UTILITY OF LIBERTYLINK SOYBEAN IN FUTURE PRODUCTION SYSTEMS. Kevin W. Bradley, Assistant Professor, Division of Plant Sciences, University of Missouri, Columbia, MO 65211.

Soybeans that have been genetically engineered to withstand applications of glufosinate are expected to be commercially available for the first time during the 2009 growing season. These new varieties, designated as LibertyLink, will offer growers an alternative, broad-spectrum, non-selective herbicide that has not previously been available for use in soybean production systems. In this regard, perhaps the greatest advantages of the LibertyLink system are, 1) to reduce the selection pressure imparted by glyphosate in current corn and soybean production systems, and 2) to manage glyphosate-resistant weed species that are already present in these systems. Results from field trials conducted in locations with glyphosate-resistant waterhemp have revealed that a residual preemergence (PRE) herbicide application followed by a timely postemergence (POST) application of glufosinate can provide good control of glyphosate-resistant waterhemp in LibertyLink soybeans. Results from other trials have also revealed that good annual grass and broadleaf weed control and high soybean yields can be achieved with this residual PRE followed by POST glufosinate program. POST-only glufosinate programs in LibertyLink soybean are less likely to be successful due to the contact nature of glufosinate and the importance of applying glufosinate to small weeds, generally less than 15 cm in height. Additionally, current label restrictions pertaining to maximum glufosinate application rates and timings may not favor POST-only glufosinate program resulting in poor control of weeds that exhibit a discontinuous emergence pattern and form late-season infestations.

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