A New Product for Cane Management: Helps Improve Sugar Yields
About Moddus

- Trinexapac-ethyl, the active ingredient in Moddus™, is a foliar absorbed plant growth regulator (PGR)
- Increases sugar yield
- Extends application window prior to harvest
- Reduces lodging of sugarcane crop: improves harvest efficiency
- Potential to increase root growth resulting in better water and nutrient use efficiency
- Registered sugarcane uses:
  - Harvest management to increase sugar yield
  - Shortening of internodes for seed piece production

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Features and Benefits

▲ **Inhibits gibberellic acid (GA), a plant hormone responsible for cell elongation**
  – Shortens internodes to reduce crop height
  – Improves stalk strength resulting in improved standability which mitigates risk from adverse weather

▲ **Boosts sugar yield without reducing cane yield**
  – In 86% of trials had an increase of 10+ lb./ton when compared to UTC

▲ **Flexible application window: 28 to 60 days prior to harvest**
  – Helps growers manage spray programs (timing, cost efficiency) and provides flexibility under adverse weather conditions

▲ **No residual effect on subsequent ratoon crop**

▲ **Improves harvest efficiency**
  – Ease of harvest because of improved standability

▲ **Excellent crop tolerance when applied under favorable environmental conditions**

▲ **Stimulates root growth** (Brazilian observations)
  – Better water and nutrient use efficiency

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# Use Recommendation for Seed Piece Production (internode shortening)

<table>
<thead>
<tr>
<th>Crop</th>
<th>Use Rate (fl oz/A)</th>
<th>Use Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugarcane</td>
<td>4 - 12</td>
<td>Make a minimum of two split applications of Moddus™. Make first application of 4-12 fl. oz./A when six fully developed full size leaves have appeared. Note the bottom leaf should be feeding internodes above the soil surface. Make second application of 4-12 fl. oz./A when six additional fully developed full-size leaves have appeared. The total amount applied per acre per crop season should not exceed 19 fl. oz./A.</td>
</tr>
</tbody>
</table>

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10 oz of Moddus applied on 5/13/13

Picture taken 6/13/13

Very noticeable difference in height vs the untreated.

No noticeable difference in plant color, etc.
10 oz applied on 5/13/13

Picture taken 8/28/13

Very noticeable difference in height vs the untreated.

Lodging reduced in Moddus treatment

No noticeable difference in plant color, etc.
10 oz applied on 5/13/13

Picture taken 8/28/13

Very noticeable difference in height vs the untreated.

Lodging reduced in Moddus treatment

No noticeable difference in plant color, etc.
10 oz applied on 5/13/13

Picture taken 8/28/13

Very noticeable difference in height vs the untreated.

Lodging reduced in Moddus treatments

No noticeable difference in plant color, etc. in any of the treatments
10 oz applied at 6 true leaves

Picture taken 8/19/13

Significant reduction in overall plant height and lodging in Moddus treated vs. untreated.

No noticeable difference in plant color, etc.
L99-226

10 oz applied at 6 true leaves

Picture taken 8/19/13

Significant reduction in overall plant height and lodging in Moddus treated vs. untreated.

Internodes definitely shortened.
10 oz applied at 6 true leaves

Picture taken 8/19/13

Moddus treated had a slightly greener color.
HoCP04-838

10 oz applied at 6 true leaves

Picture taken 8/19/13

Internodes shortened especially in upper part of stalk.

Treated

Untreated
Use Recommendation to Manage Growth and Sugar Yield

<table>
<thead>
<tr>
<th>Crop</th>
<th>Use Rate (fl oz/A)</th>
<th>Use Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugarcane</td>
<td>11 - 19</td>
<td>Apply Moddus™ 28-60 days prior to harvest to increase sugar yield and/or extend harvest window.</td>
</tr>
</tbody>
</table>

Specific Use Restrictions

1) When applied as a ripener, Moddus may be applied until 28 days prior to harvest (28-day PHI).

2) Do not apply more than 19 fl. oz. Moddus per acre per crop season.

3) Do not apply to cane under stress from lack of water, poor fertilization, abnormal temperatures, or disease.

4) Results may vary according to the variety.

5) Crop tolerance: Moddus has been shown to be safe at the rates, timings, and varieties tested. Some varieties may be more sensitive and exhibit symptoms such as stunting. Under normal agricultural conditions, the affected plant will resume growth.

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Increases Sugar Yield

- Moddus increases sugar yield per ton without reducing cane yield per acre
- 10 lb/ton generates approximately $72.00 per acre increase in potential gross returns

Sugar Yield Change from UTC*

<table>
<thead>
<tr>
<th>lb/ton</th>
<th>Average gain: 19.3 lb/ton</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Range: 6.0 to 36.8 lb/ton</td>
</tr>
<tr>
<td></td>
<td>(Range: 6-36.8 lb/ton)</td>
</tr>
<tr>
<td></td>
<td>Median: 18.6 lb/ton</td>
</tr>
<tr>
<td></td>
<td>n = 36 data points</td>
</tr>
<tr>
<td></td>
<td>All trials in LA</td>
</tr>
<tr>
<td></td>
<td>Use rate: 11 – 19 fl oz/ac</td>
</tr>
<tr>
<td></td>
<td>(Use rate: 11-19 fl oz/A)</td>
</tr>
</tbody>
</table>

86% of trials with sugar yield above 10 lb/ton

* UTC = untreated check

1 Using $0.20/ lb raw sugar

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CLASSIFICATION: PUBLIC— not for distribution
Theoretical Yield During Crop Cycle

Sugar Per Acre

- Untreated
- Glyphosate
- Moddus

Plant Cane, 1st Stubble, 2nd Stubble, 3rd Stubble
# DIRECTIONS FOR USE

<table>
<thead>
<tr>
<th>Crop</th>
<th>Target Diseases</th>
<th>Use Rate fl. oz. product/A (lb. a.i./A)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugarcane</td>
<td>Brown Rust ((Puccinia melanosephela)) Orange Rust ((Puccinia kuehnii))</td>
<td>16 - 22</td>
<td>Begin applications prior to rust development and continue throughout the season every 14-28 days following resistance management guidelines. Scout fields and begin applications at the earliest sign of rust. Applications may be made by ground, air or chemigation.</td>
</tr>
</tbody>
</table>

**Specific Use Restrictions:**
- Do not apply more than 88 fl. oz./A/season of Quilt Xcel.
- Do not apply within 30 days of harvest (30-day PHI).
- Do not apply more than 0.80 lb. a.i. of azoxystrobin-containing products per season.