MID-SOUTH COTTON VARIETY PERFORMANCE
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Abstract
The Cotton Specialists of the Mid-South states of Tennessee, Arkansas, Mississippi, and Louisiana conducted multiple on-farm trials in their respective states evaluating the performance of recently released cotton varieties. The objective of these tests – often called county trials or core block trials – is to allow producers the opportunity to examine the growth habits and yield potential of cotton varieties in an unbiased, side-by-side comparison, across multiple environments, soils and conditions. Varieties are planted, managed and harvested by the producer in cooperation with University staff in field length strips with 2 to 3 replications per variety, depending on the program protocol. Yield data are collected with weigh-scale equipment on the field edge, and subsamples are taken for quality parameter measurements. As more producers in Arkansas and Mississippi adopted baling picker technology, in-field scales were used on a widespread basis in those states to measure cottonseed yields. Tennessee conducted sixteen trials under a glyphosate-based system that included sixteen varieties. Americot 1511B2RF, DynaGro 2570B2RF, Stoneville 5458B2RF, Phytogen 499WRF, Deltapine 0920B2RF and Phytogen 375WRF were statistically equal to the highest yielding variety when averaged across all locations. Tennessee also conducted a glufosinate-based trial in five locations, examining eight varieties. Stoneville 4145LLB2, Stoneville 4145LLB2-PV, Phytogen 375WRF, BX 1244GLB2, BX 1252LLB2, and Fibermax 1773LLB2 were all statistically equal to the highest yielding variety when averaged across all locations. Arkansas conducted a glyphosate-based trial program in sixteen locations, examining ten varieties. Some differences were noted between highest yielding varieties in trials conducted north of Interstate 40 and those conducted south of it. Across all locations Stoneville 5458B2RF and Deltapine 0912B2RF were statistically equal to the highest yielding variety. Arkansas also conducted a glufosinate-based trial program, examining eight varieties across six locations. BX 1254LLB2, BX1244GLB2, Phytogen 499WRF, BX 1252LLB2, Phytogen 375WRF, Stoneville 4145LLB2, and Fibermax 1845LLB2 were statistically equal in yield to the highest yielding variety in these trials. Mississippi conducted a glyphosate-based trial program in eighteen locations, examining eleven varieties, with half of the trials under irrigation. Differences were noted between top-yielding varieties under irrigation versus those grown under non-irrigated conditions. Across all locations, Deltapine 0912B2RF, Stoneville 5458B2RF, Stoneville 5288B2F, Phytogen 499WRF, Deltapine 1034B2RF, Deltapine 1133B2RF, DynaGro 2570B2RF, and Phytogen 375WRF were equivalent in yield to the highest yielding variety. Louisiana conducted a glyphosate-based trial program on fourteen locations, examining eleven varieties. The top quartile varieties in yield were Phytogen 499WRF, Stoneville 5288B2F, Deltapine 0912B2RF, and Deltapine 1133B2RF. Phytogen 499WRF and Stoneville 5288B2F both placed in the top quartile nine times, but Phytogen 499WRF placed first in seven out of fourteen trials, demonstrating excellent stability across multiple locations.