

## Fusarium Wilt

Wilt can be caused by two fungi: *Fusarium oxysporum* or *Verticillium dahliae*. They can both look identical (Fig. 1). However, in recent years there has been an increase in fields developing Fusarium wilt in late June or early July (Fig. 1B). Typically the earliest that symptoms of *Verticillium* wilt appear are the middle of July or at first flower. It is very important to determine which type of wilt is present, because the varieties which are most susceptible to one type may be relatively resistant to the other. It is necessary to send plants with wilt symptoms and vascular streaking (Fig. 2) to a diagnostic laboratory for culturing. Some laboratories can also culture *Verticillium* from soil samples taken at any time during the year (contact Dr. Terry Wheeler, 806-746-4014, ([ta-wheeler@tamu.edu](mailto:ta-wheeler@tamu.edu)) for soil sample assays).

Management of Fusarium wilt is primarily by using less susceptible varieties (Table 1) and applying Temik 15G at 5-7 lbs/acre in the furrow at planting. Temik 15G increased yield by an average of 25% across 30 different varieties in a test in Lamesa during 2004. In general, the most Fusarium tolerant varieties are the stripper types. A higher percentage of plants survived in the presence of Fusarium wilt for most stripper types than from Picker types (Table 1).

Figure 1. Fusarium and Verticillium wilt

1A. Verticillium wilt



1B. Fusarium wilt



Figure 2. Vascular streaking



Table 1. Affect of variety on plant stand and yield.

Cultivar <sup>a</sup>	Plants/ft 114 days	% Plants survived to 114 days	lbs of lint/acre
Paymaster 2280BG/RR	1.63 a	61 a-d	1,342 a
FiberMax 960 BR	1.14 c-h	43 g-j	1,336 a
Paymaster 2379 RR	1.16 c-g	58 a-e	1,336 a
Stoneville 5599 BR	0.93 g-l	42 g-j	1,301 ab
All-Tex Atlas	1.44 ab	59 a-d	1,287 abc
Stoneville 2454 R	1.06 c-i	56 b-f	1,271 abc
Paymaster 2167 R	1.30 bcd	59 a-d	1,261 a-d
Stoneville LA887	0.97 f-k	65 ab	1,248 a-d
Stoneville 3539 BR	1.22 b-f	56 b-f	1,248 a-d
FiberMax 989 BR	1.14 c-h	44 f-i	1,248 a-e
All-Tex Top-Pick	0.86 i-m	52 c-g	1,189 a-e
All-Tex Atlas RR	1.62 a	59 a-d	1,164 a-f
DeltaPine 5415 RR	0.99 e-k	50 d-g	1,121 b-g
All-Tex Excess RR	1.01 e-j	63 ab	1,091 c-h
TAMCOT Sphinx	0.68 lmn	35 h-k	1,065 d-h
All-Tex Xpress	1.24 b-e	63 abc	1,010 e-i
Associated Farmers Delinting 2485	0.83 i-m	38 h-k	1,003 e-i
Associated Farmers Delinting 3511 R	1.21 b-f	59 a-d	982 f-i
Associated Farmers Delinting 2424	0.81 i-m	46 f-i	971 f-i
Stoneville 4793 R	0.84 i-m	42 g-j	951 ghi
DeltaPine 555 BG/RR	1.01 e-j	42 g-j	950 ghi
Stoneville 4892 BR	1.03 d-j	44 g-j	946 ghi
FiberMax 958	0.79 j-m	35 ijk	942 ghi
Paymaster 2326 RR	1.32 bc	68 a	921 ghi
Beltwide Cotton Genetics 24R	0.73 klm	42 g-j	893 hij
FiberMax 966	0.62 mn	32 jk	857 ij
Beltwide Cotton Genetics 30R	0.88 h-m	44 ghi	835 ijk
Beltwide Cotton Genetics 28R	0.63 mn	47 e-h	811 ijk
FiberMax 819	0.64 mn	37 h-k	702 jk
FiberMax 832	0.44 n	29 k	647 k
MSD	0.27	12	202

<sup>a</sup>Means with different letters are significantly different based on the Waller Duncan k-ratio t-test (P =0.05).