CORN (FIELD): Zea mays L. 'Pioneer 3572'
Black Cutworm: Agrotis ipsilon (Hufnagel)

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BLACK CUTWORM CONTROL IN FIELD CORN I, 1985: 'Pioneer 3572' field corn was planted in a sandy loam soil on 20 May at the Mobay Research Farm, Howe, IN. Plots measured 1 row x 15 ft with 4 replications in a completely randomized block design. Granular treatments were applied at planting to the soil as a 7-inch band using a Noble metering unit mounted on a bicycle applicator with no incorporation. Liquid treatments were applied as soil broadcast sprays at planting using 8002E flat fan tips at 20 psi and 20 gpa applied with a CO₂ pressurized hand boom. Enclosures measuring 1 ft x 3 ft x 7 inches were randomly placed in each plot and corn populations thinned to 10 plants/enclosure. On 29 May, when the corn plants were in the first true leaf stage, enclosures were infested with 15 late third/early fourth stage laboratory reared black cutworm (BCW) larvae. The number of damaged and cut plants/enclosure was observed daily for 5 days following infestation, and the totals for the period were determined on 3 Jun. Plants were considered cut if severed below the first true leaf. Plants were classified as damaged if cut or if other evidence of feeding was apparent. Percent healthy plants was evaluated 20 days after infestation. Plants were considered healthy only if they appeared completely normal and were not stunted or deformed due to early feeding injury.

No treatment gave an acceptable reduction in the number of damaged plants under this artificially high infestation (1.5 larvae/plant). However, Baythroid 0.5G significantly reduced the number of cut plants relative to the untreated, and the 0.05 lb rate gave significantly fewer cut plants than any other treatment. Baythroid 0.05G, Baythroid 2EC (0.05 lb), and Lorsban 15G all had significantly more healthy plants than the untreated.

<table>
<thead>
<tr>
<th>Treatment and lb (AI)/acre</th>
<th>% BCW damaged plants 3 Jun</th>
<th>% BCW cut plants 3 Jun</th>
<th>% Healthy plants 18 Jun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated control</td>
<td>100 NS</td>
<td>93a*</td>
<td>0d</td>
</tr>
<tr>
<td>Baythroid 2E</td>
<td>0.025</td>
<td>100</td>
<td>08ab</td>
</tr>
<tr>
<td>Baythroid 2E</td>
<td>0.05</td>
<td>100</td>
<td>75ab</td>
</tr>
<tr>
<td>Pydrin 2.4EC</td>
<td>0.15</td>
<td>100</td>
<td>93a*</td>
</tr>
<tr>
<td>Lorsban 15G</td>
<td>1.0</td>
<td>100</td>
<td>85a</td>
</tr>
<tr>
<td>Baythroid 0.5G</td>
<td>0.025</td>
<td>98</td>
<td>80b*</td>
</tr>
<tr>
<td>Baythroid 0.5G</td>
<td>0.05</td>
<td>88</td>
<td>35e*</td>
</tr>
</tbody>
</table>

* Means followed by a common letter are not significantly different (P = 0.05; DMRT).

CORN (FIELD): Zea mays L. 'Pioneer 3747'
Black Cutworm: Agrotis ipsilon (Hufnagel)

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BLACK CUTWORM CONTROL IN FIELD CORN II, 1985: 'Pioneer 3747' field corn was planted in a sandy loam soil on 13 Sep at the Mobay Research Farm, Howe, IN. Plots measured 1 row x 15 ft with 4 replications in a completely randomized block design. Granular treatments were applied at planting to the soil in a 7-inch band using a Noble metering unit mounted on a bicycle applicator with no incorporation. Liquid applications were sprayed either at planting or as a rescue treatment a few hours after infestation, using a CO₂ pressurized hand boom sprayer with 8002E flat fan tips at 20 psi and 20 gpa. Enclosures measuring 1 ft x 3 ft x 7 inches were randomly placed in each plot and corn populations within each enclosure were thinned to 10 plants. On 20 Sep, when the corn plants were in cotyledon stage, all plots were infested with 15 late third/early fourth stage laboratory reared black cutworm (BCW) larvae. Percent damaged and cut plants were determined 5 days post infestation by daily monitoring of each enclosure. A plant was considered cut if it was severed at or below the cotyledon. Plants were classified as damaged if cut or if other evidence of feeding was apparent.

The results indicate that the rescue treatments of Baythroid, even at the extremely low rates of 0.003 and 0.0075 lb (AI)/acre, provided significantly better BCW control than any other treatment under artificially high pressure (1.5 larvae/plant). However, the at planting treatments all significantly reduced the % cut plants relative to the untreated.