

Request For Fusarium Wilt Samples



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Fusarium wilt (FW) is more visible this summer than it has been for several years in Arkansas cotton fields. FW is a disease of the vascular system caused by a soilborne fungal pathogen (*Fusarium oxysporum*) that survives for long periods (several years) in cotton fields. This disease may be responsible for losses of 20-30 percent in some fields (Fig. 1), and hot, dry weather amplifies the severity of the losses, particularly in acid soils. Symptoms of FW wilt include foliar chlorosis (Fig. 2) that may be mistaken for severe nutrient deficiency and discoloration of the vascular system of the plant (Fig. 3). Because in Arkansas, FW is almost always associated with the presence of root-knot nematode galls on roots of infected plants (Fig. 3) is good circumstantial evidence that the problem may be FW. No chemical treatments are effective against FW, but nematode management may be helpful in minimizing crop loss. Although no highly resistant cotton cultivars are available

Figure 1. Severe Fusarium Wilt in Cotton

Figure 2. Foliar Symptoms of Fusarium Wilt of Cotton

Figure 3. Vascular Discoloration from FW/Root Galling from Root-knot Nematode



for the mid-South, some moderately resistant cultivars are available.

While there is nothing that can be done to eliminate FW from a field and little that can be done in the current season to control the disease if it occurs, this summer is an excellent time for growers to take note of fields where the disease is present to plan for next year. A long-term strategy for problem fields will include crop rotation, selection of moderately resistant cultivars and good nematode management. Keep in mind: Although the disease may be more visible this year than in years past because of the high temperatures and dry weather, the disease was also present in the field in past years – and will also be there again next year.

WE NEED YOUR HELP! An ongoing nationwide survey of *Fusarium oxysporum* is being conducted this year. The objective of the survey

is to collect plants showing symptoms from fields all across the Cotton Belt to determine the genetic diversity of this pathogen in the U.S. The ultimate goal of this survey will be to provide cotton breeders with a much better understanding of this pathogen so they can focus breeding efforts on developing effective FW resistant cultivars. If you find cotton fields this summer showing symptoms, please take a few moments to collect a sample. Collect about 6-8 stems of plants showing symptoms from each field. Cut the stem at the soil line, and again about 6-8 inches up the stem so that the sample consists of the lower portion of the stem. Information we need for each sample includes:

the county the field is in, the grower and field name (GPS coordinates would be great) and date the sample was collected. No special treatment is needed for the samples. Place them in an envelope, small mailing box, etc. and mail all samples to: Terry Kirkpatrick, Arkansas Nematode Diagnostic Laboratory, 362 Highway 174 N., Hope, AR. If you need postage reimbursement, please contact Cathy Howard at 870-777-9702, ext. 128. Δ

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