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IN A NUTSHELL

Newsletter

EXTENSION PROGRAMS
Agriculture and Forestry
Community Leadership
Economic Development
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Family and Consumer Sciences
4-H Youth Development
Natural Resources

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SCAB CONTROL

The nuts of many cultivars are now entering their most rapid growth period of the season. In most years, this is late June through July. Nuts are most susceptible to infection by the pecan scab fungus during this period of rapid nut size increase.

Because of the frequent rains the state has been getting, and the susceptibility of the nuts to infection during the next 4 to 5 weeks, it is extra important to try to maintain a protective fungicide spray on your trees during this period. It is probably wise to maintain a two-week application schedule of fungicide until the frequency of rainfall decreases to a more normal summer pattern. When rains become less frequent it should be possible to switch to a 3 to 4 week application schedule to maintain scab disease control.

All of the recommended fungicides are effective in protecting against scab disease. However because two of the groups, the DMIs (Group 3) and the Strobilurins (Group 11), have a higher probability of selection for fungicide resistance, it may be best to use the groups with less probability of resistance problems [Organotin (Group 30) or Doline (Group M)], if there is a moderate to high level of scab already in your orchard. If your trees do not have a significant level of scab disease at this time any of the groups of fungicides would be suitable to use.

Randy Sanderlin, Plant Pathologist, LSU Pecan Research-Extension Station

INSECTS

Light to very light nut drop due to shuckworm was observed in Madison, Ouachita, Red River and Caddo parishes the past two weeks. Light to very light curculio activity was observed in Caddo and Tensas parishes.

Second generation nut casebearer moths were caught in pheromone traps in Red River parish. Light trap catches of casebearer and shuckworm have been very light at the LSU Pecan Station.

JUNE DROP

Nut drop is still occurring at the LSU Pecan Station. The drop appears to be primarily physiological or weather related. Only trace amounts of nut curculio and shuckworm damage has been found in the drop. Nut drop due to nut curculio and second generation shuckworm usually occurs from mid June to mid July.

CROP LOAD ASSESSMENT AND THINNING IN PECAN ORCHARDS

The month of June has passed us by and with it the LPGA and PPLA pecan conferences. You missed some good information if you were unable to attend this year. So just in case you missed the discussions on crop load management, we will review the basics again. First, you must determine the cultivars in your orchard which have an excessive crop. The initial evaluation can generally be done in late June or early July, when most of the natural nut drop will be finished and the real crop potential can be seen. Crop load is assessed by observing 50-100 terminal growing points at random and developing a percentage of nut-bearing terminals for each cultivar that you have. A light crop is a percentage less than 30%; medium to good crop is 40-70%; and a heavy or overloaded crop is 75-100%. Judging crop load is instrumental in making a determination about whether or not a crop needs thinning and is a practice which will improve with experience. Generally, a grower will under-thin the crop more often than he will over-thin a large crop. Optimum crop load varies with cultivar and may range from 50-60% for large nuts such as Kiowa or Cape Fear to 60-70% fruiting shoots for smaller nuts such as Elliott or Curtis.

Starting in mid-July, nuts should be periodically monitored for kernel and shell development so that the earliest time to thin the crop can be identified. After fertilization, the ovule (the tissue that becomes the kernel) begins to expand and lengthen from the tip of the nut toward the stem. As the ovule expands, the space is filled with fluid until the ovule extends to the stem end of the nut (water stage). The shell begins to harden from the tip shortly after the nut reaches full size. After expansion is complete, kernel deposition begins (dough stage). Pecan nuts should be removed when the ovule is 50-100% expanded, but before the kernel enters the dough stage. The calendar time varies with cultivar and orchard location. Thinning the nuts earlier, while they are too small, requires force that can damage the tree. Thinning too late, (after the nuts enter the dough stage) reduces thinning benefits on kernel quality, return bloom, and cold hardiness. A simple long-way slice through the shuck from tip to base with a pocket knife will tell you how far toward the base of the shuck the water-filled "kernel sacks" have extended. As of July 9, 2007, Pawnee (our earliest maturing nut) kernels had reached 25 - 50% expansion at the LSU Pecan Station.

Fruit thinning can be accomplished with a conventional tree shaker equipped with donut or cylinder pads. Donut pads are preferred because they give a better grip and result in less crushing or tearing of the trunk bark. It is important to have a firm grip on the trunk and it is generally beneficial to have someone on the ground helping position the clamps on the trunk. Always use silicon gel or grease lubrication between rubber flaps that cover the pads as an additional precaution. This allows movement between the flap and pad, preventing movement of the bark during shaking. Position the shaker as level as possible and hold the tree in the center of the shaker head for shaking. Preventing bark damage is imperative in pecan nut thinning. Monitor the trunks for signs of shaker damage. Under conditions of abundant rainfall (we've had over 16 inches since June 1st) or if the trees are well irrigated, the cambium layer under the bark will slip more readily, making it easier to split or slip the bark off the tree trunk. If rainfall has been plentiful and trees appear to be flushing growth, it is advisable to shake a small number of trees and observe them for 1-2 days afterwards for signs of compression injury (splits and cracks in the bark in the area held by the pads).

Trees with almost 100% of the shoots fruiting and a cluster size greater than three are overloaded and will definitely benefit from thinning. Trees should be shaken 2 to 3 seconds at a time, evaluated, and shaken again if needed. This process should be repeated 2 to 3 times when necessary until thinning is completed. The force required to remove nuts is not closely related to nut size. For example, relatively small fruited cultivars such as Curtis require about the same shaking force to remove nuts as some larger fruited cultivars such as Kiowa. It is advisable to have one person on the ground watching what is happening as the trees are shaken. This person can communicate to the shaker operator to stop or repeat the shaking process. It is important to shake briefly, stop, evaluate how many nuts are still in the tree, and then shake again if necessary. Growers should test nut thinning in a portion of their orchard and personally evaluate the results before using nut thinning as a regular practice.

Mechanical thinning can not only provide stabilization of year to year orchard production, but can also improve uniformity of tree-to-tree production. Fruit thinning of prolific pecan cultivars will relieve stress on the tree by equalizing the balance between leaves and nuts. Problems with over production are related to a decrease in the number of leaves per fruit, especially in heavy crop years. Removing a portion of the crop (nut thinning) before nuts begin to actively compete for a fixed amount of carbohydrates provides each remaining nut with access to a greater supply of carbohydrates. It also provides the tree with enough reserves to support a flower crop for the following season, thus reducing alternate bearing. Mechanically thinning the pecan nut load in heavy crop years generally increases nut quality, as indicated by increased percentage of kernel, kernel grade, and nut weight. Nut thinning improves return bloom of some cultivars, thus reducing crop variation from year to year, and has been shown to reduce the tree's susceptibility to cold injury. Growers are encouraged to test nut thinning in a portion of their orchards and personally evaluate the results.

Charlie Graham, Horticulturist, LSU Pecan Research-Extension Station

LEAF SAMPLING

Pecan leaf analysis should be made in July. Collect the middle pair of leaflets from the middle leaf of the current season's growth. Take samples from shoots, which have terminated their growth for the season and have fully expanded leaves. Continue this procedure until 40 pairs of leaflets have been collected from at least 10 trees. This constitutes one sample. Select shoots that are fully exposed to the sun and near the ends of branches, not small branches growing from large limbs nor shaded branches near the center of the tree. Collect from all sides of the trees. Avoid taking leaflets damaged by insects, diseases or those that are otherwise contaminated. Leaflets in one sample should all be from one variety, but this is not essential.

Separate samples should be taken from different soil types or fertility management areas. Samples from trees that are dying or otherwise not typical of the average orchard tree should not be included with the regular samples. It is also advisable to keep samples from young non-bearing trees labeled separately from samples of older bearing trees. Avoid sampling leaves covered with dust such as those that occur near dirt roads, etc. If major rains have not followed last zinc application rinse the leaves in running water and swipe with damp cloth. Avoid rubber and galvanized containers when collecting leaves, since these could affect results.

Place the leaves in a new clean paper bag for air-drying in a dust-free area. Leave the bags open until leaves are dry. Leaves can also be dried in a kitchen oven overnight with the oven set on warm. Check with laboratory. Most laboratories prefer dry leaves. Some laboratories such as Texas A & M want fresh leaves to allow pre test washing of leaves.

The nutrients normally analyzed are: Nitrogen, Phosphorus, Potassium, Magnesium, Calcium, Sulfur, Zinc, Iron, Manganese, Boron, Copper and Molybdenum. Local state university laboratories performing leaf analyses include:

Plant Analysis Laboratory
LSU Department of Agronomy
126 MB Sturgis Hall
Baton Rouge, LA 70803-2111
(225) 578-1219
<http://www.lsuagcenter.com/stpal/>

Agriculture Chemistry Laboratory
Agricultural Chemistry Room 102
LSU Highland Rd.
Baton Rouge, LA 70803
(225)342-5812
(Indicate "Pecan Plant Tissue Group" on Sample)

MSU Soil Testing & Plant Analysis Laboratory
Box 9610 / Mississippi State, MS 39762
(662)325-3313

Samples can be sent directly to the laboratory and the results of the nutrient analysis will be returned directly to the grower with an adequate, deficient, or excessive rating given to each nutrient. If you have questions on the results you can contact your County Agent.

PECAN ESTIMATES

The Pecan Producers of Louisiana and the Louisiana Pecan Growers Association had 2007 pecan crop estimates at their Annual Conferences in June. The Pecan Growers' estimate on June 7 was 12 million pounds for Louisiana, 3 million for Mississippi, 1 million for Arkansas and 298 million pounds for the United States. The Pecan Producers estimate on June 22 was 10 million pounds for Louisiana, 3 million for Mississippi, 2.5 million for Arkansas and 282.5 million for the United States. Louisiana pecan production averages 14 million pounds annually. The United States' ten year pecan production average is 255 million pounds. The nations' pecan crop has ranged from a high of 406 million pounds to a low of 146 million during the past 10 years.

The nation is expecting an on-year pecan crop (large) in 2007 with the four largest pecan producing states having an on-year. The two estimates for the national pecan crop are for a large but not excessive crop. Louisiana is off cycle with most pecan producing states since they are expecting an off-year crop (small). If the early crop predictions are accurate, pecan prices should be good early and possibly continue through harvest.

UPCOMING EVENTS

August 11: Arkansas Pecan Growers Association meeting and workshop. 9:00 a.m. – 4:30 p.m. Foreman High School on Rocky Comfort St in Foreman, Arkansas and York Pecan Company. Lunch will be provided. **RSVP by Friday, July 27th** to Jo Salazar, (479)575-2604 or e mail: Salazar@uark.edu. For additional information contact Elena Garcia: megarcia@uark.edu or (479)575-2790.

Sincerely,



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