

Diamondback Moth Resistance Survey

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The following graphs present the results of laboratory bioassays with a variety of insecticides tested against diamondback moth larvae collected from commercial fields in Colquitt County and the UGA Campus in Tifton. This was conducted by an MPPPM student, Phillip Torrance in collaboration with Coop. Ext. Agent Jenna Kicklighter.

Bioassay Methods:

Each insecticide treatment is mixed in a concentration which is equal to the high field rate applied in 100 gpa. This likely represents a rate well above the field rate, but is equal for all insecticides and should allow for a comparison across insecticides. The purpose is to determine which products are providing the highest mortality; it does not provide an estimate of expected mortality in the field.

Disks cut from collard leaves are dipped in a solution containing insecticide, place in a petri dish, and allowed to dry.

After the disk dry, 10 larvae are placed on the dish and their mortality is determined after 72 hours.

Where the live+dead does not add to 10 represents larvae which pupated or escaped.

Interpretation of Results:

For each population, products with the highest number of dead larvae are expected to perform best in that field. If a product provides 100 percent mortality in the bioassay, it does not indicate that a field application would be expected to provide 100 percent control. It does indicate that that product should perform better than a product that provided less than 100 percent control in the bioassay.

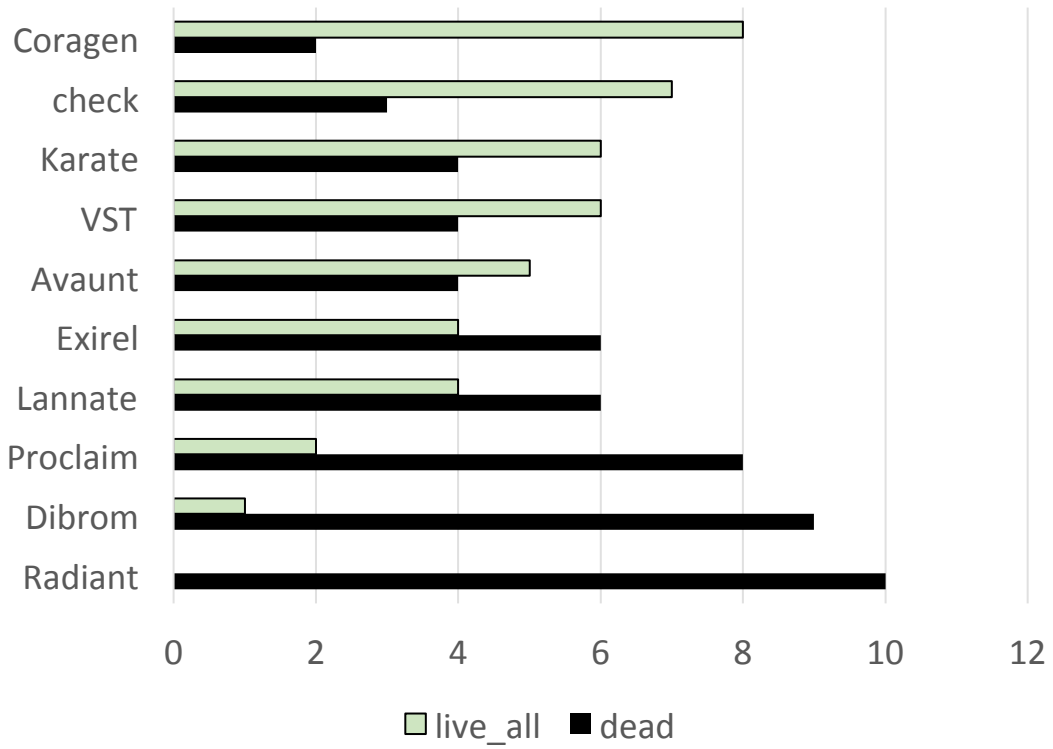
Field to Field Variation:

One obvious result of field comparisons is that larvae collected from different fields can and do respond dramatically different to the various insecticides. Product XYZ may provide excellent control in one field and fail in another field.

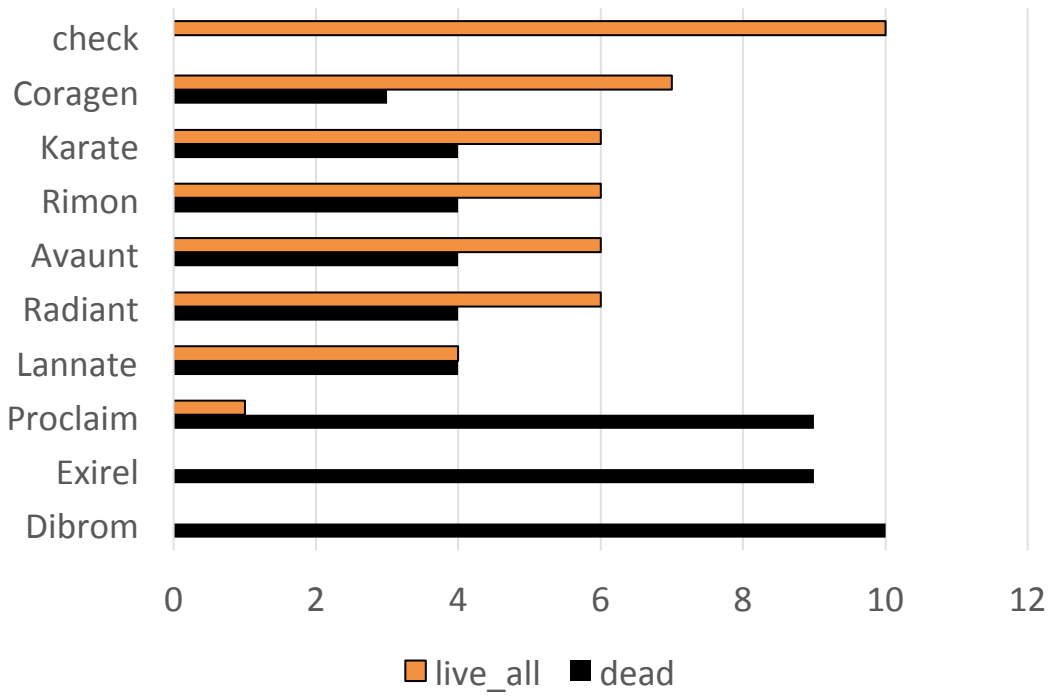
What does this mean for my fields?:

Unfortunately, the results for any specific bioassay are accurate for the specific population (field) tested. Just because you may be located near a test field does not indicate that the results apply to your population of diamondback moth. Populations collected from adjacent fields can respond differently. The response of any population tends to mirror the insecticide use against that population. In general, products that provide low mortality in the bioassay are products that the insect population has been exposed to recently. Products that perform well in the bioassay are usually insecticides that the specific population of diamondback has not been exposed to recently.

Tifton DBM Population mortality @ 72 h (May 2016)



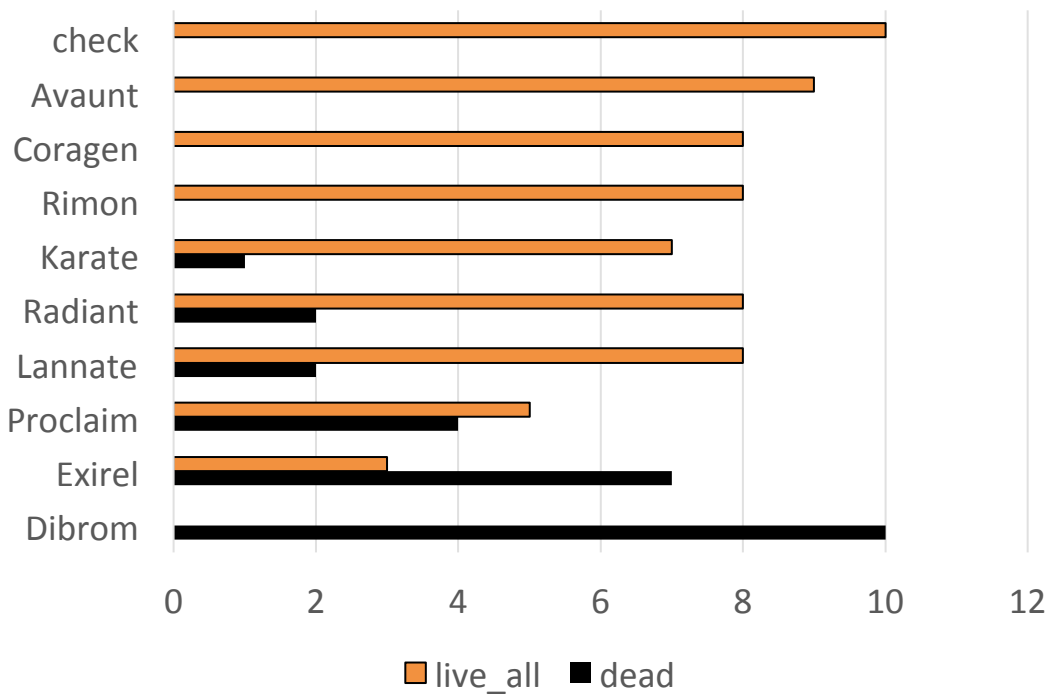
Colquitt - Bay Rockyford Rd DBM Population
mortality @ 72 h
(May 2016)



Colquitt - Lewis Rd DBM Population mortality

@ 72 h

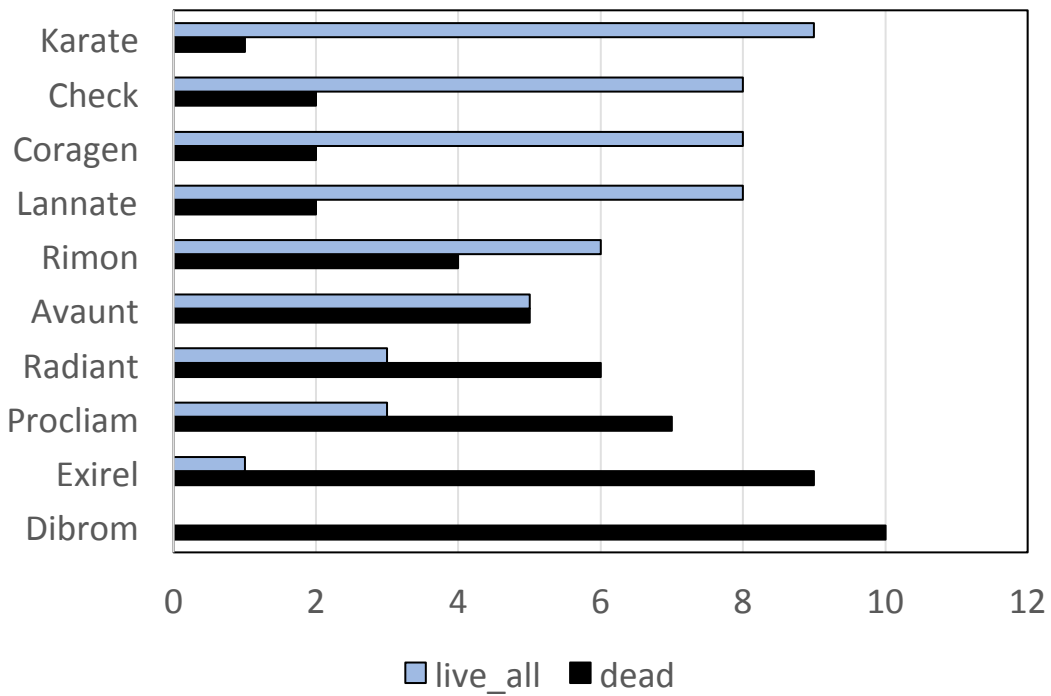
(May 2016)



Colquitt - Perry Rd DBM Population mortality

@ 72 h

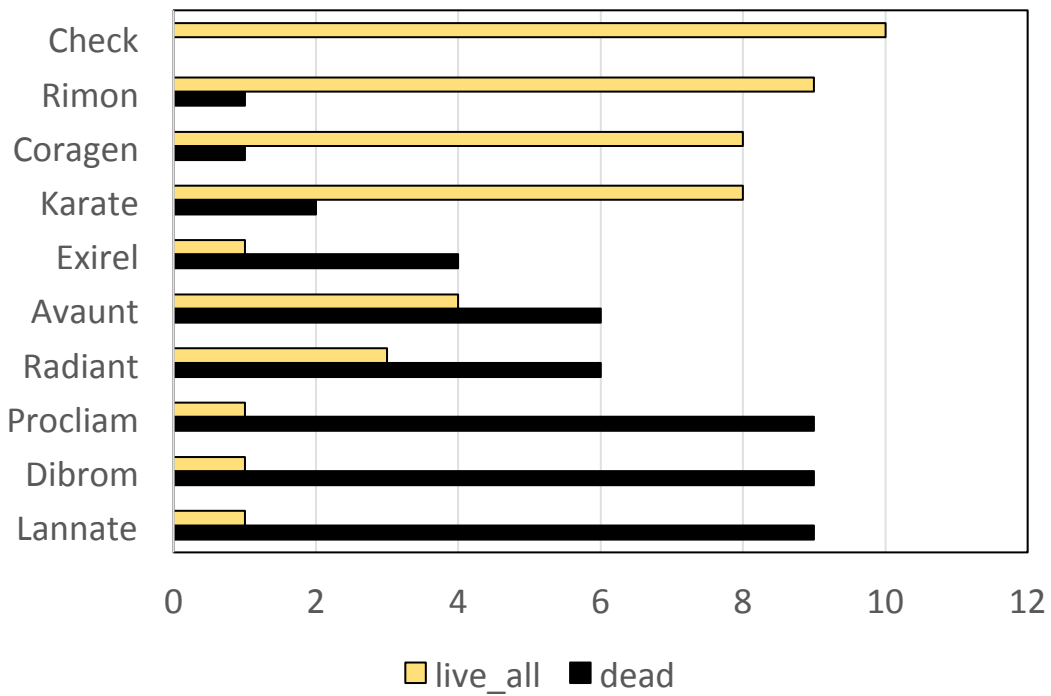
(June 2016)



Colquitt - Hartsfield DBM Population mortality

@ 72 h

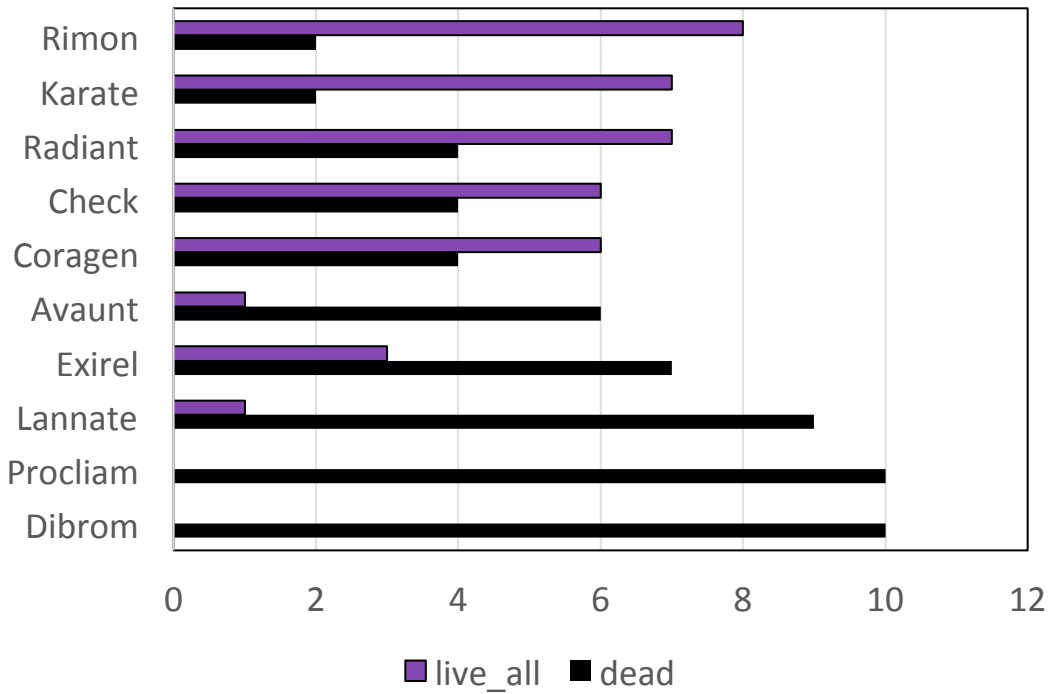
(June 2016)



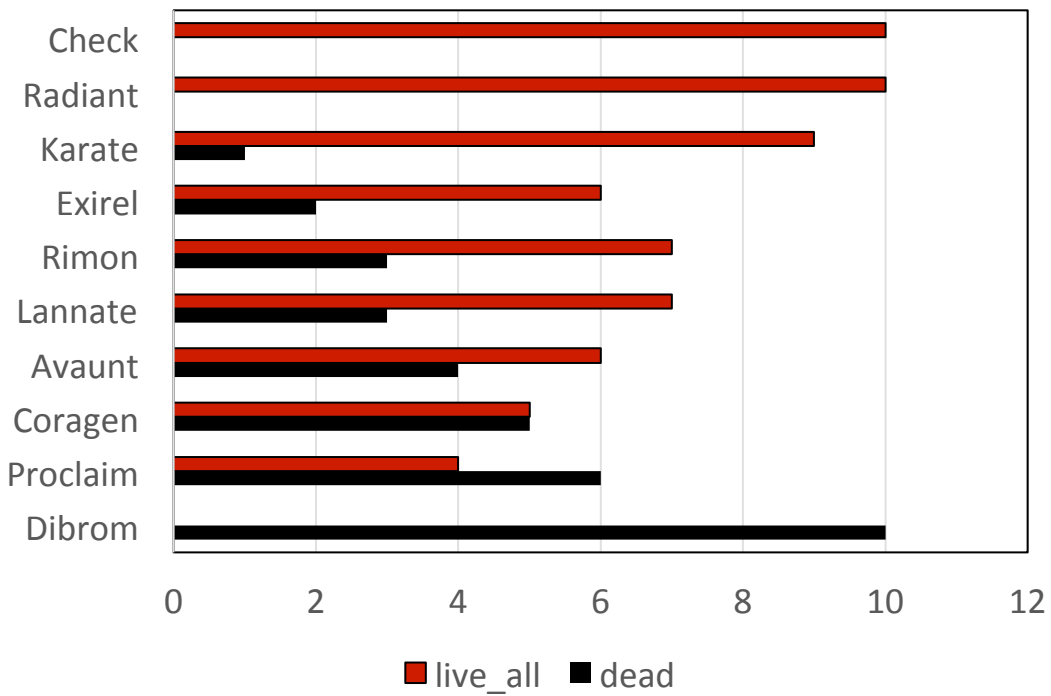
Colquitt - Stanfill Rd DBM Population mortality

@ 72 h

(June 2016)



Colquitt - Norman Park DBM Population mortality @ 72 h (June 2016)



Colquitt - Ellenton Norman Park Rd DBM
Population mortality @ 72 h
(June 2016)

