

Peanut Leaf Spot and Rust

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Peanut Leaf Spot

Each year, peanut leaf spot is the most prevalent peanut disease in Florida. It causes defoliation, and thus, can cause yield reductions of over 75 percent when not controlled and less than five percent when a total control program is utilized. Currently, it is estimated that peanut leaf spot is causing an annual 10-20 percent loss in Florida. Not too many years ago statewide losses attributable to peanut leaf spot exceeded 50 percent.

Actually, two leaf spot diseases occur but together they are called peanut leaf spot. Early peanut leaf spot, caused by the fungus *Cercospora arachidicola*, usually is the first to occur. It is characterized by a round, brown-red spot and may have a yellow halo (Figure 1). Late leafspot is caused by a related fungus, *Cercosporidium personatum*, and is characterized by a somewhat round spot that is black on the underside of the leaflet and it may or may not have a yellow halo (Figure 2). Lesions (spots) of either leaf spot disease may be found in leaflets, petioles, stems and pegs. However, lesions are not found in petioles, stems or pegs until later in the season or after numerous lesions are found on leaflets. Occasionally, chemical burns from insecticides or cracking time herbicides cause dark spots that may be confused with leaf spot.

Microscopic spores which are produced on the surface of the lesions are disseminated by wind, rain or irrigation. When the leaf, petiole or stem surface is wet, the spores germinate and penetrate the tissue. Within 10 to 14 days after these infections occur, new lesions with more spores are produced. Leaf spot causes premature

leaf drop. Fallen leaves with lesions will provide primary inoculum (spores) for the next season if peanuts are planted in the same or adjoining fields.

Control of Leaf Spot

Control of leaf spot is achieved by reducing spore production. This can be achieved by utilizing several control measures. No one control measure by itself has the capability of reducing spore production adequately. The following control measures when used together are effective for controlling peanut leaf spot. 1) Use crop rotation. It is best not to have peanuts in the same field more than once every four or more years, but if land is not available, do your best not to plant peanuts following peanuts. 2) Earlier plantings tend to reduce leaf spot. 3) Begin a fungicide spray program no later than 35 days after planting. Where peanuts follow peanuts in a rotation, beginning a spray program when the plants are 30 days old is advisable. 4) Spray intervals of 10 to 14 days are adequate if other control measures are used. Ten day intervals should be used when your spray program or some other variable has allowed a build-up of leaf spot. 5) Use fungicides recommended by your county Extension agent. See Extension Plant Pathology Mimeo No. 12 for updated recommendations. 6) Sprays are more effective than dusts. 7) Use a spreader sticker if the label of the fungicide states that it is necessary. 8) Use the maximum rate of fungicide allowable on the label where peanuts follow peanuts or where the first spray is delayed beyond 44 to 50 days or where spray intervals exceed 14 days. 9) Where ground rigs are used, make sure thorough coverage along

the center of the row is achieved. 10) Where 20 to 30 gallons of water per acre are used, pressures of 50 to 300 psi have performed well. Using higher water rates have performed best during dry years. 11) Where it is apparent that weather conditions such as a hurricane or stalled front will delay harvest, continue to apply fungicide sprays to minimize leaf spot increases at the end of the season. 12) Control weeds, as they will trap the spray. 13) Some varieties have modest levels of resistance to leaf spot.

Peanut Rust

Peanut rust does not occur in each field each year. In the Florida panhandle, rust may occur in scattered fields, usually no earlier than August. In the Marion-Levy-Alachua County area, it has typically been found earlier. Peanut rust is caused by the fungus *Puccinia arachidis* which produces orange to brown,

raised pustules primarily on the undersides of leaflets (Figure 3). Petioles, stems and pegs also have pustules. At a distance, infected plants will appear yellowish at first. As the disease progresses, leaf drop occurs and “burned out” areas occur in the field.

Control of Rust

Use crop rotation and destroy volunteers. Numerous fungicide sprays are available and should be used when rust is first found in a peanut field. Again, see Extension Plant Pathology Mimeo No. 12 in your county Extension agent’s office for the recommended fungicides. Fungicide sprays with sulfur, are effective against rust. Some varieties with resistance are available.

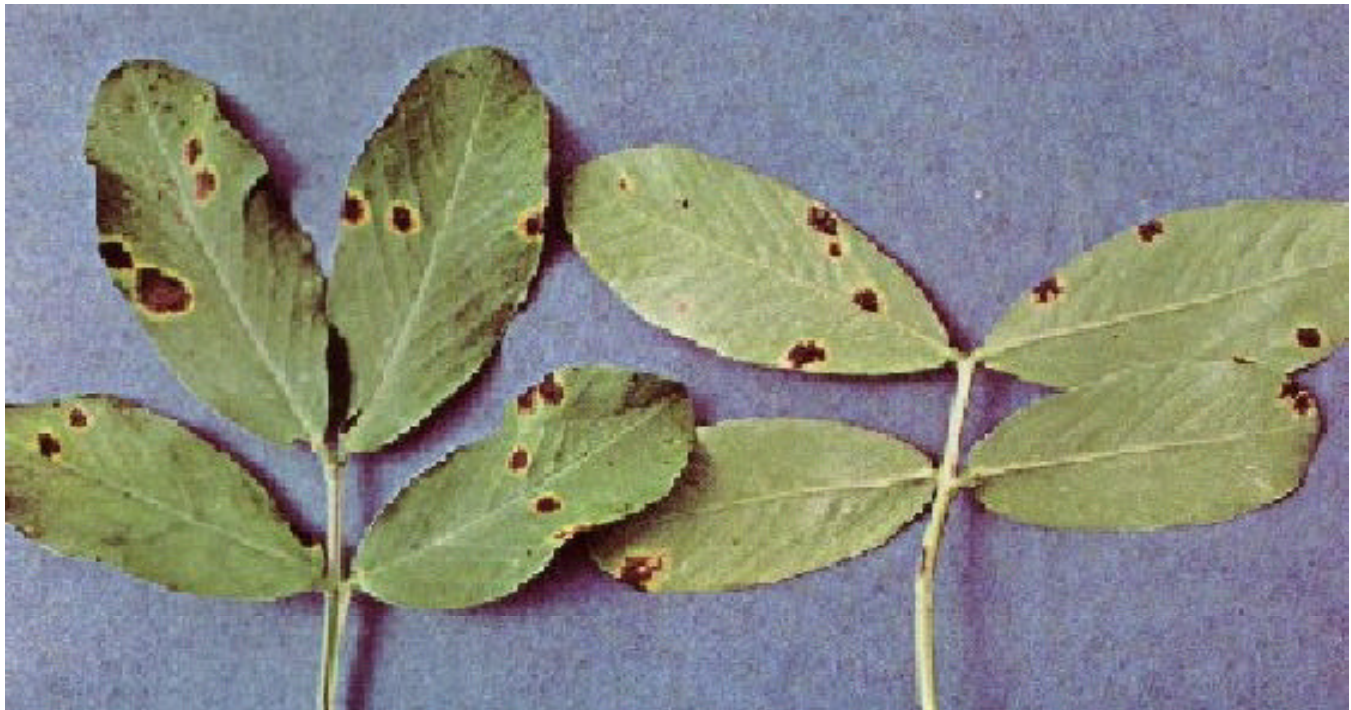


Figure 1. Early leaf spot on leaflets and petiole.



Figure 2. Late leaf spot on leaflets and petiole.

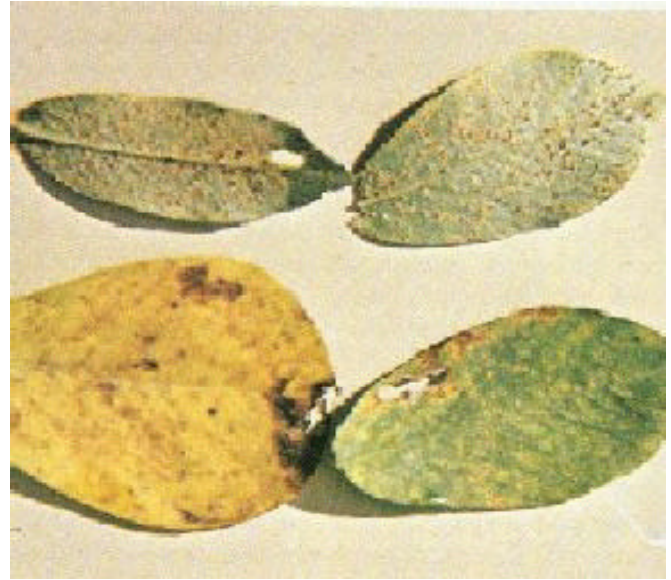


Figure 3. Rust on peanut leaflets.