L 01-283 Offtype Tests Data Review and Discussion

February 10, 2011
LACA Meeting
<table>
<thead>
<tr>
<th>St Gabriel 1</th>
<th>St Gabriel 2</th>
<th>Little Texas</th>
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</thead>
<tbody>
<tr>
<td>Offtype vs Normal seedcane</td>
<td>4 rates of Offtype &amp; Normal seedcane</td>
<td>-3 rates of Offtype &amp; Normal seedcane</td>
</tr>
<tr>
<td>-3 reps, 3 years</td>
<td>Offtypes with and without fungicide</td>
<td>-Plant cane and First stubble seed</td>
</tr>
<tr>
<td></td>
<td>-3 reps, 1 year data</td>
<td>-6 reps, 1 year data</td>
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</tbody>
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Plant cane and First stubble seed cane used

Little Texas Offtype Test
Tons/Acre -2010

<table>
<thead>
<tr>
<th>treatment</th>
<th>a</th>
<th>b</th>
<th>b</th>
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</thead>
<tbody>
<tr>
<td>all normal</td>
<td>11.9%</td>
<td>32.6%</td>
<td>48.0%</td>
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<tr>
<td>50/50</td>
<td>48.1</td>
<td>47.2</td>
<td></td>
</tr>
<tr>
<td>all offtype</td>
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</table>
L 01-283 2010 Outfield Yields by region
Tons/Acre

<table>
<thead>
<tr>
<th>Region</th>
<th>Plant Cane</th>
<th>First Stubble</th>
<th>Second Stubble</th>
<th>Third Stubble</th>
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</thead>
<tbody>
<tr>
<td>River</td>
<td>30.8</td>
<td>35.2</td>
<td>30.8</td>
<td>26.3</td>
</tr>
<tr>
<td>Bayou Lafourche</td>
<td>25.9</td>
<td>29.6</td>
<td>28.2</td>
<td>22.1</td>
</tr>
<tr>
<td>Bayou Teche</td>
<td>25.2</td>
<td>24.2</td>
<td>23.1</td>
<td></td>
</tr>
</tbody>
</table>

4 River   3 Bayou Lafourche   4 Bayou Teche
Management

Minimize yield loss from offtypes

Offtype % for seedcane

Strategy

Stabilized seed cane supply

Risk / Benefit of planting 01-283
L 01-283 Seedcane Supply

- Hot Water treated progeny
- Distributed 2008 now at 4% acreage
- Variety yields erratic across the region

L 01-283 from 44 Secondary Stations

- Only Kleentek has small amount available.
- Of 28 clone lines only 3 have been stable.
- Will only sell seed with less than 10% offtypes.
- Not Certified but Quality Assured

L 01-283 Tissue culture seedcane
General Conclusions

• Offtypes in L01-283 can appear throughout the growing season and are unpredictable.

• Offtypes appear to be stress related, but normal growth may resume with good growing conditions.

• When all normal stalks were used as seedcane yields were significantly better than when all offtypes were used as seedcane and produced a lower % offtypes through the crop cycle.

• Selecting “normal” stalks for seedcane appears to be a successful strategy but impractical on a commercial basis.

• Offtypes become progressively worse from plant cane through stubble crops even where normal stalks are used for seedcane.
General Conclusions

• Fungicide treatment of Offtype seedcane at planting had no significant effect on yield compared to untreated and normal seedcane treatments.

• Attempts to establish a stable seedcane source have been difficult. Tissue culture methods have been marginally successful. The costs involved with further expansion will likely be commercially unfeasible.

• Growers should have fields of L 01-283 inspected for offtypes before using for seed cane.

• Growers must decide if the reasons for growing L 01-283 outweigh incentives to grow other varieties.
Unstable DNA Fingerprints of L 01-283

L 01-283 (2008)

L 01-283 (2010)

LCP 85-384