Horticulture Hints

LSU AgCenter Research & Extension

Summer 2011

Landscape Gardening and Ornamentals

Evaluate Trees Before High Winds Come

Hurricanes and violent summer storms occur across Louisiana, and trees may be vulnerable to blowing over or dropping large branches during high winds. Now is a good time to evaluate shade trees to make sure they are in good shape.

Look at the overall condition of your trees. Trees that have large dead branches or whole trees that are dead should be dealt with as soon as possible. Dead branches should be pruned off, and dead trees should be removed.

A tree that is sickly, low in vigor and shows significant signs of rotten or decayed areas in the trunk may need to be removed if it poses a threat to buildings. Trees with trunks that have large cavities with extensive decay should be considered for removal because rot weakens the trunk.

Trees that are one-sided or leaning significantly may need attention. Selective pruning can relieve the weight on the heavier side, balancing out the weight distribution of the canopy. After the prolonged rain associated with hurricanes, the soil may be so soft that trees topple over if the weight is not proportioned properly.

Selective thinning of the canopy can reduce the wind resistance of the tree. This can reduce the chances of it being blown over or of branches breaking. The idea is to preserve the natural shape of the tree but to thin out branches to reduce the weight and allow for better wind movement through the tree. This should be done by a licensed arborist.

Also, look for branches that hang over the house near the roof. Although the branches may not touch the roof under normal conditions, the high winds of hurricanes and summer storms can cause trees to bend and branches to flail around considerably. These branches can cause extensive damage to the roof and generally should be removed.

Baits Available for Dealing with Snails, Slugs

Snails and slugs can be a major problem in summer gardens. They damage plants by chewing holes in the leaves and flowers of ornamentals, particularly of low-growing plants with tender leaves, like impatiens and hostas.

Using commercial baits according to the directions on their labels is helpful in reducing the populations of snails and slugs. But you have to be persistent, since you are not likely to get these pests under control easily.

Baits containing metaldehyde have been a standard and effective treatment for years. Metaldehyde, however, is toxic to dogs and cats, so care must be taken when using it.

A newer, safer and much less toxic active ingredient is iron phosphate, which is sold under various brand names. No special precautions need to be taken when using this type of bait.

Trapping also works if you are persistent with it. It's also a good way to monitor population levels. A trap is easily constructed using a small, disposable bowl and some beer. If you suspect snails and slugs are causing the damage but you do not catch any in the beer traps, the damage is more likely being caused by caterpillars or beetles. These pests also chew holes in leaves similar to snails and slugs.

How to Trap Snails and Slugs with Beer

In the early evening, place several beer traps around the garden where snails and slugs have been a problem. Sink bowls into the soil or mulch up to their rim. Then fill the bowls half full with fresh beer.

Snails and slugs are powerfully attracted by the yeasty smell of the beer. They crawl into the bowl, and once the beer washes the slime off their undersides, they cannot crawl out again.

Empty the traps each morning, noting how many you caught. Continue to put out traps each evening until very few of the pesky critters show up in the beer. Toads are an excellent ally in this fight and should be welcome in the garden (even if you are squeamish about them).

LouEASYana GARDENING

The Knock Out rose is a landscape rose that fits perfectly into a sustainable, low-maintenance landscape.

This rose is a real work horse in the landscape, providing lots of color. It does this by producing flushes of flowers repeatedly from April to November. Like most roses, best flowering is in the spring/early summer and fall.

Knock Out roses are relatively pest resistant and generally do not require spraying. Insect and disease problems may appear, but these vigorous, robust roses generally get over these problems without help from the gardener.

In addition to the original red Knock Out rose, there is a Pink Knock Out, Blushing Knock Out, Double Knock Out and Pink Double Knock Out that perform just as well. Sunny Knock Out has light yellow flowers. Rainbow Knock Out has not performed as well as the other types in LSU AgCenter trials.

Like other roses, Knock Out roses need full sun and well-prepared, well-drained landscape beds. They prefer a soil pH between 6.0 and 6.5.

After their first growing season in the ground, Knock Out roses require minimum irrigation (many gardeners kill these roses with kindness). Fertilize lightly in March and August. Prune the shrubs back in early February by about one-third to encourage branching and fullness. They may be pruned again in late August.

Deadheading Flowers Important But Often Neglected

Deadheading is an important but often neglected gardening technique. It refers to pruning off old, faded flowers from a plant as it blooms.

It is most often done to annuals and herbaceous perennials, but deadheading also is useful with some summer-flowering trees and shrubs.

There are a number of advantages to deadheading that make it worth the time and effort it involves. For one thing, it improves the appearance of a plant by removing unattractive dead flowers and seed pods that are mixed with the newly opened blooms. Deadheading also will encourage annuals to bloom more and for a longer period. Many perennials will be encouraged to send up another flush of flowers if they are promptly deadheaded. In addition, for annuals and perennials that self seed, deadheading prevents unwanted seedlings from popping up all over the garden.

While you are deadheading, take the opportunity to groom your plants by removing damaged, unattractive foliage and dead stems or branches. Not only is this better for the plants, it also keeps them looking their best.

The plants that respond best to deadheading by extended flowering are annuals and perennials that bloom over a relatively long season and some summer-flowering trees and shrubs such as crape myrtle, vitex, roses, oleander and althea.

Perennials Need Late-summer Care

Our long growing season and plentiful rainfall can produce abundant and even rampant growth during the summer.

Tall plants can shade out or fall over onto smaller plants, and some plants will spread into areas where they were not intended to grow.

Be sure to observe problems you see with your plantings and make decisions on what to remove, divide or transplant this fall. In the meantime, however, follow these tips for summer care:

- Prune overgrown perennials, especially those that bloom over a long period and well into the fall.
- Stake or otherwise support larger perennials that need it. If young children will be playing around the garden, the stakes should be taller than the children to avoid injury.
- Straighten any leaning plants and wedge a piece of brick or stone at the base of each. This will support the plant and help it grow more upright but won't be too visible.
- Many perennials spread by underground stems – some fast, some slow. Promptly dig out unwanted growth outside the area allotted to the plant and pot it up, replant it somewhere else or throw it away. Barriers extending 8 to 12 inches down into the ground around aggressive spreaders can help keep them under control.

Pentas Among Best Plants for Butterfly Gardens

Pentas (*Pentas lanceolata*) are among the best summer bedding plants for butterfly gardens, and nothing beats the Butterfly strain of pentas.

These great summer bedding plants will produce clusters of flowers in shades of pink, white, red and lavender all through the summer. The Butterfly pentas is a 2011 Louisiana Super Plants selection, so you know it has a proven track record of garden performance all across Louisiana.

Other excellent nectar plants for butterfly gardens include Mexican butterfly weed (*Asclepias curassavica*), coneflower (*Echinacea purpurea*), butterfly bush (*Buddleia* species), lantana (*Lantana camara*, *L. montevidensis*) and salvias (*Salvia* species).

It's Not Too Late To Plant Colorful Bedding Plants

Despite the heat, you can continue to add summer bedding plants to provide color in your landscape. Great heat-tolerant plants come in a wide variety of colors and growth habits. Here are some of the best:

For low-growing summer bedding plants (less than 2 feet), choose Mexican heather, ornamental peppers, ornamental sweet potatoes, dwarf angelonia, coleus, impatiens, periwinkle, dwarf cosmos, begonia, dwarf pentas, dwarf globe amaranth, ageratum, salvia 'Victoria,' marigolds, portulaca, blue daze, perennial verbena, purslane, dusty miller, rudbeckia, abelmoschus, narrow-leaf zinnia, wishbone flower, Dahlberg daisy, caladium, balsam, gerbera daisy, gaillardia, celosia, dwarf lantana, scaevola or dwarf melampodium.

For taller-growing (more than 2 feet), choose butterfly weed, angelonia, shrimp plant, cleome, pentas, melampodium, four o'clock, perilla, cosmos, hardy hibiscus (mallow), sunflower, salvias, lantana, cigar flower or Mexican sunflower (tithonia).

Checklist for Summer

- Control thrips, aphids, cucumber beetles and spider mites on roses by using a recommended insecticide or miticide. Also, continue blackspot control by using a recommended fungicide at seven- to 10-day intervals.
- When irrigating, water the soil area thoroughly. Try to irrigate less often, but irrigate well each time. Light, overhead sprinkling is not the best way to water.
- Continue to plant warm-season bedding plants.
- Lantanas can still be planted. They thrive in Louisiana's hot summers. Try lantanas in containers, too, where their drought tolerance is an advantage.
- Dig and store gladiolus corms in a well-ventilated, freeze-proof place for planting next spring.
- Plant sunflowers during late summer for fall flower arrangements. Flower colors include yellow, orange, red, bronze, white and combinations of these. It usually requires about 60 to 80 days from sowing seed until first flower color.
- Prune azaleas no later than mid-July. Pruning azaleas after early to midsummer may remove next season's developing flower buds. This applies to many spring-flowering shrubs as well as hydrangeas and gardenias.
- During early summer, gardenias may have aphids, whiteflies and the associated black sooty mold. For optimum plant performance, control the insects with Orthene or a summer horticultural oil spray.
- Camellias and azaleas need care to set a good crop of flower buds for next year. Healthy, vigorous plants will set buds, but weak plants may not. If plants lack vigor, fertilize, provide moisture during stressful periods and control pests. Remember that these acid-loving plants may have problems if soils are too alkaline. Submit a soil sample to your parish LSU AgCenter extension agent if you are unsure of your soil situation.
- Louisiana irises are semi-dormant during late summer. Prune off seedpods and yellow or brown foliage to help keep the plants more attractive. You may transplant or divide Louisiana irises beginning in August.
- Cut faded flowers from flowering annuals and perennials to encourage new growth and flowers. Old blooms and seed heads left on the plants can retard continued flower production.

Serena Angelonias – Another La. Super Plants Selection

The development of outstanding types of angelonias is one of the best things to happen to Louisiana flower gardens, and the Serena angelonias is one of the latest plants to be selected for the Louisiana Super Plants designation.

Showing the excellent heat and humidity tolerance that is so critical to success in our area, angelonias are tender herbaceous perennials that generally are grown as annuals. They are bushy plants with narrow, dark green foliage and spikes of attractive flowers in various colors. They may be planted during summer and will bloom until the first hard freeze.

Growing only 12 to 18 inches tall, Serena angelonias are among the most compact. The strain provides an excellent selection of colors, including Serena Lavender, Serena Lavender Pink, Serena White and Serena Purple. These angelonias are absolutely some of the very best bedding plants around.

Serena angelonias will grow best in well-prepared beds amended with organic matter and a light fertilizer application, just as you would do for other bedding plants. Since they thrive in heat, you can add them to your gardens anytime during the summer. Full to part sun (six to eight hours of direct sun daily) will produce stocky plants with plenty of flower spikes. Avoid areas that are too shady.

Once established, however, Serena angelonias are somewhat drought tolerant and hang tough during hot, dry weather. They have no major insect or disease problems in our state. Honestly, what more could you ask for?

Dan Gill
Consumer Horticulture

Vegetable Gardening

Vegetables to Plant During the Summer

- June: Transplant heat-set tomatoes. They will produce fruit from August through October. You also can plant collards, cucumbers, melons, cantaloupes, okra, southern peas, pumpkins and summer squash. Transplant eggplants, peppers (bell and hot) and sweet potato slips. Start seed of fall tomatoes and bell peppers. Good pest control practices are necessary because of the high pressure of insects and diseases now.
- July: Transplant tomatoes and bell peppers in mid-July for fall production. Plant okra, southern peas, cucumbers, squash, cantaloupes, pumpkins and watermelons.
- Mid- to late July: Seed broccoli, Brussels sprouts, cauliflower, Chinese cabbage, cabbage, collards and winter squash. You can still transplant bell peppers and tomatoes.
- August: Make sure you are watering your garden. This usually is a hot and dry month! Start bush snap beans and bush limas. Plant seed for cucumbers, collards, broccoli, Brussels sprouts, cauliflower, cabbage, Chinese cabbage, summer squash, southern peas, mustard and green shallot sets.
- Mid-August: Gardeners in north Louisiana can plant Irish potatoes and start seed for head lettuce and beets. Transplant broccoli and Brussels sprouts.
- Late August: Gardeners in south Louisiana now can plant Irish potatoes and start seed for head lettuce and beets.

Crop Highlights

Broccoli and cauliflower. Both can be direct-seeded beginning in mid-July through September or transplanted from early August through early September. It takes four to six weeks to produce transplants from seed. In general, broccoli and cauliflower will require 5 to 6 pounds (or pints) of a complete fertilizer such as 8-24-24 or 13-13-13 per 100 feet of row. These crops, especially cauliflower, require fast, continuous growth for proper head development. Keep them well watered and fertilized. Side-dress plants with ¾ pound (1 ½ cups) of ammonium nitrate per 100 feet of row three to four weeks after transplanting and again two weeks after that. Varieties that will produce in about 60 days from transplanting reduce the chance of cold-weather damage. Recommended varieties are:

Broccoli	Cauliflower
Arcadia	Majestic
Gypsy	Candid Charm
Diplomat	Cumberland
Packman	Snow Crown
	Freedom

Snap beans. Late August through early September is the best time to plant snap beans. Normally 50 to 55 days are required from planting until harvest. Don't let beans suffer from drought. Good varieties are Provider, Bluelake 274, Roma II, Derby, Bronco, Royal Burgundy, Green Crop, Strike and Caprice. For a yellow wax bean, choose Golden Rod Wax. Bush beans usually will produce more successfully than pole beans during the fall because of their earlier maturity.

Butter beans. This crop is harder to produce than snap beans during the fall. Plant early enough to produce before frost and late enough so they're not blooming while temperatures are too high for fruit set. Plant from early August through about mid-August. Plant bush beans for fall production (Henderson, Fordhook 242, Thorogreen, Jackson Wonder or Dixie Butterpea).

Irish potatoes. Plant small whole potatoes saved from the spring crop from about mid-August to early September. Good soil moisture is essential. The seed potatoes may not sprout readily after planting because of a physiological rest period of about 90 days they have to go through after harvesting during the spring. After this rest period is satisfied, the tubers should sprout. Fall yields are lower than spring yields. Use the smaller potatoes (that you harvested) for seed pieces.

Cabbage. Plant seed beginning in mid-July and seed through September. You also may transplant beginning in early August through mid-October. Fertilize the same as broccoli and cauliflower. Space cabbage, cauliflower and Chinese cabbage about 12 to 14 inches apart and broccoli 6 to 12 inches apart. Double drills (two drills of plants spaced 10-12 inches apart on a single row) will help maximize yield. Try Rio Verde for late plantings. Recommended early maturity varieties include Platinum, Dynasty, Gold Dynasty and Stonehead (AAS). Maturing a little later are Rio Verde, Solid Blue 780, Red Dynasty, Emblem, Blue Dynasty, Thunderhead Royal Vantage, Silver Dynasty, Blue Thunder, Cheers, Vantage Point, Savoy Ace (AAS) and Savoy King (AAS).

Squash and cucumbers. These two crops can be planted in June, July and August. Summer plantings normally will be ready to begin harvesting after about six weeks. Yields usually are lower than spring plantings. A fall crop of yellow summer squash, zucchini and cucumbers can be grown by planting seed during August. Squash vine borers may be a more severe problem during fall than spring, so be prepared to control them with an insecticide. Viruses are a problem during the fall. New cucumbers are Daytona and Stonewall. New squash are Medallion, Fortune, Lioness, Justice, Lynx and Leopard.

Pumpkins. Pumpkins for Halloween should be planted during early to mid-July. Apply 3-5 pounds of a complete fertilizer (13-13-13) for each 100 feet of row before planting. Plant five to six seed in hills about 4 to 5 feet apart on rows 6 to 8 feet apart. Thin to one or two plants per hill. Apply a side-dressing of 1 pound (1 pint) of ammonium nitrate per 100 feet of row when vines begin to run. Keep soil moist for best production. Autumn Harvest and Orange Smoothie are excellent varieties to grow for Halloween. The Connecticut Field is an old, popular variety. Recommended varieties of giant pumpkins are Big Moon, Full Moon, Big Max, Atlantic Giant and Prize Winner. The medium-size varieties that have done well in research trials are Spirit, Lumina, Big Autumn, Gold Rush, Autumn Gold, Gold Bullion, Howdy Doody, Dependable, Gold Medal, Merlin, and Sorcerer. Frosty, Big Autumn, Neon, Magic Lantern and Aspen produce a dwarf vine that should be tried in home gardens.

Greens. Begin planting greens – mustards, turnips and collards – during August. Keep the soil moist to ensure a good stand. Try some of the white turnips like White Lady and Tokyo Cross for roots and Seven Top, All Top, Topper and Southern Green for greens. Also good are Just Right, Royal Crown, Purple Top WG and Red Giant.

Shallots. Dry sets of shallots can be planted from August to April. About 50 to 60 days after planting, tops will be ready to harvest.

Fall bell peppers. If plants from the spring are still in good condition, they can be nursed (sprayed or dusted and watered) throughout summer. They will set fruit again as the temperatures become more favorable. If seeds of bell peppers haven't been planted by early June, buy transplants.

Fall tomatoes. Transplant fall tomatoes during July. Be prepared to spray with insecticides and fungicides. Insect and disease pressure usually is worse during the fall than the spring. The heat-set varieties that have produced well in trials are Sun Leaper, Florida 91, Sun Master, Solar Fire, Sun Chaser, Phoenix, Solar Set and Heat Wave II. These varieties have the ability to set some fruit during times of high temperatures, allowing the fruit to mature before cool weather. Row covers, which protect the plants from the first frost, have prolonged the harvest period, and they enhance fruit maturity. Also worth trying during fall is BHN 216. Since fall tomatoes are a crop you can't really be sure of, it's interesting to try several early varieties. Certain varieties may produce better in some parts of the state than others because of the variation in climate and soils. Start early, and get a strong bush.

Lettuce. Head lettuce can be grown in Louisiana during late August. A common mistake is planting the seed too deep. Lettuce seed require light for germination, so scatter the seed on the row and lightly rake it into the soil. Plant leaf lettuce during September. Keep the soil moist until the seeds have germinated and are well established. Head types are tougher to grow. Keep lettuce growing actively to keep it from becoming bitter. Recommended varieties of head lettuce are Summertime, Mighty Joe, Ithaca, Mavrick and Great Lakes 659. For leaf lettuce, try Slobolt, Red Salad Bowl, Grand Rapids, Red Fire, Tango, Red Sails, Salad Bowl, Sunset, Simpson or Elite. The recommended romaine lettuce varieties are Parris Island, Ideal, Green Forest and Green Towers. For butterhead or bibb lettuce, try Buttercrunch, Ermosa, Esmerelda, Nancy or Oak Leaf. And for batavia types (leaf lettuce with a unique flavor), try Nevada or Sierra.

Kathryn Fontenot
Home/School/Community Garden Specialist

Tomato Spotted Wilt Virus: *It Looks Like We Might Have a Bad Season*

Tomato spotted wilt virus is a viral disease that infects both tomatoes and peppers. It is transmitted to plants by thrips, a tiny, dust-like looking insect.

Unfortunately, it is hard to control this insect in a home garden. The LSU AgCenter recommends planting varieties resistant to tomato spotted wilt virus such as Talledega, Bella Rosa, Amelia and Crista. These varieties are not 100 percent foolproof but do cut down on the amount of disease in your home garden.

What Does Tomato Spotted Wilt Virus Look Like?

There are several methods for identifying this virus. The first symptom usually appears in the terminal or growing point of the tomato. Look at the back side of the terminal leaves. Are the veins dark purple? This is a sign of the tomato spotted wilt virus. The leaves also will start turning black and curling up.

The entire plant will remain stunted compared to other plants in the garden. If the plant gets to the point where it can produce tomatoes, the fruit will have large yellow halos on them.

You'll want to remove the plant from your garden and throw in the trash. Don't put the infected plant in the compost pile.

Several people have already started seeing tomato spotted wilt virus in their fields and gardens. Some years are worse than others. Just be sure to watch out for thrips, check for the symptoms of an infected plant, remove any infected plants immediately and, if at all possible, plant tomato spotted wilt virus-resistant varieties.

Turfgrasses and Lawns

Tips for Summer Care of Turfgrass

Summer is the prime growing season for lawns in Louisiana.

If you did not fertilize your lawn during the spring, you still have time to fertilize and get your lawn in good shape prior to fall. Keep up a good fertility program through early to mid-August only. Apply all granular materials on a dry lawn and water soon after application.

St. Augustine grass and zoysia respond well to fertilizer and should be fertilized two to three times during the growing season. Bermuda grass is an even bigger fertilizer user and could be fertilized even more often, especially if you like to mow grass. Carpet grass and centipede are not big fertilizer users.

Centipede grass should receive its optional second and last fertilizer application in late July or August. For centipede, apply only one-half pound of actual nitrogen per 1,000 square feet as a complete turf fertilizer. For example, you would apply 3 pounds of 17-0-17 per 1,000 square feet or 5 pounds of 10-0-10 per 1,000 square feet. St. Augustine grass would need twice this rate.

Fertilize St. Augustine, Bermuda and zoysia grasses in June and again in early to mid-August with at least 1 pound of actual nitrogen per 1,000 square feet. For example, you would apply 7 pounds of 13-13-13 per 1,000 square feet or 5 pounds of 19-19-19 per 1,000 square feet.

Make sure lawns are getting adequate amounts of moisture during the summer months, but don't overwater. Water deeply only once or twice per week – or as needed, based on the amount of rainfall. Centipede grass is the least tolerant lawn to drought, so take care to provide adequate amounts of moisture for this grass, especially during dry periods.

Watch for chinch bugs in St. Augustine and Bermuda grass lawns and treat with an LSU AgCenter recommended insecticide. Chinch bug problems show up as yellow-brown areas of the lawn during hot and dry weather. These insects extract plant juices from turfgrass stems and crowns while pumping toxic salivary fluids into the plant. The fluids disrupt the plant's vascular system.

Check for chinch bugs in the lawn by saturating suspected areas with a gallon of water mixed with a few squirts of lemon dishwashing soap. This soapy solution irritates chinch bugs and brings them up near the grass surface so you can determine if the bugs are causing the lawn damage.

Additional insect problems that appear during the summer include armyworms and tropical sod webworms. These moth larvae or "worms" can cause severe lawn damage very quickly and will need to be killed with insecticides to prevent further damage.

Be mindful of these pests as you walk through your lawns. Investigate damaged areas and treat accordingly.

Weed management is very difficult in St. Augustine and centipede lawns because herbicides can cause severe lawn injury when temperatures exceed 90 degrees. Limit applications to careful spot treatments to reduce lawn injury.

Pull up small populations of Virginia buttonweed or carefully spot treat with products like Ferti-lome Weed Free Zone. Mature plants that have been allowed to grow all summer will be uncontrollable. It is a good idea to begin spot treatments as early as May. Inspect the lawn often and pull weeds by hand or spot treat areas with herbicides to prevent the formation of large mats of these weeds by the end of the summer.

Ron Strahan
Weed Scientist/Turfgrass Specialist

Nuts

Pecan Nut Development and Causes of Nut Abortion

If you have spent any time outside lately, you probably have noticed your pecan trees have catkins that already have released pollen or are preparing to do so. If you look closely, you probably can find a few nut clusters, especially on protogynous varieties.

Nut production by a pecan tree starts with the onset of flowering, and your tree has its largest possible crop at this time. Your potential crop can only decrease in size through the summer until the nuts finally reach maturity during the fall.

Every summer I receive numerous calls about immature nuts falling on the driveway or in the yard, so I thought I would spend a little time discussing why nutlets abort during the growing season.

Most homeowners and many orchard growers probably will not even notice the first nut drop, which generally occurs in mid- to late May. This drop initiates shortly after pollination and generally consists of weak flowers as well as defective or improperly formed flowers. The number of weak flowers is often proportional to how stressed the trees were in the previous season. Highly stressed trees going into winter dormancy usually will have low energy reserves in the tree and produce many weak or defective flowers during the following spring. The drop is generally greater on short, nonvigorous shoots than on longer (more than 6 inches), healthier shoots.

The second drop typically is the one that start phones ringing. This drop usually occurs in late June – about five to six weeks after pollination. For a pecan to develop and mature, it must be pollinated (i.e., pollen must be transferred from the male flower or flower parts to the female flower or flower parts) and the embryo fertilized. Unfavorable environmental conditions such as heavy rain or hot, dry winds during bloom can cause pollination problems. Therefore, the second drop is primarily due to a lack of egg fertilization. It is not unusual to lose a quarter of the crop during the first and second drop periods.

In addition, self-pollination can result in some nut abortion during the second and third drop phases. Self-pollinated nuts usually are smaller in size and are not as well filled as nuts that are cross-pollinated. This is one of the reasons we recommend planting at least two varieties of pecans.

The third drop generally occurs in July and usually does not involve a large quantity of nuts. But it has been shown to be accentuated by self-pollination. At fertilization, growth processes in the pistil produce an endosperm

nucleus to form the endosperm, which will nourish the embryo. Studies of nuts that have aborted during this timeframe revealed a well formed nucellus but no visible cellular endosperm. Therefore, premature shedding probably resulted from lack of nutritional support of the embryo.

The fourth and final normal nut drop during a season begins about nine weeks after pollination, usually in early August, and continues into September. This drop often causes greater concern to pecan growers because of the large size of the nuts at that time, although the percentage shed is generally less than 10 percent. Embryo abortion is considered to be the reason for this late drop. At this time, the embryo has grown to full size and the nut is on the brink of initiating shell hardening. The factors involved in embryo abortion at this stage of development are unknown.

Aside from the physiological conditions described above causing nut dropping, many other factors can produce some nut abortion during the growing season. A common cause of early nut drop is damage resulting from nut-feeding insects.

The pecan nut casebearer is a small insect that which can have up to three generations during the summer, and it therefore can result in three periods of nut drop in pecans (typically mid-May, July and August). The first generation typically causes the most damage due to the small size of the pecan nuts. Damaged nuts will be characterized by an exit hole at the base of the nut covered by frass.

Puncturing of the ovary wall before shell hardening by feeding stink bugs and leaf-footed bugs usually will result in nut abortion in three to four days. Hickory shuckworm and pecan nut curculio also can cause nut drop during June and July.

A puncture normally can be seen on nuts damaged by insects. A white blotch frequently can be seen around the puncture made by shuckworm. Prior to shell hardening, pecan weevil and curculio damage appears as a dark staining fluid on the surface of the shuck.

Shucks covered with circular, black to olive green lesions are infected with scab disease. Spraying for control of scab disease usually is not economical for yard trees since four to six fungicide applications per year often are needed to obtain control of scab disease. The scab fungus requires moisture on the leaves for infection to occur. Removing low limbs and providing good air circulation around the tree can reduce scab infection. Early infected nuts will drop if the problem becomes severe. Nuts infected later in the season will have reduced nut quality and/or poor shuck opening. Hence, any damage to the shuck results in poorly filled pecans.

Water stage in late July and early August is one of the most common times for environmental stress to increase nut drop. As the nuts move from size development into kernel formation the pecan sheds very easily. Any stress received by the tree at this stage can result in major fruit drop. Some trees can lose up to one half of their crop if not properly managed during water stage.

Some of these factors are (1) severe drought causing water stress, (2) excessive water resulting in water-logged soils or water-split in the nuts, (3) hot, dry winds increasing water loss or (4) high winds from hurricanes or thunderstorms causing physical damage that disturbs the ovary wall of pecans, resulting in nut abortion.

Nutritional problems from shallow soil or poor fertilization can cause pecans to shed throughout the year. If the embryo aborts after the shell hardens, the nut usually matures, but will be hollow.

So if you notice nuts beginning to drop from your trees this summer, consider the time of the year and if it could be one of the physiological drops described above. But also examine the nuts for physical damage as a result of insect feeding, disease or environmental stress. If you are unable to determine a cause for the drop, contact your local LSU AgCenter county agent for assistance.

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Horticulture Hints

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Parish agents, please adapt these suggestions to your area before disseminating.