40. Herbicide Tolerant Sugarcane

Louisiana growers produced 42% of the nation's sugarcane in 2000-15.5 million tons with a value of $385 million.

Weed management is an essential component of sugarcane production in Louisiana. Both broadleaf and grass weeds reduce sugarcane yields and interfere with harvest, contributing to overall loss in production. Perennial grass weeds, such as johnsongrass and bermudagrass, are particularly troublesome because sugarcane itself is a grass and conditions suitable to its development are also conducive to grass weed growth. In addition, there is no single herbicide, which effectively controls all perennial grass weeds in sugarcane. If uncontrolled, they may potentially reduce sugarcane yields by as much as 50%.

Weed management in Louisiana sugarcane relies heavily on herbicide use, but also includes cultivation, both for incorporation of applied herbicides and as a supplementary technique for weed suppression. Typically, a combination of herbicides is applied in the spring, before sugarcane emerges, for control of grass and broadleaf weeds, and is repeated at layby. Additional applications are made as needed. Three to four cultivations are usually interspersed with herbicide applications. Certain herbicides used with sugarcane are injurious to the crop as is tillage; overall, sugarcane yields are estimated reduced by 5% due to cultivation and phytotoxicity of herbicides.

Transgenic sugarcane with glyphosate resistance has been developed and is currently being evaluated in field trials. Glyphosate usage would replace the herbicides in sugarcane for control of grass weeds. Glyphosate provides more effective control than the only postemergence grass control herbicide and equivalent control to herbicides used preemergence. Glyphosate would also substitute for two of the cultivations. Overall, sugarcane yields are estimated to increase by 5%.

Potential Impacts of Herbicide Tolerant Transgenic Sugarcane
Changes in Production: $19 million annual increase in income (+ 800,000 Tons)
Changes in Pesticide Use: 514,000 lbs/yr reduction in herbicide use
Changes in Production Costs: $10 million/yr savings

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