

**ENVOKE: COTTON TOLERANCE AND YIELD**  
**S.M. Schraer, H.S. McLean, J.C. Holloway, C.A.S. Pearson, and C. Foresman**  
**Syngenta Crop Protection**  
**Greensboro, NC**

**Abstract**

ENVOKE™ herbicide (CGA-362622) is being developed as a post-emergence weed control in cotton. Application for registration is pending with US EPA. Federal registration is anticipated during 2003. Envoke will be registered for use in the Southeast and Mid-south regions of the US, as well as Eastern Texas. Subsequent registrations in CA, AR, and NM are planned. The proposed ISO common name is trifloxysulfuron-sodium. Envoke is formulated as a 75% water dispersible granule. At low use rates Envoke will provide systemic control of many of the more troublesome weeds in cotton, including pitted and entireleaf morningglories (*Ipomoea lacunosa* and *I. hederacea*), sicklepod (*Senna obtusifolia*), and nutsedge (*Cyperus esculentus* and *C. rotundus*). Envoke is compatible with conventional, Roundup Ready® and BXN® cotton production systems.

Proposed Envoke rates for post-emergence over-the-top (POT) application, starting at a minimum of 5 true leaves in picker-type cotton varieties, are 0.10-0.15 oz per acre. Proposed rates for post-emergence directed (PD) application are 0.15-0.25 oz per acre. A non-ionic surfactant (NIS) should be included at 0.25% v/v.

A summary of data from 1998-2002 supports the proposed rates and application timings to picker-type varieties of cotton. Initial crop response in stripper cotton varieties was greater than that seen with picker-type cotton varieties. In picker-type varieties, applications of Envoke 0.15 oz/A resulted in greater crop response when applied early-POT (E-POT, <5 leaf cotton) compared to POT (5-8 leaf cotton) and late-POT (>8 leaf cotton) applications, >25% and <15% respectively. Crop recovery time was longer with E-POT applications compared to POT applications, >28 and 22 days after treatment respectively. When applied POT, mean initial crop response was <15% when Envoke was applied at 0.1-0.15 oz/A. At 0.2-0.3 oz/A, mean initial crop response was 15-18%. Typical cotton response to Envoke applications consists of chlorosis (leaf yellowing) and shortening of the internodes. Crop response when observed was transient and had no impact on cotton yield. By 21 days after application, crop response was <5% for Envoke 0.1-0.25 oz/A and <10% for the 0.3 oz/A rate.

Envoke's spectrum of activity on difficult to control weeds will complement current cotton herbicide systems. In Roundup Ready® cotton, a typical program would consist of Touchdown® + Dual Magnum® applied E-POT followed by Envoke POT followed by a PD application of Suprend™ (a mixture of trifloxysulfuron and prometryn with registration also expected during 2003). In conventional cotton a program starting with a pre-plant incorporated or preemergence herbicide followed by Envoke POT followed by a PD application of Suprend should provide control of troublesome weeds.

- TOUCHDOWN and DUAL MAGNUM are registered trademarks of a Syngenta Group Company
- ENVOKE and SUPREND are trademarks of a Syngenta Group Company
- ROUNDUP READY is a registered trademark of Monsanto Co.
- BXN is a registered trademark of Bayer Crop Science AG

\*Important Notice: ENVOKE and SUPREND herbicides are not currently registered for sale or use in the United States and they therefore are not being offered for sale. This abstract does not constitute an offer for sale. ENVOKE and SUPREND herbicides will not be available for sale until EPA has approved registration and all necessary state authorizations have been granted.