CHOOSING A PLANTING SYSTEM: VARIETY AND TECHNOLOGY SELECTION

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Abstract

Variety selection has always been one of the most important management decisions that a producer makes in a given season. Transgenic cotton lines containing genes providing for protection against worm pests and tolerance to topical applications of glyphosate have been released and planted on the majority of the cotton acres across the cotton belt after the initial release in 1998. Since 2006, over 90% of all cotton acres east of Texas have been planted to transgenic varieties tolerant to glyphosate, with at least 80% of those acres also containing one or multiple genes that provide for insect protection. Advancements in technology, especially transgenic lines containing multiple genes for herbicidal tolerance and insect protection have led to a large increase in the number of varieties released by companies each year as well as more options and decisions that cotton producers have to make on technology and variety performance. The decision of which technology and which variety becomes overwhelming with the number of varieties released each year. From herbicidal tolerance, in 2010 there will only be two options, Roundup Ready Flex and Liberty Link. Due to the large number of varieties that have been adapted with the Roundup Ready Flex Technology, the glyphosate system for weed control will continue to be the more popular option. However, in areas of the Mid-South and Southeast that have problems with glyphosate resistant weeds, the Liberty Link system may gain acres in 2010. From an insect tolerance standpoint varieties are available that contain Bollgard which contains a single gene for protection, as well as Widestrike and Bollgard II which contain two protective genes for worm control. In many areas varieties containing the first Bollgard technology continue to be the most popular, but will not be available past the 2010 season due to the loss of registration. The loss of this technology will change variety selection decisions on approximately 1.3 million acres in 2011. The Bollgard II and Widestrike tolerance traits, offer valuable protection from several lepidopteron pests and have a wider spectrum of protection than the initial Bollgard; however, in many areas where cotton is produced pressure from these worm species may not be high enough to justify the expense. Although the technologies mentioned throughout have changed the way we produce cotton in the Mid-South and other areas of the cotton belt, the cost of the technology is increasing and the result is substantial increases in production costs at planting. The other issue is in regards to choice. Producers in many areas no longer have an option to grow cotton other than the transgenic lines mentioned above, although there are currently more options for conventional cotton weed control as well as an increased number of insecticides available to control lepidopteron pests should they reach threshold levels in a conventional system. This poses somewhat of a problem in regards to risk management and profitability. Current efforts by cotton breeders in the Mid-South and Southeast have put forth an effort into breeding public conventional cotton lines that will hopefully provide cotton producers an option to grow conventional cotton lines in the future on a portion of their farm to spread risk and have opportunities to increase profitability.