

P-121

Development of the Enlist™ weed control system in soybean
Justin Lira, Seeds Discovery, Dow AgroSciences, Indiana, USA

Widespread adoption of glyphosate resistant traits in agriculture has caused the increased use of glyphosate as the primary post emergence herbicide in corn, cotton and soybean. This has led to the development of glyphosate resistance in an increasing number of broadleaf weed species. The Enlist E3™ soybean construct contains the AAD-12, PAT and DMMG traits, which convey resistance to 2,4-D, glufosinate and glyphosate. The Enlist™ weed control system has been developed in multiple crops, including Enlist soybean and Enlist E3™ soybean, to control glyphosate-resistant and susceptible weed species. Enlist and Enlist E3 soybean provide tolerance to Enlist Duo herbicide, a proprietary formulation of 2, 4-D choline and glyphosate.

Enlist Duo® utilizes a novel Colex D® technology to reduce volatility, drift, and odor. Drift is reduced by 90% when used with low-drift nozzles, compared to traditional 2, 4-D. Volatility is reduced by up to 96% when compared to 2, 4-D ester. Soybeans transformed with the Enlist trait have robust tolerance to multiple field rate applications of Enlist Duo. The combination of 2, 4-D with glyphosate shows excellent control of several hard to control weeds. Species that have shown increased tolerance to glyphosate at 1X field rate of 1120 g/ha, such as waterhemp, Palmer amaranth, giant ragweed, and marehail, are well controlled with Enlist Duo herbicide consisting of 1120 g/ha glyphosate + 1065 g/ha 2,4-D.

The Enlist weed control system enables flexible herbicide applications. Either a single application of up to 1120 g/ha 2,4-D plus 1120 g/ha glyphosate for pre-emergence or two applications for post as part of an integrated weed management system with residual herbicides and crop rotation strategies provides excellent control of weeds. The combination of Enlist E3™ soybean and Enlist Duo herbicide will provide soybean growers with more robust weed management options including the exceptional control of glyphosate-resistant and hard-to-control weeds.