

**EFFECT OF CO-APPLICATION OF GLYPHOSATE, INSECTICIDE AND PLANT
GROWTH REGULATOR ON ROUNDUP READY FLEX COTTON GROWTH AND
YIELD**

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Abstract

The experiment was conducted at the Northeast Research Station in St. Joseph, LA in 2005 and 2006 under weed free conditions to evaluate tolerance of Roundup Ready Flex cotton to co-application of MON 3539 with insecticide and plant growth regulator. A randomized complete block design with a factorial treatment arrangement of cotton growth stage (pinhead square or first bloom), herbicide treatment (MON 3539 at 0.75 lb ai/A alone or plus Mepex Gin Out at 0.022 lb ai/A), and insecticide (Acephate at 0.5 lb ai/A, Battery at 0.1 lb ai/A, Baythroid at 0.033 lb ai/A, Bidrin at 0.4 lb ai/A, Capture at 0.062 lb ai/A, Centric at 0.047 lb ai/A, Curacron at 1.0 lb ai/A, Denim at 0.01 lb ai/A, Diamond at 0.58 lb ai/A, Dimethoate at 0.25 lb ai/A, Intruder at 0.028 lb ai/A, Karate Z 0.033 lb ai/A, Lannate at 0.4 lb ai/A, Larvin at 0.6 lb ai/A, Mustang Max at 0.022 lb ai/A, Prolex at 0.016 lb ai/A, Steward at 0.11 lb ai/A, Tracer at 0.75 lb ai/A, Trimax at 0.047 lb ai/A, Vydate at 0.4 lb ai/A, or no insecticide) with four replications. Treatments were applied to each 2 row 6.67' x 12' plot with a tractor mounted compressed air sprayer delivering 15 GPA. Parameters measured included visual injury 6 and 14 days after treatment (DAT), cotton height 7 DAT, seedcotton yield, and cotton maturity as measured by percent first harvest (twice picked after defoliation at 60% open boll). Data were subjected to ANOVA and means separated using LSD at the 0.05 level of significance.

The two year of data combined did not show a three way interaction on the cotton injury response at 6 DAT neither at 14 DAT. Co-application at any growth stage of MON 3539 or MON 3539 plus Mepex Gin Out with Lannate or Curacron, resulted in 10 and 6 % injury, respectively. Lannate and Curacron damage were significant different comparing MON 3539 alone and MON 3539 plus Mepex Gin Out. MON 3539 alone and MON 3539 plus Mepex GIN Out were not significant different in the injury response at 6 DAT neither at 14 DAT comparing with the other insecticides used in this experiment. Average across growth stage and herbicide treatment factors, cotton height 7 DAT with addition of Mepex Gin Out was reduced compared to MON 3539 applied alone (59 vs 55 cm). Seedcotton yield and cotton maturity as measured by percent first harvest were not affected by any treatment factor evaluated.

In conclusion, cotton injury from MON 3539/insecticide/Mepex Gin Out co-application observed initially at 6 DAT was transient and no greater than 10% only with Lannate, 14 DAT with no differences noted for any factors evaluated. Cotton height 7 DAT was negatively affected by addition of Mepex Gin Out to MON 3539 compared to MON 3539 applied alone regardless of growth stage at application or insecticide co-application. Seedcotton yield and crop maturity were unaffected by co-applications evaluated.