

Fungicide Application Recommendations for Pecan Disease Control

In Louisiana, control of diseases is required for consistent production of high quality pecans. Disease control includes the use of cultivars without extreme susceptibility to the diseases, the use of cultural practices such as adequate spacing between trees, and conscientious application of fungicides.

The key components of the effective use of fungicides for pecan disease control are timing, coverage, and concentration. Application timing is based on the fact that fungicides control disease by preventing infection; they must be applied **before** infections occur (e.g. before rainfall with regard to pecan scab disease and several of the fungal foliar diseases). Coverage means getting fungicide applications evenly dispersed throughout the trees to cover as much of the stem, leaf, and nut tissue as possible. Concentration relates to having the proper amount of fungicide mixed with water to give an amount of fungicide on the covered tissue that will be effective in preventing infections. If fungicide concentration is too low, disease control may not be obtained; if the concentration is too high, fungicide costs will be greater than necessary.

It is important to have spray equipment that can provide adequate coverage of the trees being sprayed. For mature pecan trees, a commercial air-blast type sprayer designed for tree application is needed. Speed of application also is critical. Generally, the larger the trees that are being sprayed, the slower the speed of application needs to be to obtain adequate coverage. Producing pecan trees should be sprayed at a speed of less than three miles per hour. Trees less than 80 feet in height can usually be effectively covered by using a serpentine application pattern on each side of the tree row. On very large trees, coverage can only be obtained by completely circling each tree with the sprayer.

The spray schedule provided here is recommended only as a general guide. To obtain the most economical use of fungicides and effective disease control in specific orchards the disease history of the orchard, the cultivars present, and the weather conditions of each year should be taken into consideration and used to make adjustments to this schedule. You should contact your county agent or an LSU AgCenter pecan specialist for specifics of commercial pecan production disease control.

CAUTION

The potential for pathogens to develop resistance against fungicides is high in pecan production. The following recommendations are made to delay the development of pathogen resistance.

1. Alternate fungicides from different groups in the spray program.
2. Do not use several consecutive sprays with one fungicide or fungicides in the same group.
3. Use fungicides at the correct concentration. Sprayer calibration is essential for economical and effective use of fungicides.

Pecan Disease Control Spray Schedule

Time Of Application	Disease to be Controlled	Remarks
<i>First Prepollination Spray:</i> When leaves of disease susceptible cultivars are about one-inch in length.	Leaf Scab, Vein Spot, Downy Spot	Select from fungicide list. Follow label. Do not graze sprayed orchards. Syllit and Elast may cause leaf burn on Moore, Van Deman, and Barton cultivars.
<i>Second Prepollination Spray:</i> About 2 weeks after 1 st spray if weather is warm and leaves are growing rapidly.	Leaf Scab, Vein Spot, Downy Spot	↑ Follow labels. Use an application schedule that may help delay the development of fungicide resistance. In addition to fungicide, foliar zinc nutrient sprays should be made during the time of leaf growth, usually from mid-April to mid-June.
<i>First Leaf and Nut Cover Spray:</i> Two to three weeks after last spray. Often in early May.	Leaf and Nut Scab, Vein Spot, Downy Spot	↑ Select from fungicide list. Follow labels. Do not graze sprayed orchards. Syllit and Elast may cause leaf burn on Moore, Van Deman, and Barton cultivars.
<i>Second Through Sixth Cover Sprays:</i> Cover sprays should be made at 2 to 4 week intervals. Two week intervals are used during periods of frequent rainfall in orchards with very scab susceptible cultivars.	Nut Scab	↑ Follow labels. Use an application schedule that may help delay the development of fungicide resistance.
<i>Fifth and Sixth Cover Sprays:</i> The last two cover sprays which are often made from late July through August can be eliminated if there is little scab on the nuts and rainfall is sparse.	Nut Scab	↑
Airplane Application Of Fungicides	Leaf and Nut Scab	Airplane application of fungicides for pecan disease control is not as effective as ground application and should be used only in instances when it is not possible to put ground equipment into an orchard. Do not rely on aerial application for season long control. Use fungicides at the same rate per acre as for ground application and apply in 20 gallons of water per acre.

Fungicides Recommended for Pecan Disease Control

All of the fungicides in the list below do a good job of scab control. Some of the fungicide groups are more subject to development of pathogen resistance problems than other groups. Fungicides in Groups 3 and 11 and those with products from these two groups are particularly subject to resistance occurrence. It may be best to use fungicides in these groups when there is a low level of disease in the orchard such as early in the season or in the summer if little disease development has occurred.

Pecan Fungicides List By Activity Group*			
FRAC GROUP	Resistance Risk	PRODUCT	RATE / ACRE
Group 30 Organotin	Low	Agri-Tin Super-Tin	7.5 oz 7.5 oz
Group 3 DMIs	Moderate to High	Enable Propimax Bumper	8 fl oz 6-8 fl oz 6-8 fl oz
Group M Guanidine Acetate (Dodine)	Moderate	Elast	51 fl oz
Group 11 Strobilurin	High	Abound Sovran Headline	9.5 fl oz 3.2 oz 7.0 fl oz
Group 3 & 30 DMI + Organotin	Same as 3 & 30	Orbit/Super Tin Enable/Agri-Tin	4 oz & 3.75 oz 1.3 oz & 3.74 oz
Group 6: Mix of Groups 3 & 11	Same as 3 & 11	Stratego Quilt	10 fl oz 14 fl oz

*To obtain the best control and reduce the chances of pathogen resistance, use a rotation of fungicides from different FRAC Activity Groups, or a mixture of fungicides from different groups. The Fungicide Resistance Action Committee (FRAC) groups fungicides by their mode of biological activity. Development of resistance to one fungicide in a group generally means a pathogen will be resistant to all of the fungicides in that group. The probability of a pathogen developing resistance to a Group of fungicides is rated as low, moderate, or high based on the mode of action of the fungicide Group.

Last Revised: July 2008 by Dr. R. S. Sanderlin, Plant Pathologist, LSU AgCenter Pecan Research-Extension Station