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PERFORMANCE OF ROUNDUP READY FLEX COTTON CULTIVARS IN THE SOUTHWEST IN 2005

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Abstract

Interest in Roundup Ready Flex (second generation glyphosate herbicide-tolerant system from Monsanto) cotton (*Gossypium hirsutum* L.) cultivars will be considerable leading up to the anticipated launch of the new technology in 2006. In 2005 field trials were established to compare Roundup Ready Flex lines and cultivars. Southwest locations included sites in Texas and Oklahoma. All sites were replicated and some were small plot while others were large plot. Lint yield and fiber quality were determined for some locations, while the lateness of harvest of others prevented inclusion of data other than bur cotton yield. "Sprayed" trials were subjected to multiple over-the-top applications of glyphosate. Additional sites were "unsprayed" trials with numerous lines and cultivars planted to assess genetic performance relative to several "standard" Roundup Ready (first generation glyphosate herbicide-tolerant system from Monsanto) and conventional cultivars. Sites included Wharton County, TX (dryland); Dawson County, TX (one low energy precision application irrigated site and one subsurface drip irrigated site); Lubbock County, TX (furrow irrigated); Hale County, TX (furrow irrigated); and Jackson County, OK (furrow irrigated). First year performance data of Roundup Ready Flex lines and cultivars appear promising. Tolerance of Roundup Ready Flex lines and cultivars to multiple applications of glyphosate was excellent, as several trial locations had good to excellent lint yield. Yield appeared to be very good to excellent for some lines and cultivars when compared to “standards” in some tests. Some lines and cultivars had very good to excellent fiber quality in some tests. However, somewhat lower strength values for some Roundup Ready Flex lines than some "standards" was noted. Verticillium wilt, fusarium wilt, and bacterial blight tolerance/resistance evaluations were lacking for all lines and cultivars tested. Multi-site data provide the best indication of cultivar performance, and it is anticipated that such testing will occur in 2006.