

Cotton, December 1, 2002

LIBERTY LINK COTTON IMPRESSIVE

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This year we had an initial experiment with Liberty Link cotton. Liberty Link corn has been available for a number of years, but has not been widely used in the south. Liberty Link has many similarities to Roundup Ready. Liberty is a non selective herbicide and the Liberty Link crops have been genetically engineered to resist the herbicide.

However, there are a few key differences between Liberty Link cotton and Roundup Ready cotton. First of all, although the scientific name for Liberty sounds like the scientific name for Roundup, the herbicides work in totally different ways. Liberty kills Roundup Ready crops and vice versa. Secondly, Roundup is stronger on grasses and pigweed while being weaker on morningglory and hemp sesbania. Liberty is weaker on grasses and pigweed and stronger on morningglory and hemp sesbania. Finally- while Roundup will disrupt fruiting when applied after the 4-leaf stage, Liberty does not and this is a key benefit of the Liberty Link system over the current Roundup Ready cotton systems. However, an enhanced Roundup Ready (Roundup Ready Flex) is under development that will also offer later, over-the-top application.

In our study, programs with sequential Liberty applications wound up with lots of Palmer amaranth. Programs that had preemergence herbicide were the best. Prowl, Treflan, Dual or some other equivalent will be important where there are pigweed problems. It was great to be able to go over the top of foot-tall cotton and kill the renegade weeds. Now that we have glimpses of glyphosate resistance, it's more important that we have additional modes of action like Liberty.

Yield drag will be a likely issue with this system, as it has been with every herbicide tolerant system. It's solvable, but the solution is time for the herbicide resistance to be incorporated into numerous high-yielding varieties for a wide range of environments. The Liberty Link system will probably be registered in roughly two years. As with other herbicide-tolerant programs, seed will be limited initially; however that is always valuable from the educational standpoint.