

**REPORT OF THE REGIONAL DISEASE
PROBLEMS COMMITTEE - 1995
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Bacterial Blight Report

Texas - P. M. Thaxton and K. M. El-Zik - (Genetic improvement). The MAR-7 germplasm was screened for resistance to the bacterial blight pathogen (*Xanthomonas campestris* pv. *malvacearum*) in both the greenhouse (F₁ and F₃ populations) and in the field (F₄ MAR-7 progeny rows) at College station with a mixture of races 1,2,10 and 18. The MAR germplasm continues to have high levels of resistance to all 19 USA races of the pathogen.

Texas - P. M. Thaxton and K. M. El-Zik - (Natural Disease Incidence and Severity). We observed natural infestations of the pathogen in cotton fields from the Rio Grande Valley to the Texas High Plains this season, especially early in the season, causing leaf shed. Infestation was severe in some fields in Central Texas Blacklands and the Rolling Plains. Infested plant tissues were collected, and *Xcm* was isolated, and will be identified to race on the ten host differentials.

Boll Rot Report

Alabama - W. S. Gasaway - Alabama cotton was hit with an array of adverse weather conditions, causing unusual disease problems during the growing season. Cold, wet conditions in late April and early May caused stand reductions as a result of crusting soils and flooding in low areas. This in turn led to an increase in seedling disease, primarily soreshin (*Rhizoctonia solani*) and some Pythium seed and root rot. Cotton growth throughout the state was severely affected by a two month drought and hot weather. In late August and early September, Alternaria leafspot and Cercospora leafspot defoliated many fields prematurely in central Alabama. Heavy morning dews during this period created ideal conditions for reproduction and spread of these two fungal pathogens.

An unusual disease was also seen in a few south and central Alabama fields. Small marble size bolls rotted but remained attached to the plants. The malady occurred uniformly throughout the field. Fields showing these symptoms had been subjected to hot, dry weather following rain. The fungus, Phomopsis, was recovered from the lesions. It is not known whether this fungus might cause the disease or simply be growing saprophytically on dead plant tissue.

Tennessee - A. Y. Chambers - (Observations of Boll Rot Occurrence in 1995). Boll rot caused fairly sizable losses for Tennessee cotton producers in 1995. Losses were estimated at 3 percent which is more than the estimate of 2 percent for 1994 and the same as the estimate of 3 percent for 1993. Weather conditions for harvesting were optimum for most of the fall. Rain hindered harvesting some at the end of the season. Insect injury was greater than it had been for a number of years; numbers of openings for entry of disease organisms were, therefore, greatly increased with increased rot of insect-damaged bolls. More and more growers each year are using Pix plant growth regulator as a standard practice to keep plant size under control. The reduced plant size has helped in reducing boll rot incidence and severity.

Due to extended periods of rain and humid conditions once in July and again in August, great numbers of bolls were shed in many fields over much of the State due to being rotted by the fungus *Choanephora cucurbitarum*. Blooms become infected during wet, humid conditions and stick to the young developing bolls instead of shedding normally. The fungus grows from the attached bloom into the rapidly-growing young boll. Bolls one-half inch or more in diameter may be lost. In many fields after the two rainy periods in July and August in 1995, the soil surface under plants appeared to be almost covered with young bolls that had been killed and dropped from the plants. It is very difficult to estimate losses due the *Choanephora* fungus, but a considerable number of the bottom and middle bolls were lost in many fields especially following the wet, humid period in July. These bolls would have been harvested in the first picking and would have been of more value than bolls at the top of the plant that may have increased in numbers after many of the lower bolls were lost. In many instances, bolls that were affected by *Choanephora* in August did not drop but were seriously deformed.

Phymatotrichum Root Rot Report

Texas - K. M. El-Zik and P. M. Thaxton - (Genetic Improvement). The MAR-7 multi-adversity resistance (MAR) germplasm was evaluated in the Phymatotrichum root rot nurseries at Temple and McGregor, Texas. Two tests were included in each location: Uniform MAR (UMAR) test (24 genotypes, 4 replications) and the Strains Test (80 strains and 12 cultivar checks, 2 replications). Plants killed by *Phymatotrichum omnivorum* were counted three times during the season, and the percentage of dead plants was calculated for each plot. Disease incidence at McGregor was not very severe this year. In the UMAR test, percentage of dead plants at the end of the season ranged from 5.5% for NLBG8C5SHS-2-93, a nectariless strain, to 48.5% for PD24CHGWIS-1-93, with a mean of 21.5%. The nursery at Temple was moved to a new location this year, and the soil inoculum was not high and not evenly distributed throughout the field.