

DEVELOPMENT OF LIBERTYLINK SOYBEAN TRAIT TECHNOLOGY. Jayla Allen, Product Development Manager, Jon Fischer, Product Manager, Bayer CropScience, Research Triangle Park, NC 27709.

Bialaphos is a naturally occurring enzyme found in *streptomyces*. Bialaphos degrades into phosphinothricin, which is herbicidally active. Glufosinate-ammonium is a synthetic molecule nearly identical to phosphinothricin. Glufosinate-ammonium is a broadspectrum non-selective herbicide that controls more than 120 weed species.

The phosphinothricin acetyl transferase (PAT) protein was first isolated from *Streptomyces viridochromogenes*. The soybean event A2704-12 was developed by inserting the PAT gene into an elite commercial soybean line, A2704-12, using the microprojectile bombardment method. PAT deactivates the herbicide glufosinate-ammonium by attaching an acetyl group, conferring tolerance of the plant to glufosinate-ammonium.

The elite soybean event, A2704-12, was chosen due to its molecular characterization, herbicide tolerance, yield and agronomic performance. Studies show that A2704-12 has no yield drag compared to the isoline.

Soybean varieties containing the A2704-12 event will be available in 2009 under the trade name LibertyLink. LibertyLink traits are currently commercially available in canola, corn, and cotton. Current breeding efforts for LibertyLink soybeans are in place with significant germplasm originators. Varieties intended for sale in 2009 range from maturity group 0.5-4.9. LibertyLink soybeans will compete toe to toe for yield and overall agronomic performance with best available soybean herbicide tolerant traits.