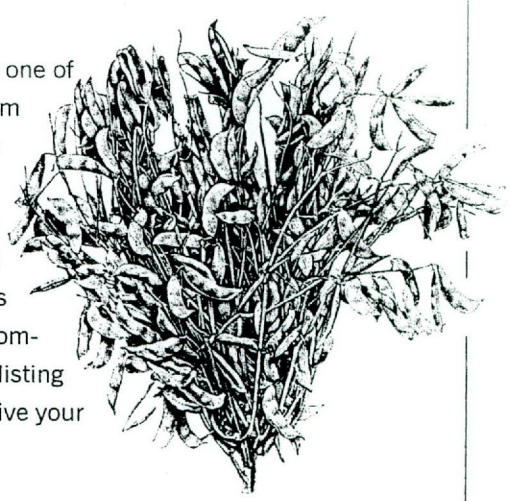
Step Four. Remove all old, gray wood in the 3- to 7-foot fruit production zone.

ADDITIONAL HINTS ON PRUNING PEACHES

1. Always remove bull shoots in the middle of the trees whenever they develop. Summer pruning immediately after harvest can help reduce bull shoots in the top of the tree.
2. Wear gloves, long sleeves, eye protection, and caps that cover the ears, to prevent injury.
3. Pruning paint is not needed.
4. Peach pruning should remove 40 percent of the tree each winter. This reduces the number of fruit on the tree, and stimulates strong growth of fruiting wood each year.
5. The key to long peach-tree life in Texas is planting in deep, well-drained, sandy soil, control of peach-tree borer, scale insects, and weeds, and correct pruning. Fruiting will depend on escaping spring frosts.

Search for These Texas Varieties

This article appeared in ***Texas Earth-kind Landscape and Gardening Guidelines,*** *produced by the Texas Agricultural Extension Service*



As a home vegetable gardener in Texas, one of your first purchases happens to be one of the most important -- the purchase of seeds and plants. And, if you want maximum returns from your gardening efforts, use only the best varieties available along with time-tested and proven gardening techniques and practices. Why is selecting the proper variety so important? There are many, many different varieties of garden vegetables; however, there are only three or four varieties of any one vegetable well suited or adapted to your particular area of Texas. It is important to get the varieties that do well in your area of the state. Below is a list of the vegetable varieties recommended for use in Texas gardens. Your local county Extension agent may also have a listing of additional varieties which have proven themselves worthy of use in your garden. Give your agent a call or go by the Extension office.

BEANS

Green Beans: Contender, Topcrop, Greencrop, Blue Lake, Tendercrop, (pole) Kentucky Wonder

Lima Beans: Jackson, Wonder, Henderson Bush, Fordhook 242, (pole) Florida Butter, Sieva

Pinto Beans: Pinto 111, Luna, Taylor's Horticultural

BEETS: Detroit Dark Red, Pacemaker

BROCCOLI: Green Comet, Southern Comet, Emperor

CABBAGE: Early Jersey Wakefield, Sanibel, Gourmet, Rio Verde, (red) Ruby Ball

CHINESE CABBAGE: Michihli, Jade Pagoda, China Pride

CANTALOUPE: Magnum 45, TAM Uvalde, Perlita, Mission, Ambrosia

CARROTS: Spartan Winner, Imperator, Danvers 126, Chantenay

CAULIFLOWER: Snow Crown, Snow King

CHARD: Lucullus, Rhubarb, Fordhook

COLLARDS: Georgia, Blue Max

CORN, SWEET: Calumet, Golden Queen, Funk G-90, Florida Stay Sweet, (white) Silver Queen, How Sweet It Is

CUCUMBERS: (slicers) Dasher II, Slicemaster, Pointsett, Sweet Slice, Sweet Success, (pickling) Liberty, County Fair 87, Saladin

EGGPLANT: Ichiban, Florida Market, Tycoon

GARLIC: Texas White

KALE: Vates, Dwarf Blue, Curled Blue Knight

LETTUCE: (head) Mission, (leaf) Black-Seeded Simpson, Salad Bowl, Red Sails, Ruby, (butterhead) ButterCrunch, Summer Bibb

MUSTARD: Tender Green Florida Broadleaf, Southern Giant Curled

OKRA: Blondy, Lee, Emerald, Clemson Spineless

ONION: (bulb) Grano 502, Granex, 1015Y, (green) South Port White, Crystal Wax, Beltsville Bunching, Burgundy

PARSLEY: Moss Curled, Evergreen

PEAS: Edible-Podded Sugar Ann, Sugar Pop, Sugar Mel

PEAS, SOUTHERN: Blackeye No. 5, Mississippi Silver, Champion, Cream 40, Purple Hull, Zipper Cream Crowder

PEPPER: (sweet) Summersweet 860, Rio 66, Big Bertha, (hot) TAM Jalapeno, Long Red Cayenne, Hungarian Wax, Hidalgo Serrano

POTATO, IRISH: (white) Kennebec, (red) Red Lasoda, Pontiac, Norland

POTATO, SWEET: Jewell Centennial

RADISH: Cherry Belle, Inca, Champion, White Icicle, Snow Belle

RUTABAGA: American Purple Top

SPINACH: Early Hybrid 7, Coho, Melody, Iron Duke, (summer) New Zealand, Malibar

SQUASH: Dixie, Sun Drops, (green) Multipik, (winter) Acorn, Butternut, Senator, President, Gold Rush

TOMATOES: (large fruited) Spring Giant, Better Boy, President, Celebrity, Carnival Bingo, (small fruited) Small Fry, Red Cherry Large, Porter Improved

TURNIP: Tokyo Cross, White Lady, Royal Globe, (greens) Seven Top, Crawford

WATERMELON: Royal Charleston, Royal Jubilee, Charleston Grey, Royal Sweet, Crimson Sweet

Seasonal Color...
Care & Management

By Dr. Don C. Wilkerson, Professor and Extension Horticulturist

USING COLOR

Annual flowers can provide landscaped areas with more seasonal variety and colorful accents than most other plants. The key to success with annuals is to plant only the area that can be adequately cared for. Remember, color can have more impact on the landscape than any other design element. However, nothing has a more negative impact than a poorly maintained color area.

SOIL PREPARATION

Soil preparation is perhaps the most important aspect in maintaining seasonal color areas. This begins with the addition of large quantities of organic matter to obtain optimum aeration, drainage, and water-holding characteristics. Generally speaking, beds should consist of at least 50 percent organic matter for best results. In addition, bed areas should be raised to a minimum of 4 to 6 inches to avoid "drowning" during wet, rainy weather. Since organic matter can be difficult to re-wet after excessive drying, a wetting agent can be used to achieve uniform water distribution throughout the soil.

A soil analysis can be useful in determining the overall chemical characteristics of the medium. Most annuals and perennials prefer a pH in the range of 5.5 to 6.5 for optimum growth. This may require the addition of dolomitic lime to raise pH or sulfur to lower it. Your county Extension office can provide additional details on how to collect and submit a soil sample for analysis.

ADDING FERTILIZER

Fertilizer should also be incorporated into new beds. Select one where the ratio of N-P-K is 1:1:1 or 1:2:1 and apply according to label directions. Normal rate of application on new beds is generally 1 to 2 pounds per 100 square feet. On established beds, a soil test is recommended; normally, 1 pound per 100 square feet would be sufficient. Spade, rototill or otherwise mix well until uniform and level off.

PRE-PLANT WEED CONTROL

To reduce weeding maintenance, rototill one of the commercially available soil sterilants, such as Roundup, into the soil about three weeks before planting. Then, just before or immediately after planting, apply a pre-emergent herbicide labeled for ornamental use, such as Treflan, and leave it undisturbed on the surface. (Refer to the chart on plant sensitivity to various pre-emergent herbicides.) Other methods of weed prevention include the use of a physical barrier such as a film of black plastic, which may be covered with a thin layer of decorative mulch. Be sure to punch numerous holes into the plastic with a garden rake to ensure adequate water penetration. Other weed barrier materials may also be used.

WHEN TO PLANT

Wait . . . don't try to jump the gun on planting! Most spring annuals can't be planted until after the danger of killing frost has passed; refer to the chart on hardiness for more details. Many warm season plants, such as periwinkles and caladiums, cannot tolerate cool soil temperature. Delay planting until the medium reaches 70 degrees.

Discard any plants that may have reseeded themselves from last season. They'll be less vigorous and may not resemble their hybrid parents. If it's not possible for you to plant right away, keep

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Seasonal Color . . .(Continued from Page 8)

plants in a lightly shaded spot, and be sure to water them as needed. If possible, it is best to plant on a cloudy or overcast day or late in the day, to reduce transplanting shock.

HANDLING TRANSPLANTS

Just prior to planting, water the plants in their containers. Plants in peat pots should be soaked in a bucket for 10-15 minutes to ensure thorough wetting. Ideally, the garden bed should be moist, too. If the soil is dry, be certain to water the plants thoroughly, immediately after planting.

When planting time has come, mark the beds based on specified planting distance. Pack material is generally placed on 4- to 8-inch centers. Jumbo packs and 4-inch materials are most frequently planted on 12- to 14-inch centers. The spacing selected will be determined by species, plant size, time of year, and cost. Lift plants from cell packs or pots carefully, keeping the root ball intact. If the container is pliable, gently squeeze or push up the bottom of the container; otherwise, turn it upside down to let the plant fall into your hand. If the plant does not slide out easily, tap the bottom of the container with a trowel. Moist plants are easier to remove from a container without disturbing the root ball. If roots are extremely compacted, loosen them gently before planting. Occasionally you will find plants in a tray without individual cells. If this is the case, separate the plants gently by hand or with a knife. Do this just prior to planting so the roots don't dry out. For plants in individual peat pots, either peel most of the pot away or be sure the top of the pot is below soil level after planting.

PLANTING

When planting, dig a hole slightly larger than the root ball, set the plant in place at the same level at which it was growing, and carefully firm soil around the roots. New plants will need to be watered well after planting and frequently thereafter until they are established and new growth has started. An application of soluble fertilizer, high in phosphorus, should be made after planting. A fertilizer such as 20-10-20 mixed at the rate of 0.5 pounds per 100 gallons of water will cover 400 square feet. Do not apply fertilizer to dry soil.

MULCHING

Adding a 2- to 3-inch layer of mulch is optional, but it does add a decorative "finished" look, as it reduces weeds and conserves soil moisture for better growth. The best mulches are organic, such as bark chips, pine needles, shredded leaves, peat moss, or hulls. The following year, mix in the mulch to enrich the soil before planting. Additional mulch can be added each spring, improving soil structure as years pass. Apply additional high-nitrogen fertilizer, such as ammonium nitrate, at the rate of 1 to 2 pounds per 100 square feet when adding fresh mulch. This will compensate for the nitrogen used during decomposition of the mulch.

MASS PLANTINGS

You can mechanize planting thousands of annuals along driveways and walks with a large scale "plant dibbler". Have appropriate size dibbles (about the size and shape of an inverted styrofoam coffee cup) welded to an empty turf roller or the wheel of a hand-operated cultivator. Mark spacing intervals on a large piece of paper; wrap it around the roller, and transfer the interval markings to the roller as a guide for the welder. For interchangeable spacing requirements, weld the dibbles to cylindrical sleeves that slip around the roller -- a different sleeve for each spacing need. To speed up the hand planting process, position the "planters" on a very slow-moving tractor-towed platform (as has been developed for similar requirements in commercial agriculture).

FERTILIZING

Most annuals do not require high levels of fertilizer, but will do much better if adequate nutrients are available. Application of a 1:2:1 ratio fertilizer once or twice during the growing season is recommended. A rate of 1 to 2 pounds per 100 square feet is sufficient. As an alternative, you may use a soluble fertilizer such as 20-20-20 mixed at a rate of 1 pound per 100 gallons and applied every three to six weeks. Too much fertilizer can cause a build-up of soluble salts in the media which can damage plant roots. Check soluble salt levels regularly to make sure you are not overfertilizing. Your county Extension agent or grower can tell you how.

WATERING

Deep, infrequent watering is generally better than frequent, light watering, since the former encourages deep root growth. Don't allow plants to remain for extended periods in puddles of standing water. This situation encourages root diseases and over-watering symptoms such as yellow leaves. Water annuals about as

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often as turf. Refer to the individual plant descriptions to see which plants like more or less moisture than average. When annuals need less water than the surrounding turf, using raised flower beds will improve drainage and reduce the chance of overwatering.

Foliage should be kept dry if at all possible during watering. Soaker hoses work best. However, if you must use overhead sprinklers, water disease-prone annuals (zinnias, calendula, grandiflora petunias, and stock, in particular) as early as possible in the day so the foliage will dry off before night, lessening the chance of disease. Professionals have been very innovative in creating "mechanized" watering equipment. Water-tank trucks can be adapted from used vehicles available from fire departments or from fuel-oil distributors. (Be sure to thoroughly clean the interior of fuel tanks before use.)

MANICURING

Many annuals, chiefly begonias, impatiens, coleus, alyssum, ageratum, lobelia, vinca, salvia, and others, require little additional care. Their flowers fall cleanly from the plant after fading, and do not need to be manually removed. Others, such as marigolds, geraniums, zinnias, calendula and dahlias, will need to have faded flowers removed. This is known as "deadheading" and not only keeps plants attractive but also discourages diseases; and, it keeps plants from going to seed so the plants will produce more flowers and look tidier. Deadheading can be done with pruning shears or sometimes with the fingers.

A few annuals, primarily petunias, snapdragons and pansies, may need to be pinched back after planting or after the first flush of bloom, to keep them compact and freely flowering. As new hybrids are created, this is becoming less of a maintenance requirement. Annuals are generally trouble-free under proper cultural conditions. However, there are some common pests to be on the lookout for.

DISEASES

Plant disease-prone species (zinnias, calendula, grandiflora petunias, and stock) where air circulation is good, and keep the foliage dry. When this can't be done, fungicide treatment may be necessary.

INSECTS

The most common are ***aphids, white fly,*** or ***spider mites*** which are easily controlled by various pesticides. Mites and white fly are less of a problem when plants are frequently watered.

High temperatures increase insect populations, necessitating more frequent pesticide treatment. Use extreme caution with pesticides. Be sure to READ THE LABEL before use.

Slugs and ***snails*** can feast on young bedding plants, especially marigolds, petunias, and salvia. Place slug bait near new plantings in late afternoon, and replenish as needed. Take care to prevent children or wild or domestic animals from eating bait.

WEEDS

Weeds may appear, even though you used mulch and pre-emergent herbicide. Be sure to remove weeds as soon as possible so they do not compete for water and nutrients. Remove them carefully, especially when the annuals are young, so as not to disturb their roots.

COLOR ROTATION

In most of Texas and the southwest, color areas can be changed out 2 to 3 times per year. Spring-planted annuals are usually set out from late February through the first of June.

A second planting of heat-tolerant annuals, such as verbena, periwinkle, or portulaca, is frequently made from June through the hot summer months.

Fall-planted annuals, like pansies and dianthus, are generally set out when temperatures begin to cool off in late September-October. Managing color change-outs is an important part of keeping plant materials looking their best.

RECOMMENDED VARIETIES

Selecting a well adapted variety is the most critical element for success with seasonal color in the landscape. There are literally hundreds of varieties available, but few will thrive in our stressful environment. Be sure to consult your county Extension office for current recommendations.

FALL PLANTED, SPRING FLOWERING ANNUALS *

PLANT	HEIGHT (INCHES)	SPREAD (INCHES)	EX-POSURE	COMMENTS
Calendula	10-24	10-24	Sun	Tender in north Texas, attractive cut flowers
Flowering Kale	12	12	Sun	Ornamental foliage, very hardy, edible
Flowering Cabbage	12	12	Sun	Ornamental foliage, very hardy, edible
Nasturtium	12	24	Sun	Do not over fertilize, needs good drainage
Pansy	10	15	Sun	Hardy, wide color range
Dianthus	10	12	Sun	Single carnation, bright colors, hardy
Larkspur	6-30	6-24	Sun	Good for masses of color
California Poppy	12	10	Sun	Attractive cut flowers, can be direct seeded
Iceland Poppy	12	10	Sun	Attractive cut flowers, can be direct seeded
Snapdragon	6-36	2-24	Sun	Many varieties and colors
Sweet Peas	vine	vine	Sun	Fragrant, good cut flowers
Stock	15-30	12-24	Sun	Spike flowers
Torenia	12	12	Sun	Limited adaptability
Viola	10	12	Sun	Excellent small flowered annual

SPRING PLANTED, SUMMER FLOWERING ANNUALS *

PLANT	HEIGHT (INCHES)	SPREAD (INCHES)	EX-POSURE	COMMENTS
Alyssum	4-8	12-24	Sun	Fragrant, withstands frost
Amaranthus	48	30	Sun	Brilliant foliage
Bachelor Button	12-24	12-24	Sun	Attractive cut or dried flowers
Begonia	6-15	8-15	Shade	Attractive foliage and flowers
Caladium	12-18	15-18	Shade	Bright foliage, plant from tubers
Cockscomb	12-36	10-30	Sun	Crested and plume types available
Coleus	8-24	12-24	Shade	Colorful foliage
Copper Plant	36	30	Sun	Brilliant copper colored foliage
Geranium	12-24	12-24	Shade	Needs shade during summer months
Impatiens	6-24	10-24	Shade	Brightly colored flowers, many varieties
Lantana	12-48	30-48	Sun	Trailing and upright forms, many colors
Marigold	6-36	10-36	Sun	Spider mites a problem, holds up in heat
Periwinkle	12-24	12-24	Sun	Excellent heat tolerant selection
Petunia	8-12	12-24	Sun	Many varieties, will hold up against frost
Portulaca	12	12-18	Sun	Excellent heat tolerance
Salvia	8-18	8-18	Shade	Needs shade during summer months
Verbena	6-12	12-24	Sun	Excellent heat tolerant selection
Zinnia	6-36	6-36	Sun	Many colors, heat resistant

***This list represents the most commonly used annuals.**

FLOWERING ANNUALS TOLERANT TO HERBICIDES

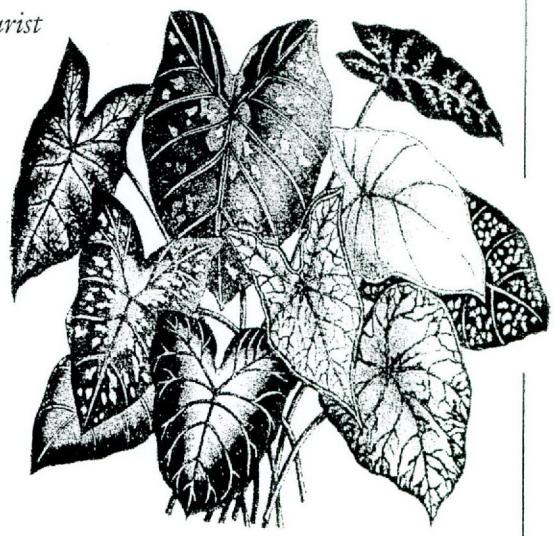
PLANT	BETASAN	DACTHAL	DEVRINOL	EPTAM	FURLOE CHLORE IPC	SURFLAN	TREFLAN
Ageratum		x	x	x	x		x
Amaranthus				x			
Alyssum							
Aster	x	x	x	x	x		x
Balsam				x			x
Begonia				x	x	x	x
Calendula	x						x
Candytuft	x	x					
Coleus		x			x		
Cosmos		x					x
Dahlia	x	x	x	x	x		x
Dianthus				x	x		x
Dusty Miller						x	x
Forget-Me-Not		x		x			x
Gaillardia		x				x	x
Gazania	x					x	x
Geranium		x	x		x	x	
Impatiens					x		x
Lantana		x				x	
Lobelia						x	x
Marigold	x	x		x	x	x	x
Nicotiana						x	x
Pansy	x			x	x		
Periwinkle							x
Petunia		x	x	x	x		x
Phlox							x
Portulaca							x
Primrose	x						
Rudbeckia							x
Salvia				x	x		x
Scabiosa							x
Snapdragon		x		x	x		x
Stock	x						x
Strawflower		x					
Verbena		x					x
Zinnia		x	x	x	x	x	x

Source: Chemical Weed Control in Commercial Nursery and Landscape Plantings. 1989, by Elton M. Smith, Extension Specialist, Ohio State University, Columbus, Ohio.

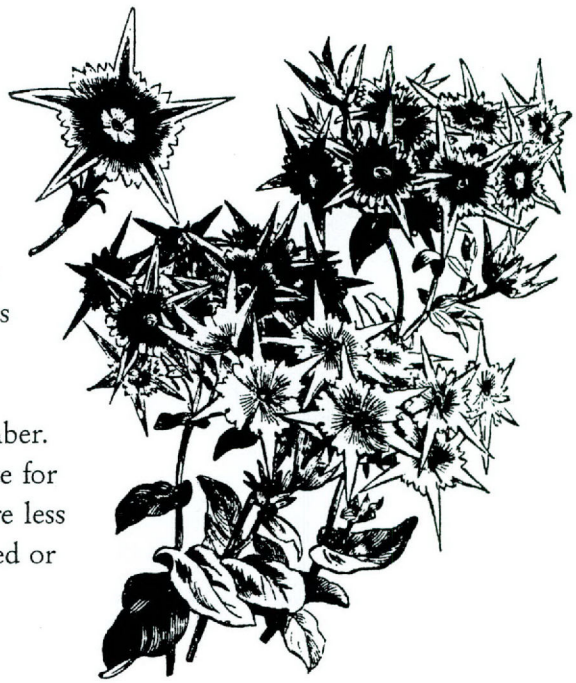
An (x) in the column indicates that the herbicide can be safely applied to the plant listed.

✔ GARDEN CHECKLIST *for March*

Dr. William C. Welch, Landscape Horticulturist



- ✔ Check with your local county agent for the average last killing freeze date for your area. Killing freezes can and do occur after this date, but it will be a good indication.
- ✔ Prepare beds for planting warm-season flowers and vegetables.
- ✔ For early color in the landscape, try some of the following annuals as transplants: ageratums, cockscombs, coreopsis, cosmos, cleomes, marigolds, nasturtiums, petunias, phlox, portulacas, salvias, sweet alyssums, sunflowers, and zinnias.
- ✔ Start hanging baskets of petunias and other annuals for another dimension in landscape color.
- ✔ Select and order caladium tubers as well as geranium and coleus plants for late April and early May planting. Do not plant caladiums until soil temperatures reach 70 degrees F.
- ✔ As camellia and azalea plants finish blooming, fertilize them with three pounds of azalea-camellia fertilizer per 100 square feet of bed area. Check mulch on azalea and camellia beds and add where needed.
- ✔ Beware of close-out sales on bare-root trees and shrubs. The chance of survival is rather low on bare-root plants this late in the season. Your best bet at this time of year is to depend on container-grown or balled-and-burlapped plants for landscape use.



- ✔ In North Texas there is still time to plant seeds of your favorite annuals in flats to be transplanted out-of-doors when danger of frost is past.
- ✔ Fertilize roses every 4 to 6 weeks from now until September. The traditional heavy pruning practices are appropriate for Hybrid Teas, but most antique and shrub roses require less severe methods. Weak or dead canes should be removed or shortened to healthy tissue any time during the year.

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Lawn and Garden Update **is a publication of the Departments of Soil and Crop Sciences & Horticultural Sciences, Texas Agricultural Extension Service, The Texas A&M University System, College Station, TX.**
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Douglas F. Welsh, Editor March 2000