

EFFECTIVENESS OF DIFLUBENZURON (DIMILIN®) FOR  
BOLL WEEVIL SUPPRESSION IN TEXAS

## PREFACE

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Diffubenzuron (Dimilin®) is an insect growth regulator (IGR) that interferes with the synthesis of chitin, an essential component of the cuticle of insects. This IGR has shown activity against numerous insect species including the boll weevil, Anthonomus grandis Boheman, a key pest in many cotton producing areas of Texas.

Diffubenzuron does not cause mortality in the adult boll weevil as do conventional insecticides. Biological activity is manifested in the adult female after the chemical has been ingested or contacted directly; eggs fail to hatch or mortality occurs during the newly eclosed larval stage.

Reports of the effectiveness of diffubenzuron, and its conditional registration by the Environmental Protection Agency for use in controlling boll weevils, have created considerable interest on the part of Texas cotton producers.

Herein, we review research conducted in Texas on the mode of action and environmental fate of diffubenzuron and on its use in the suppression of boll weevil populations. The IGR was tested at various rates and with different application techniques in several cotton producing areas of the state. Diffubenzuron was compared to conventional insecticides for effectiveness in weevil suppression and for detrimental effects on beneficial arthropods. The fate of the IGR after application to boll weevils, plants, and soil are discussed and suggestions for its use in boll weevil control are offered.

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