CHEMICAL CONTROL OF BOLL WEEVIL IN DRYLAND COTTON, 1979: A field study was conducted on a commercial farm near Kingsville, TX. Five treatments and a check were compared in 100-row by 1400-ft plots of cotton planted 6 Mar on 38-inch rows. Treatments were replicated 3 times in a paired block design. Dipel was applied beginning at the first-bloom stage on 16 and 23 May. Both applications were made with an airplane calibrated to deliver 4 gal total spray/acre. Efficacy of Dipel was evaluated by inspecting 50 squares and 50 bolls in each plot for the presence of *Heliothis zea* damage. Seed cotton for yield analysis was hand-harvested from designated 13.5-ft sections of row in each plot.

There was no reduction of *Heliothis zea* damage to squares and bolls in Dipel treated plots compared to untreated plots. Further, there was no significant difference between Dipel and the untreated in lint production.

### Season totals

<table>
<thead>
<tr>
<th>Treatment and lb (Al)/acre</th>
<th>No. weevil-punctured squares (n = 100)</th>
<th>No. fleahoppers in 20 row-ft</th>
<th>Yield (lb lint/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guthion 2L 0.25</td>
<td>2.3a**</td>
<td>4.2abc</td>
<td>716.6a</td>
</tr>
<tr>
<td>Imidan 50WP 0.25</td>
<td>2.0a</td>
<td>5.0ab</td>
<td>650.1a</td>
</tr>
<tr>
<td>Imidan 50WP 0.5</td>
<td>1.7a</td>
<td>6.9a</td>
<td>653.6a</td>
</tr>
<tr>
<td>Penncap-M 0.25</td>
<td>1.5a</td>
<td>2.8c</td>
<td>566.4a</td>
</tr>
<tr>
<td>Dimilin 25W 0.06</td>
<td>1.4a</td>
<td>3.4bc</td>
<td>553.9a</td>
</tr>
<tr>
<td>Untreated</td>
<td>1.6a</td>
<td>5.3a</td>
<td>549.1a</td>
</tr>
</tbody>
</table>

* Posttreatment samples were taken on 24, 31 May, 8 and 14 Jun.
** Means within each column followed by the same letter are not significantly different (P = 0.05; DMRT).
FIELD AND CEREAL CROPS INSECTICIDE AND ACARICIDE TESTS 257

Treatment and lb (AI)/acre* Season means**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>% Damaged squares</th>
<th>% Damaged bolls</th>
<th>Yield (lb lint/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dipel</td>
<td>0.5</td>
<td>6.4</td>
<td>3.1</td>
</tr>
<tr>
<td>Untreated</td>
<td>—</td>
<td>7.4</td>
<td>3.9</td>
</tr>
</tbody>
</table>

* Posttreatment samples were taken on 22, 29 May, 7 and 22 Jun.
** All means were not significantly different (P = 0.05; t test).

COTTON: Gossypium hirsutum L. 'Tamcot SP-37'
Cotton Fleahopper; Pseudatomoscelis seriatus (Reuter)
Beneficials
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(338)

ORTHENE AS A SYSTEMIC SOIL INSECTICIDE FOR FLEAHOPPER CONTROL, 1979: A field study was conducted at the Texas A&M Agricultural Research and Extension Center at Corpus Christi to determine the efficacy of acephate applied at different rates and formulations to control cotton fleahopper. Cotton was planted 6 Apr in 38-inch rows, one month later than normal to insure intense fleahopper pressure during squaring. Plots were 4 rows wide by 40 ft long with each treatment replicated 6 times in a randomized complete block design. The soil type was Victoria sandy clay loam. Shortly after planting, the 0.125 lb (AI)/acre and 0.25 lb (AI)/acre 10G slow release acephate granules, and 0.25 lb (AI)/acre 5G fast release acephate granules were applied in the bed 3-inches below the soil surface and 4 inches to the side of the seed row. On 30 May (6th true leaf, pinhead square), the foliar application of 0.25 lb (AI)/acre Orthene 75S was applied with a backpack sprayer calibrated to deliver four gal of solution/acre in a 20-inch wide band. Bollworms and fleahoppers were sampled on 22 and 30 May, 11 and 21 Jun, and 2 Jul. Blooms were counted daily in 6.8 ft of row per plot for 21 days starting on 10 Jun. Beneficial insects were sampled utilizing a D-Vac suction machine on a 20 ft² area per plot. Seed cotton was hand-harvested from a designated 26-ft section of row in each plot.

The Orthene 75S foliar treatment reduced the fleahopper population immediately following application and resulted in suppression throughout the blooming period. Total blooms during the 21 day period were significantly increased in the foliar treatment compared to the untreated. Beneficial insects tended to be reduced by the foliar application of Orthene 75S from the time of spray to the season end. The foliar Orthene 75S treatment resulted in a yield increase of 120 lb lint/ac over the untreated. Granular applications of acephate in Victoria sandy clay loam had no detectable effect on cotton fleahopper population density or plant phytotoxicity.

COTTON: Gossypium hirsutum L. 'Tamcot SP-21S'
Bollworm; Heliothis zea (Boddie)
Cotton Fleahopper; Pseudatomoscelis seriatus (Reuter)
Cotton Aphid; Aphis gossypii Glover
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Rt. 2, Box 589
Corpus Christi, TX 78410
(339)

SEED TREATMENT TEST WITH ORTHENE FOR CONTROL OF COTTON INSECT PESTS, 1981: A field study was conducted on Victoria sandy clay loam at the Texas A&M Agricultural Research and Extension Center at Corpus Christi, Texas to determine the efficacy of Orthene 75S as a hopperbox seed treatment for control of early season cotton pests. Test plots were planted 24 Mar, with 'Tamcot SP-21S', a cotton fleahopper susceptible variety. The soil type was Victoria sandy clay loam. Treatments were replicated 4 times in plots 80 ft long by 12 rows wide (0.07 acre) in a randomized complete block design. The planting rate was approximately 20 lb seed/acre. Cotton seed and Orthene 75S for each treatment were mixed dry by shaking them together in a large plastic bag prior to filling the hopperboxes.

Aphids were sampled by removing whole plants from designated 40 inch sections of row in each plot on the 14 and 22 Apr, and counting aphids in the laboratory with a dissecting microscope. Numbers of cotton fleahoppers, blasted squares, and Heliothis zea eggs and larvae were