

COMMERCIAL EXPERIENCE WITH ROUNDUP

READY COTTON IN 1997

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Abstract

Roundup Ready[®] cotton (*Gossypium hirsutum* L.) was introduced commercially in 1997 on over 800,000 acres. When surveyed in September, grower satisfaction with performance of the technology was high. A small percentage of growers reported concerns with misshapen bolls and boll shed. After extensive field investigations, it has been determined that misshapen bolls are not correlated to the Roundup Ready gene or applications of Roundup Ultra[™] (glyphosate). Boll shed can be caused by a variety of factors including weather, Roundup Ultra application timing, placement and volume.

Introduction

Roundup Ready cotton technology offers growers significant benefits: broad spectrum control of broadleaf and grass weeds, effective early season weed management, effective management of tough perennials, and opportunities for reduced tillage. In 1997, its first year of commercial production, Roundup Ready cotton was planted on over 800,000 acres across the cotton belt. A grower satisfaction survey was conducted in late September to evaluate grower acceptance of the Roundup Ready Cotton technology.

Discussion

Of 1,700 Roundup Ready cotton growers surveyed, 90 percent were either satisfied or very satisfied with the technology. Specifically, in the mid-South grower satisfaction was 85 percent. In the Southeast and Southwest, grower satisfaction was greater than 90 percent. Fifty one percent used no residuals and 33 percent used no cultivation in their Roundup Ready cotton. Ninety-five percent of the growers responding indicated they will increase acreage or stay the same in 1998.

A few growers in the Mississippi delta reported misshapen bolls and boll drop in Roundup Ready cotton. After an extensive investigation Monsanto is confident that the problem is not the seed itself or the biotechnology. Conditions in the May-June period of early cotton development were the second coldest in the last 103 years resulting in very slow growth during this time period. Analysis of the fields studied and mapped show no correlation exists between the misshapen bolls and the Roundup Ready technology. The "parrot-beak" shape has been observed in varying levels in other years, growing conditions, and in non-Roundup Ready varieties.

The boll shed experienced by growers with Roundup Ready cotton also appeared in non-Roundup Ready cotton. Boll shed can be caused by a variety of factors including weather, Roundup Ultra application timing, placement and volume. Analysis and research has confirmed that the Roundup Ready gene does not cause boll loss. When observed, boll shed occurred on first positions below node eleven. Under environmental conditions experienced this season, the interaction between Roundup Ultra use and extreme early season cold weather, or mid-season high night time temperatures, could be a factor in some circumstances, particularly where off-label applications occurred.

Summary

Roundup Ready cotton was used successfully on approximately 800,000 acres across the cotton belt. Misshapen bolls are not related to the Roundup Ready technology and boll shed can be caused by a variety of factors including weather, Roundup Ultra application timing, placement and volume. Recommendations for 1998 will be modified slightly to state that a minimum of 2-nodes of growth and 10 days will be required between applications of Roundup Ultra. Directions for the use of Roundup Ultra will carry additional details related to the importance of minimizing spray contact with plant foliage during post-directed sprays.

Roundup Ready[®] is a registered trademark of Monsanto. Roundup Ultra[™] is a trademark of Monsanto.