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Texas Agricultural Extension Service

The Texas A&M University System

Horticultural Update



Government Publications
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Plant of the Month . . . ~~March~~ March

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Louisiana Iris

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.

FERTILIZER PROVIDES THREE MAJOR NUTRIENTS

The articles on fertilizer and raised beds appeared in Texas Earth-kind Landscape and Gardening Guidelines, produced by the Texas Agricultural Extension Service, The Texas A&M University System, College Station

Currently 16 nutrients are considered essential to plant growth and development. Thirteen of them must be furnished by the soil. Under natural conditions, plant nutrition is not a problem (note the forests, woods, and plains). However, for a successful and productive home garden, some type of fertilizer must be added. But what is in fertilizer that makes it important? And what do those three numbers mean?

The numbers stand for the 3 major nutrients -- nitrogen, phosphorus, and potassium, in that order. They tell how much of each nutrient is present as a percentage of the total weight of the fertilizers. Thus, a 50-pound sack of 10-20-10 contains 5 pounds of nitrogen, 10 pounds of phosphorus, and 5 pounds of potassium, or their chemical equivalents. That is only 20 pounds total; the rest of the fertilizer is simply inert carrier, or filler, such as sand, perlite, or rice hulls.

Nitrogen is necessary for all vegetative growth: roots, leaves, stems, flowers, and fruits. Among other functions, it is partially responsible for the green color of chlorophyll, and is essential to protein formation. A nitrogen deficiency causes lower leaves to turn yellow. Phosphorus is essential to cell division, root formation, flowering, and fruiting. It is also involved in the storage and transfer of energy vital to all growth processes. Consequently, phosphorus deficiency causes stunted growth and poor flowering and fruiting. The role of potassium is not well defined, but experience shows that plants cannot grow properly without it. Potassium deficiency symptoms vary, but stunted growth and dark or purple discoloration are common symptoms in many plants.

Iron, another problem element in many areas, is essential to chlorophyll formation and growth processes. New growth on plants with iron deficiency have yellow leaves with green veins.

Grapes for Health

Researchers at the University of Illinois at Chicago have discovered that resveratrol can help keep cells from becoming cancerous and can inhibit the spread of cells which are already malignant, according to an article in *Science* as reported by the Associated Press. In a study on mice, resveratrol reduced the number of skin tumors up to 98 percent. In cell cultures of human leukemia, resveratrol stopped the production of abnormal cells. The compound blocks inflammation and apparently has no toxic side effects.

While resveratrol is found in some dozens of fruits and vegetables, the richest source is grapes and grape products, including wine, with red wine having the highest concentration among the wines. Added to the finding that red wine (in particular) can protect against heart disease by preventing the formation of blood clots that can cause arterial blockage, this new research further amplifies the knowledge base that a diet rich in fruits and vegetables is the best way to achieve and maintain good health.

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Raised Beds for Gardens

If you haven't had much luck with gardening efforts in the past, your soil may be the problem. Tight, heavy, poorly drained soils are common in many areas of Texas. With good management practices and the addition of liberal amounts of organic matter, many of these soils can be improved so that they grow satisfactory plants. But if you are interested in a quick, highly productive garden, consider constructing a raised garden. Raised gardens are often the simplest solution to a difficult soil problem.

Advantages of raised gardens are: yields increase because the depth of top soil is increased; raised gardens filled with a good soil or soil mix drain rapidly and warm up quickly; water usually soaks in rather than running off; soil compaction is eliminated or reduced; and weeds, soil insects, and soilborne diseases are more easily controlled since recommended treatments are effective in raised gardens.

Raised gardens do not have to be expensive. Construct frames of railroad ties, bricks, flagstone, or other materials. Small raised gardens might be constructed with 2X8s or 2X10s.

SOME COMMON ORGANIC FERTILIZERS

NAME OF FERTILIZER	Analysis in percent			REMARKS
	N	P	K	
Blood	10	1.5	0	A very rapidly available organic fertilizer
Fish Scrap	9	7	0	Do not confuse with fish emulsives, which generally are quite low in fertilizer content
Guano				
Bat	6	9	3	Partially decomposed bat manure from caves
Bird	13	11	3	Partially decomposed bird manure from islands off the coast
Kelp or Seaweed	1	0.5	9	
Meal				
Bone (raw)	4	22	0	Main value is nitrogen, since most of the phosphorus is not soluble
Bone (steamed)	2	27	0	As a result of steaming under pressure, some nitrogen is lost, but more phosphorus is soluble for use by plants
Cocoa Shell	2.5	1	3	Primarily a conditioner for complete fertilizers
Cotton Seed	6	2.5	2	Generally very acid; useful in alkaline soils
Hoof and Horn	14	0	0	The steam treated and ground material is a rather quickly available source of nitrogen
Manure				
Cattle	0.5	0.3	0.5	Although manures in general are low in fertilizer, when used in relatively large amounts to improve soil structure, damage may occur because of too much fertilizer
Chicken	0.9	0.5	0.8	
Horse	0.6	0.3	0.6	
Sheep	0.9	0.5	0.8	
Swine	0.6	0.5	0.4	
Mushroom (spent)	1	1	1	
Oyster Shells	0.2	0.3	0	Because of their alkalinity, these are best used for raising pH rather than as a fertilizer
Peat (reed or sedge)	2	0.3	0.3	Best used as a soil conditioner rather than as a fertilizer; breaks down too rapidly
Rice Hulls (ground)	0.5	0.2	0.5	
Sludge				
Sewage	2	1	1	Examples of activated sludge are Milorganite (Milwaukee, Wisconsin), HuAcinite (Houston, Texas), Chicagrow (Chicago, Illinois), and Nitrogranic (Pasadena, California)
Sewage, activated (special microorganisms added)	6	5	0	
Tankage				
Cocoa	4	1.5	2	
Garbage	3	3	1	
Process (leather, hair, wool, felt, feathers, etc.)	8	2	0	
Wood ashes	0	2	6	Quite alkaline; do not use on high pH soils

Pecan Trees Need Foliar Zinc Sprays

By Dr. George Ray McEachern, Extension Horticulturist
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A famous horticulturist once said that the Georgia pecan industry would never have developed if foliar zinc sprays had not been accepted by growers as part of their pecan management program. If foliar zinc sprays are important in Georgia, they are absolutely essential in Texas, especially west Texas where high pH soils and low relative humidity predominate.

Classroom lectures can go into great detail as to why zinc is an essential minor element needed by plants. Pecan growers need to understand that the pecan tree has great difficulty in removing zinc from the soil. Scientists do not fully understand why, but it is true nevertheless. Unsprayed pecan trees in West Texas do not grow poorly—they die. In North, Central, and South Texas, the consequences of withholding foliar zinc are not as harsh as in the desert, but they are significant.

Common zinc-deficiency symptoms are small leaves, light-colored leaves, wrinkled leaf edges, brown patches between leaf veins, curve-shaped leaves, shoots growing in tight bunches, numerous small shoots at the base of leaves up and down current-season shoots, and, most serious of all, dead shoots in the tops of trees. If pecans could absorb zinc from the soil as other horticultural crops do, these symptoms would not be so obvious. Pecan trees can be in need of zinc before any of these symptoms are apparent.

CONTROLLING ZINC DEFICIENCY

The following suggestions are for growers who want to have healthy trees; they are not for persons wanting a lengthy discussion of technical details about pecan nutrition. There are many ways to manage zinc deficiency, but the following is the simplest, least expensive, and most effective.

Spray zinc onto newly opening buds, young shoots, and young leaves. The rate and product are not as important as coverage and frequency. Powdered or liquid zinc sulfate will do an excellent job. The standard recommendation is 2 pounds of zinc sulfate in 100 gallons of water. Variations of 1 to 4 pounds per 100 gallons of water could be used with success if leaves are well covered and sprays are frequent. J. Benton Storey discovered and developed the use of zinc nitrate over the last

25 years, and it produces optimum zinc absorption when sprayed on leaves in mid July. Many growers in the irrigated west have learned that zinc sulfate plus liquid nitrogen is an excellent zinc foliar spray. Likewise, Dr. Storey demonstrated zinc nitrate plus nitrogen is the very best combination for increasing zinc uptake. All of these treatments are adequate. The pecan tree does not care if zinc comes from zinc sulfate or zinc nitrate, just as long as coverage is delivered with adequate frequency.

WHEN SHOULD ZINC BE SPRAYED?

Young pecan trees in the second growing season respond to zinc sprays every 2 weeks from April to August. If the trees are on good soil with excellent irrigation, nitrogen fertilization, and weed control, weekly foliar zinc sprays will push growth even faster. In the third and fourth seasons, young trees can be pushed to grow 6 to 10 feet in a single season with very frequent foliar zinc sprays. There is a limit to how much growth is best, however, because a freeze in October can kill young pecan trees to the ground if growth does not slow down in September and stop in October. So, most growers stop pushing young trees in late July or early August.

Mature bearing trees are sprayed entirely differently. One good zinc spray before pollination is better than no zinc spray. Two sprays are better than 1, and 5 sprays are ideal. The very best system for spraying mature bearing pecan trees in Texas and in the irrigated west is as follows: first spray at bud break; second spray seven days later; third spray seven days later; fourth spray 14 days later; fifth and final spray 21 days later.

The volume of water and coverage is very important. Make sure every leaf is wet. Spraying to runoff is best but not always practical. As with all management practices, one helps another. Zinc sprays alone are of little value. A good management program includes giving trees deep, well drained soil, 2 inches of irrigation water every week from April to October, frequent nitrogen fertilization, good weed control, and frequent foliar zinc sprays.

Search for These Texas Varieties



This article appeared in *Texas Earth-kind Landscape and Gardening Guidelines*, produced by the Texas Agricultural Extension Service, The Texas A&M University System, College Station, Texas

As a home vegetable gardener in Texas, one of your first purchases happens to be one of the most important. Generally, one of the first items that comes to mind when getting ready to garden is the purchase of seeds and plants. And, if you want maximum returns from your gardening efforts, you must use only the best varieties available along with time-tested and proven gardening techniques and practices.

Why is selecting the proper variety so important? The answer is relatively easy. If you've been gardening for any length of time, you are well aware that there are many, many different varieties of garden vegetables such as beans, tomatoes, peppers, squash, etc. However, there are only three or

four varieties of any one vegetable well suited or adapted to your particular area of Texas. So if you're going to get the most out of your garden this year, it is important to get the varieties that do well in your area of the state. Planting proven vegetable varieties is much better than simply picking varieties because of their catchy names or because that is all the local nurseries or garden centers have available.

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, Emperor, 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

SUPER SUMMER ANNUALS

Summer-fall flowering annuals can be planted outdoors in the spring once danger of frost is past. Many varieties are adapted for summer sowings for fall flowering. Seeds can be sown indoors 6 weeks before planting outdoors.

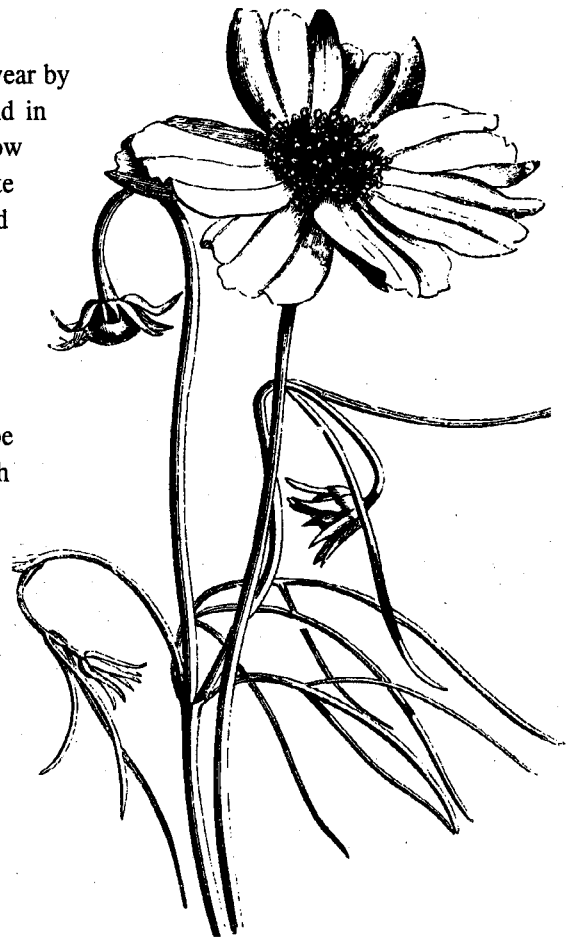
Plant	Height (inches)	Spread (inches)	Exposure	Comments
Ageratum	6-20	8-20	Sun	Good source of blue color
Alyssum	4-8	12-24	Sun	Fragrant; withstands frost
Amaranthus	48	30	Sun	Brilliant foliage
Begonia	6-15	8-15	Shade	Attractive foliage and flowers
Caladium	12-18	15-18	Shade	Bright foliage; plant tubers 1 month after frost-free date
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
Cosmos	36-72	48-72	Sun	Bright, daisy-like flowers; good background plants; may need staking
Firebush	24-30	24-36	Sun	Tremendous heat tolerance; red blooms attract hummingbirds and butterflies
Four O'Clock	20-24	20-24	Sun	Bright flowers; can become a pest in South Texas
Gaillardia	12-18	12-18	Sun	Tolerates heat; single or double flowers
Geranium	12-24	12-24	Sun	Needs shade during summer; newer seed-grown forms are good
Globe Amaranth	12-24	12-24	Sun	Attractive cut or dried flowers
Gloriosa Daisy	15-30	15-30	Sun	Perennial, but often treated as annual
Impatiens (sultana)	6-24	10-24	Shade	Brightly colored flowers; many varieties
Joseph's Coat	10-16	24-36	Sun	Grown from cuttings; beautiful fall foliage
Lantana	12-48	30-48	Sun	Trailing or upright; many colors; few pests
Marigold	6-36	10-36	Sun	Spider mites only problem; withstands heat well
Morning Glory		vine	Sun	Grows rapidly to 10 feet; do not apply excessive nitrogen
Nierembergia	6	6-8	Sun	Rich purple; good in baskets
Periwinkle	12-24	12-24	Sun	Excellent in exposed areas
Petunia	8-12	12-24	Sun	Many varieties and types; withstands some frost
Phlox (annual)	6-12	12-15	Sun	Withstands heat well
Portulaca (moss rose)	12	12-18	Sun	Withstands heat; bright colors
Salvia (scarlet sage)	8-18	8-18	Shade	Withstands sun in cooler localities
Spider Plant (cleome)	48	36-48	Sun	Long blooming period; good background plant
Strawflower	30-40	30-40	Sun	Good for cut or dried flowers
Verbena	6-12	12-24	Sun	Withstands heat; spider mites may be problem
Zinnia	6-26	6-36	Sun	Attractive cut flowers; withstands heat; excellent new varieties

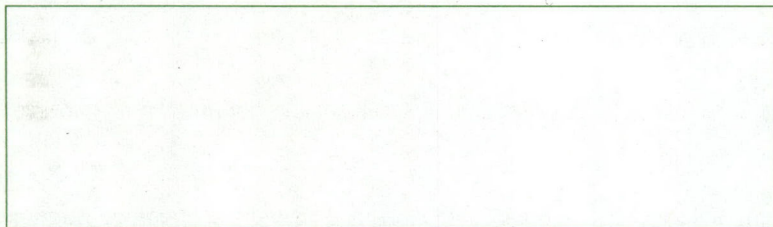


Garden Checklist for March

*Dr. William C. Welch, Landscape Horticulturist
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- Prepare beds for planting warm-season flowers and vegetables.
- For every 100 square feet of bed area, work in a 2- to 3-inch layer of organic material such as compost, pine bark, or sphagnum peat moss.
- 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 temperature reaches 70 degrees F.
- As camellia and azalea plants finish blooming, fertilize them with 3 pounds of azalea-camellia fertilizer per 100 square feet of bed area.
- Check mulch on azalea and camellia plantings and add where needed. Consider using pine needles, pine bark, or similar organic materials.
- Beware of closeout sales on bare-root trees and shrubs. The chance of survival is rather low on bare-root plants this late in the season. Best bets for now are container-grown or balled-and-burlapped plants.
- Remember that many trees and shrubs are damaged or killed each year by the careless application of weed killers, including those found in mixes of fertilizers and weed killers. Always read and follow label directions very carefully. Weeds in a lawn usually indicate a poor lawn-management program and can usually be crowded out in a healthy turf.
- Start hanging baskets of petunias and other annuals for another dimension in landscape color.
- Freeze-damaged beds of Asiatic jasmine ground cover should be sheared back just as new growth starts to encourage new growth from the base.
- 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.
- Divide existing clumps of fall-blooming perennials, such as chrysanthemums, autumn asters, Mexican marigold-mint, and physostegia (obedient plant).





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Texas Agricultural Extension Service
 United States Department of Agriculture
 The Texas A&M University System
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MARCH 1997

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Horticultural Update is published by Extension Horticulture, Texas Agricultural Extension Service,
 The Texas A&M University System, College Station, TX

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