Background information pertaining to above experiments conducted near Harvard, NE, 2017

**AGRONOMIC:**

- **Row Spacing:** 30 inches
- **Row Orientation:** North-South
- **Planting Date:** May 8, 2017
- **Planter:** 2-row John Deere 7100 Maxmerge planter with finger pickup units
- **Hybrid (Traits):** Dekalb DKC60-69RIB (VT2PRIB)
- **Planting Depth:** 2½ inches
- **Target Seeding Rate:** 32,100 seeds per acre
- **Previous Crop:** Late planted corn and pumpkins
- **Soil Information:**
  - *Soil type:* Crete silt loam
  - *Soil Drainage:* Good
  - *Soil Texture:* % Sand: 15, % Silt: 56, % Clay: 29
  - *Soil pH:* 6.5
  - % Organic Matter: 3.0
  - *Sum of Cations:* 18.5 me/100g
  - *Tillage type:* Reduced, planted into established ridge/row.
- **Insecticide Applications:**
  - **Liquid Products:**
    Liquid formulations were directed into the open seed furrow in front of the press wheels via a 5 GPA rate of water solution at planting.
  - **Granular Products:**
    Insecticide granules were applied via the SmartBox application system and directed into the open seed furrow in front of the press wheels.
- **Herbicides Applied:**
  - *Broadcasted:*
    - Acuron @ 2.0 Qt/A and RoundUp PowerMax @ 40 fl oz/A on May 12, 2017.
    - RoundUp PowerMax @ 26 fl oz/A and Atrazine 4L @ 1.5 Qt/A on June 5, 2017.
- **Fertilizer Applied:**
  - 100 lbs 11-52-0 fertilizer broadcast on February 9, 2017.
  - 200 lbs nitrogen/A applied in the form of anhydrous ammonia April 8, 2017.
**EXPERIMENTAL DESIGN:**

Design: Randomized complete block; replicated four times

Plot Size: 4 rows x 69-72 ft length

**ENVIRONMENTAL:**

Conditions at planting:

- Wind direction and speed: SSW @ 11-14 mph
- Soil surface condition: Excellent
- Subsoil moisture: Excellent

**DATA COLLECTION:**

Plant Populations: The total number of corn plants in the center two rows of each plot was recorded on June 1, 2017 and converted to plants per acre (PPA).

Extended Leaf Heights: The extended leaf height (inches) of twenty random plants from the center two rows in each plot was recorded on June 22, 2017.

Harvest Evaluations: Plots were machine harvested on October 18, 2017. Pounds of grain and % moisture levels were recorded and converted to bushels per acre at 56 lbs/bu and 15.5% moisture.

**ENTOMOLOGICAL DATA:**

Species present: Natural infestation of western corn rootworm, *Diabrotica virgifera virgifera* LeConte.


Days From Planting To:

- Initial Rootworm Egg Hatch: 23 days


Root Lodging & Dead Plant Evaluations: The total number of root lodged and dead plants due to larval corn rootworm feeding in the center two rows of each plot was recorded on July 5, 2017. No dead plants were recorded at time of evaluation.

Root Injury Ratings: Five plants per plot (3 from row 1 and 2 from row 4) were dug and rated using the Iowa 0-3 root injury rating scale on July 12, 2017.
### HOBO Weather Station 30-yr Rainfall & Irrigation

<table>
<thead>
<tr>
<th>Month</th>
<th>2017 Rainfall</th>
<th>30-yr Norm</th>
<th>%Norm</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>3.39</td>
<td>2.53</td>
<td>134</td>
</tr>
<tr>
<td>May</td>
<td>6.09</td>
<td>4.41</td>
<td>138</td>
</tr>
<tr>
<td>June</td>
<td>0.94</td>
<td>3.90</td>
<td>24</td>
</tr>
<tr>
<td>July</td>
<td>1.89</td>
<td>3.60</td>
<td>53</td>
</tr>
<tr>
<td>Aug</td>
<td>4.13</td>
<td>3.20</td>
<td>129</td>
</tr>
<tr>
<td>Sept</td>
<td>2.27</td>
<td>2.36</td>
<td>96</td>
</tr>
<tr>
<td>Total</td>
<td>18.71</td>
<td>20.00</td>
<td>93.6</td>
</tr>
</tbody>
</table>
## EVALUATION OF LIQUID AND GRANULAR INSECTICIDE FORMULATIONS AT PLANTING FOR LARVAL CORN ROOTWORM CONTROL, 2017B

<table>
<thead>
<tr>
<th>Insecticide Product</th>
<th>Rate of Product</th>
<th>Yield² (bu/acre)</th>
<th>Iowa 0-3 Root Ratings²</th>
<th>% Root Lodging¹</th>
<th>Extended Leaf Height² (inches)</th>
<th>PPA²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capture LFR</td>
<td>8.5 fl oz/acre</td>
<td>256.9</td>
<td>0.84</td>
<td>0.4 a</td>
<td>34.6</td>
<td>32,123</td>
</tr>
<tr>
<td>Force 3G</td>
<td>5 oz/1000 row ft</td>
<td>256.0</td>
<td>0.58</td>
<td>0.3 a</td>
<td>33.8</td>
<td>32,536</td>
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<tr>
<td>Force EVO</td>
<td>10 fl oz/acre</td>
<td>250.2</td>
<td>0.66</td>
<td>0.2 a</td>
<td>33.6</td>
<td>31,827</td>
</tr>
<tr>
<td>Aztec 4.67G</td>
<td>3 oz/1000 row ft</td>
<td>247.6</td>
<td>0.64</td>
<td>0.3 a</td>
<td>33.5</td>
<td>32,412</td>
</tr>
<tr>
<td>Untreated Check</td>
<td>-----------------</td>
<td>243.6</td>
<td>1.39</td>
<td>3.0 b</td>
<td>34.4</td>
<td>31,980</td>
</tr>
</tbody>
</table>

| Treatment Probability | 0.1123 | 0.0555 | 0.0029 | 0.9273 | 0.0893 |

¹Means in column followed by the same lowercase letter are not statistically different using the differences of least square means (MIXED; p|t|>0.05).

²Means in column are not statistically different using the differences of least square means (MIXED; p|t|>0.05).