

**A FIVE YEAR SUMMARY OF
BENEFICIAL ARTHROPOD STUDIES WITH
“STEWARD” (DPX MP 062)**

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Abstract

“Steward,” developed under the experimental code DPX MP-062 has received extensive testing by DuPont and private researchers for impact on pest and beneficial arthropods. From 1994 to 1999, over 50 trials were conducted on the major beneficial arthropods of economic importance in U.S. cotton production.

At five to 10 days post treatment, “Steward” resulted in a high degree of selectivity on geocorids, minute pirate bug, damsel bugs, lace wings, and spiders. Direct comparison of post treatment impact on adult vs immature geocorids, minute pirate bugs damsel bugs, and lace wings did not demonstrate any significant difference with “Steward” on adults vs immatures.

At five to 10 days post treatment “Steward” did result in reduction of lady beetle and predatory ant populations. Lady beetle larvae were more susceptible to “Steward” than adults. Scymnus lady beetles were not negatively impacted by applications of “Steward.”

Laboratory bioassays with “Steward” topical dosage at field use rates indicated a high degree of survival in the heliothine parasites *Cardiochiles nigriceps*, and *Microplitis croceipes*. *Cotesia marginiventris* and *Tricogramma pretiosum* demonstrated a high degree of survival in laboratory testing following 24 hr. exposure to dry foliar residues of “Steward”.

Based on the summary of five years testing, “Steward” will provide excellent post treatment selectivity on the primary beneficial arthropods in cotton. Further toxicological and behavioral studies are planned to define selectivity parameters with “Steward” on key pest vs beneficial species.