

## LOUISIANA RECOMMENDATIONS FOR CONTROL OF PECAN INSECTS IN COMMERCIAL PECAN ORCHARDS: AN ILLUSTRATED GUIDE

Control of insects is essential for profitable pecan production in Louisiana. Commercial pecan producers must be equipped to spray at the proper time with the recommended insecticides. Knowing how to identify and look for the major insect pests of pecan during the growing season is important in determining if an insecticide application is needed and, if so, when it should be applied.

When using insecticides, it is very important that they be applied only when needed. The correct insecticide should be used for a given pest and it should be applied at the correct rate. The pH of the water being used for spraying should be between 5.5 and 6.5 to insure the optimum efficacy of the insecticide. If the pH of the water does not fall in this range, a buffering agent should be used to adjust the pH accordingly. Use of a buffering agent will help to maintain the desired pH once insecticides have been added to a solution.

Be sure to follow the directions on the label of the insecticide being used. In addition to what the insecticide can control and the rates to use, the label will provide additional information regarding the use of spray adjuvants, re-entry times following treatment applications, harvest intervals, grazing restrictions, product safety information, and worker protection information.

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### ILLUSTRATED SPRAY GUIDE FOR CONTROL OF PECAN INSECT AND MITE PESTS

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**Insect:** Scale insects



*Scale on pecan twig*

**Time of Application:**

Late February until buds first begin to break.

**Suggested Insecticides and Rates: \***

Three gallons of dormant oil per acre. If trees are weak use only two gallons per acre.

**Insect:** Pecan phylloxera



*Phylloxera nymphs (R. Melanson photo)*



*Phylloxera galls*

**Time of Application:**

Between the time the buds begin to open and approximately  $\frac{1}{2}$  to  $\frac{3}{4}$  inch of new growth begins to appear. Use a hand lens or magnifying glass to make sure phylloxera are present. Treat only those trees previously infested and those adjacent to them. If infestation levels are high, two insecticide applications may be needed.

**Suggested Insecticides and Rates:**

Lorsban 4E at 1.5 to 2.0 pt./acre

Provado 1.6F at 3.5 to 7.0 fl. oz./acre

Warrior at 2.56 to 5.12 fl. oz./acre

Centric 40WG at 2.0 to 2.5 fl. oz./acre

**Insect:** Pecan Nut Casebearer



*Adult casebearer (A. Knutson photo)*



*Casebearer damage*

**Time of Application:**

Begin scouting for casebearer eggs around May 1. If pheromone traps are used to monitor adult activity, they should be in place by the third week of April. Once adults are observed in the traps begin inspecting nut clusters for egg lay. Insecticide applications should be made when egg lay is observed on 1 to 3 % of the nut clusters. A second application may be necessary if infestation levels are high or emergence and egg lay are prolonged. Continue monitoring adult activity and egg lay after the initial insecticide application to determine if a second application is necessary.

**Suggested Insecticides and Rates:**

Lorsban 4E at 1.5 to 2.0 pt./acre  
Imidan 70W at 2.0 to 3.0 lb./acre  
Confirm 2F at 8.0 to 16.0 fl. oz./acre  
Intrepid 2F at 4.0 to 8.0 fl. oz./acre  
Spintor 2SC at 4.0 to 10.0 fl. oz./acre  
Dimilin 2L at 8.0 to 16.0 fl. oz./acre  
Warrior at 2.56 to 5.12 fl. oz./acre  
Mustang Max at 2.56 to 4.0 fl. oz./acre  
Ammo 2.5EC at 3.0 to 5.0 fl. oz./acre  
Entrust at 1.25 to 3.0 oz./acre \*\*

**Insect:** Hickory Shuckworm

*Shuckworm damage*



*Shuckworm larva*

**Time of Application:**

Begin treatment applications at half-shell hardening (August 10-15). Two to three applications may be needed depending on the severity of the infestation. Insecticide applications should be made 10 to 14 days apart.

**Suggested Insecticides and Rates:**

Lorsban 4E at 1.5 to 2.0 pt./acre  
Confirm 2F at 8.0 to 16.0 fl. oz./acre  
Intrepid 2F at 4.0 to 8.0 fl. oz./acre  
Spintor 2SC at 4.0 10.0 fl. oz./acre  
Warrior at 2.56 to 5.12 fl. oz./acre  
Ammo 2.5EC at 3.0 to 5.0 fl. oz./acre  
Mustang Max at 2.56 to 4.0 fl. oz./acre  
Dimilin 2L at 8.0 to 16.0 fl. oz./acre  
Imidan 70W at 2.0 to 3.0 lb./acre  
Entrust at 1.25 to 3.0 oz./acre \*\*

**Insect:** Pecan Leaf Scorch Mite



*Pecan leaf scorch mite*



*Mite damage*

**Time of Application:**

When leaf discoloration (light brown to bronze colored blotches) begins to appear use a hand lens or magnifying glass (at least 10X) to inspect the leaves for the presence of mites. Sample ten compound leaves on five to ten trees throughout the orchard. Treat when an average of eight or more mites per compound leaf are found.

**Suggested Insecticides and Rates:**

Kelthane MF at 16.0 to 32.0 fl. oz./acre

Vendex 50WP at 4.0 to 8.0 oz./acre

Vendex 4L at 4.0 to 8.0 fl. oz./acre

Savey 50DF at 3.0 to 6.0 oz./acre

**Insect:** Yellow Aphids



*Yellow aphids*

**Time of Application:**

Separate treatments for yellow aphids are generally not recommended. If a separate treatment is desired, treat when aphid numbers average 25-30 aphids per compound leaf. Do not treat for yellow aphids before July 1. Sample ten compound leaves on five to ten trees throughout the orchard.

**Suggested Insecticides and Rates:**

Provado 1.6F at 3.5 to 7.0 fl. oz./acre

Admire 2F at 16.0 to 32.0 fl. oz./acre as a soil application (see label)

Ammo 2.5EC at 3.0 to 5.0 fl. oz./acre

Mustang Max at 2.56 to 4.0 fl. oz./acre

Warrior at 2.56 to 5.12 fl. oz./acre

Centric 40WG at 2.0 to 2.5 oz./acre

**Suggested Insecticides and Rates (cont.):**

Fulfill at 4.0 oz./acre

**Insect:** Black Pecan Aphid



*Black pecan aphid*



*Black pecan aphid damage*

**Time of Application:**

Treat when there is an average of one black pecan aphid per compound leaf. Sample ten leaves on five to ten trees throughout the orchard.

**Suggested Insecticides and Rates:**

Provado 1.6F at 7.0 to 14.0 fl. oz./acre

Admire 2F at 16.0 to 32.0 fl. oz./acre as a soil application (see label)

Ammo 2.5EC at 3.0 to 5.0 fl. oz./acre

Imidan 70W at 2.0 lb./acre

Warrior at 2.56 to 5.12 fl. oz./acre

Mustang Max at 2.56 to 4.0 fl. oz./acre

Centric 40WG at 2.5 oz./acre

Fulfill at 4.0 oz./acre

**Insect:** Pecan Weevil



*Pecan weevil larvae and damage*



*Adult pecan weevil*

**Time of Application:**

Treatment applications should begin about the time nuts enter the dough stage (around August 20<sup>th</sup>). Two or three insecticide applications may be needed. Insecticide applications should be made at seven to ten day intervals. The first treatment should be made following rain because this loosens the soil allowing for weevil emergence.

**Suggested Insecticides and Rates:**

Sevin 80S at 1.5 to 2.0 lb./acre  
Sevin XLR Plus at 32 fl. oz./acre  
Mustang Max at 2.56 to 4.0 fl. oz./acre  
Imidan 70W at 2.0 to 3.0 lb./acre

**Insect:** Fall Webworm



*Fall webworm larva*



*Fall webworm damage*

**Time of Application:**

Normally this insect is controlled when treating for other insect pests within the orchard. The presence of an occasional colony generally does not warrant treatment. However, if a grower decides an insecticide application is needed, it should be made when colonies are first observed and the larvae are small. The larger the colony is, the more difficult it becomes to reach the larvae within the webbing with the insecticide.

**Suggested Insecticides and Rates:**

Confirm 2F at 8.0 to 16.0 fl. oz./acre  
Intrepid 2F at 4.0 to 8.0 fl. oz./acre  
Spintor 2SC at 4.0 to 10.0 fl. oz./acre  
Javelin WG at .25 to 4.0 lb./acre \*\*  
DiPel ES at 16.0 64.0 fl. oz./acre  
Sevin 80S at 2.5 to 6.25 lb./acre  
Sevin XLR Plus at 2.0 to 5.0 qt./acre

**Insect:** Stink Bugs and Leaffooted Bugs



*Brown Stink Bug*



*Leaffooted Bug*

**Time of Application:**

Several insecticides are registered for control of stink bugs and leaffooted bugs. Timing of insecticide applications for control of these insects is difficult because they are present throughout the growing season, they are difficult to observe in the trees, there is no easy way to monitor their activity, and no treatment thresholds have been established. An important step in reducing the severity of stink bug and leaffooted bug infestations is elimination of weed hosts in and around the orchard. Cultivated crops such as corn, soybeans, and cotton grown near pecan orchards should be carefully monitored for stink bugs and leaffooted bugs. If possible, they should be controlled within these crops. If not, control measures may need to be initiated in the pecan orchard during the time these crops are being harvested. Insecticide applications for control of other late-season pests such as black pecan aphids, hickory shuckworm, and pecan weevil can sometimes help in reducing populations of stink bugs and leaffooted bugs within an orchard, especially if the insecticides being used are also registered for control of stink bugs and leaffooted bugs.

**Suggested Insecticides and Rates:**

Imidan 70W at 2.0 to 3.0 lb./acre

Sevin 80S at 1.5 to 2.0 lb./acre

Sevin XLR at 32.0 fl.oz./acre

Warrior at 2.56 to 5.12 fl.oz./acre

Mustang Max at 2.56 to 4.0 fl.oz./acre

PennCap-M at 2.0 to 8.0 pt./acre

\* Rates are expressed in the amount of material to use per acre. If a sprayer is calibrated to deliver 75 gallons of water per acre, you should add the amount of material listed to each 75 gallons of water. If your sprayer is calibrated to deliver 150 gallons of water per acre, you would add the suggested amount of insecticide to each 150 gallons.

\*\* Certified for use in organic orchards.