Syngenta
AgriSure Traits and Force CS Evaluations, Clay Center, NE, 2009

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Background information pertaining to corn rootworm experiments conducted at Clay Center, NE during 2009.

AGRONOMIC:

Hybrids (Traits): Golden Harvest H-9392 3000 GT and H-9392 GT/CB/LL
Row Spacing: 30 inches
Row Orientation: North-South
Planting Date: 28 April 2009
Planter: 2-row 7100 JD Maximerge with finger pickup units.
Planting Depth: 2 inches
Application Equipment: Liquid Insecticides:

CO₂ pressurized sprayer mounted on planter; treatments applied in a 5 GPA solution via 7 inch t-band over the open seed furrow in front of the press wheels.

Previous Crop: Late planted corn
Soil Information: Crete silt loam
Herbicides Applied: Broadcasted: Lumax @ 2.5 qt/acre, RoundUp Original @ 24 fl oz/acre and AMS @ 17 lbs/100 gal solution on 05 May 2009.

Broadcasted: RoundUp WeatherMax @ 22 fl oz/acre and AMS @ 17 lbs/100 gal solution on both 22 May and 05 June 2009 to control volunteer corn.

Fertilizer Applied: 200 lbs of N knifed in as NH₃ on 02 April 2009.
5 GPA of 10-34-0 starter fertilizer was applied in furrow at planting.
DATA COLLECTION:

Plant Populations: The total number of live plants per plot was recorded on 28 May 2009. *Some corn plants were killed as a result of the glyphosate application on 22 May 2009; thus reducing final plant populations.*

Extended Leaf Heights: Extended leaf heights were recorded from 20 randomly selected plants per plot on 17 June 2009.

Lodged Plants: The total number of lodged plants per plot was recorded on 10 September 2009.

Harvest Evaluations: Plots were machine harvested on 06 November 2009. Percent moisture and lbs of grain were recorded and converted to 56 lbs/bu @ 15% moisture to evaluate yield. *Some plots were suspected to have deficient nitrogen levels due to a single knife being obstructed or reduced flow of anhydrous ammonia at the time of anhydrous application on 02 April 2009. Yields from these suspected N-deficient plots were removed from the complete data set; remaining yield levels were also subsequently analyzed.*

ENTOMOLOGICAL DATA:

Species present: Predominantly western corn rootworm, *Diabrotica virgifera virgifera* LeConte, and a few northern corn rootworm, *D. barberi* Smith and Lawrence.

CRW egg hatch: First observed 29-31 May 2009.

Root Evaluation: Iowa 0-3 root damage scale was used to evaluate larval corn rootworm injury in each treatment per replication. Six randomly selected plants were dug from each plot.

Root Evaluation Date: 09 July 2009

EXPERIMENTAL DESIGN:

Design: Randomized complete block; replicated four times

Plot Size: 2 rows x 141 feet

Statistical Analyses: PROC MIXED, with mean separation using the differences of least square means (MIXED; p||t|>0.05).

ENVIRONMENTAL:

Conditions at planting:

Wind direction and speed: SE @ 10-13 mph

Soil surface condition: Excellent-Moist

Subsoil moisture: Excellent
**RECORD OF RAINFALL:** (April 1 – November 6)

<table>
<thead>
<tr>
<th>Date</th>
<th>Amount (Inches)</th>
<th>Date</th>
<th>Amount (Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 1</td>
<td>0.35</td>
<td>June 21</td>
<td>0.10</td>
</tr>
<tr>
<td>April 13</td>
<td>0.40</td>
<td>June 23</td>
<td>0.25</td>
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<td>April 17</td>
<td>0.30</td>
<td>June 26</td>
<td>0.20</td>
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<tr>
<td>April 29</td>
<td>0.65</td>
<td>July 3</td>
<td>0.25</td>
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<tr>
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<td>July 25</td>
<td>1.20</td>
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<tr>
<td>May 4</td>
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<td>August 5</td>
<td>0.40</td>
</tr>
<tr>
<td>May 8</td>
<td>0.30</td>
<td>August 26</td>
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</tr>
<tr>
<td>May 11</td>
<td>0.15</td>
<td>Sept. 13</td>
<td>1.15</td>
</tr>
<tr>
<td>May 13</td>
<td>0.20</td>
<td>Sept. 14</td>
<td>0.35</td>
</tr>
<tr>
<td>May 27</td>
<td>0.35</td>
<td>October 6</td>
<td>0.50</td>
</tr>
<tr>
<td>June 1</td>
<td>0.70</td>
<td>October 8</td>
<td>0.20</td>
</tr>
<tr>
<td>June 2</td>
<td>0.25</td>
<td>October 10</td>
<td>0.15</td>
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<tr>
<td>June 8</td>
<td>0.85</td>
<td>October 13</td>
<td>0.25</td>
</tr>
<tr>
<td>June 10</td>
<td>0.30</td>
<td>October 21</td>
<td>0.70</td>
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<tr>
<td>June 16</td>
<td>2.55</td>
<td>October 22</td>
<td>0.63</td>
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<tr>
<td>June 20</td>
<td>0.25</td>
<td>October 29</td>
<td>0.50</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18.48</strong></td>
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<table>
<thead>
<tr>
<th>Month</th>
<th>Total (Inches)</th>
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</thead>
<tbody>
<tr>
<td>April</td>
<td>1.85</td>
</tr>
<tr>
<td>May</td>
<td>1.30</td>
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<tr>
<td>June</td>
<td>5.45</td>
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<tr>
<td>July</td>
<td>1.45</td>
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<td><strong>Month Total</strong></td>
<td><strong>18.48</strong></td>
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**SEASONAL RECORD OF IRRIGATION:**

<table>
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<tr>
<th>Date</th>
<th>Amount (Inches)</th>
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<tbody>
<tr>
<td>July 7</td>
<td>1.39</td>
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<tr>
<td>July 13</td>
<td>1.50</td>
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<tr>
<td>July 21</td>
<td>1.22</td>
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<tr>
<td>August 3</td>
<td>1.21</td>
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<td>August 10</td>
<td>1.48</td>
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<tr>
<td>August 17</td>
<td>1.42</td>
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<td><strong>Total</strong></td>
<td><strong>8.22</strong></td>
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<table>
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<th>Month</th>
<th>Total (Inches)</th>
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<td>July</td>
<td>4.11</td>
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<tr>
<td>August</td>
<td>4.11</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>8.22</strong></td>
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# Syngenta
## AgriSure Traits and Force CS Evaluations, Clay Center, NE, 2009

<table>
<thead>
<tr>
<th>Traits</th>
<th>Insecticide Product</th>
<th>Rate of Insecticide</th>
<th>Yield(^2) (bu/acre) (06 November)</th>
<th>Yields w/ N-deficient Root Ratings(^1) (06 November)</th>
<th>Avg. Root Ratings(^1) (09 July)</th>
<th>Total No. Of Root Lodged Plants(^1) (10 Sept.)</th>
<th>Avg. Extended Leaf Height(^1) (17 June)</th>
<th>Avg. No. Of Plants Per Acre(^1) (28 May)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AgriSure 3000GT</td>
<td>-----------------</td>
<td>-----------------</td>
<td>246.1 ab</td>
<td>257.6 a</td>
<td>0.32 a</td>
<td>1.3 a</td>
<td>38.8 a</td>
<td>29,519 ab</td>
</tr>
<tr>
<td>AgriSure 3000GT</td>
<td>Force 2.08 CS</td>
<td>0.46 fl oz/1000 row ft</td>
<td>264.1 a</td>
<td>264.1 a</td>
<td>0.15 a</td>
<td>0.0 a</td>
<td>39.0 a</td>
<td>28,932 bc</td>
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<tr>
<td>AgriSure 3000GT</td>
<td>Force 2.08 CS</td>
<td>0.34 fl oz/1000 row ft</td>
<td>247.5 ab</td>
<td>258.4 a</td>
<td>0.12 a</td>
<td>0.3 a</td>
<td>38.4 a</td>
<td>29,982 a</td>
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<tr>
<td>AgriSure GT/CB/LL</td>
<td>-----------------</td>
<td>-----------------</td>
<td>200.6 c</td>
<td>218.6 b</td>
<td>1.54 d</td>
<td>70.3 b</td>
<td>36.8 b</td>
<td>28,932 bc</td>
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<tr>
<td>AgriSure GT/CB/LL</td>
<td>Force 2.08 CS</td>
<td>0.46 fl oz/1000 row ft</td>
<td>221.9 bc</td>
<td>223.6 b</td>
<td>0.65 b</td>
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<tr>
<td>AgriSure GT/CB/LL</td>
<td>Force 2.08 CS</td>
<td>0.34 fl oz/1000 row ft</td>
<td>219.1 c</td>
<td>226.4 b</td>
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<td>4.8 a</td>
<td>36.2 b</td>
<td>28,144 c</td>
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</tbody>
</table>

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

\(^{2}\)Means in column followed by the same lowercase letter are not statistically different using the differences of least square means (MIXED; \(p|t|>0.05\)).