New Technology available for all Sorghum Farmers Globally

Imidazolinone Resistant Sorghum Hybrids
Current Weed Control strategies in sorghum I

- Chemical fallow
- Use of seed safeners
- Residual herbicides

Efficacy uncertain...
High dependency on rains
Current Weed Control strategies in sorghum II

In Post-emergency

Partial control of broad leaf weeds
Non-existence of graminicides

Diagnostic...
Almost nothing to do with weeds!!!
Usual failures in weed control in Sorghum III
How to Maximize Advanta’s Competitive Genetic Gain

Thailand October 2007

Argentina Sorghum R&D Team

Argentina Sorghum Breeding Program

New technologies for a new sorghum crop

Non transgenic herbicides resistance

Mutagenic Program started
2007
- Mutagenesis Program started on elite lines (BG)

2009
- First selections M3
- First introgression crosses

2010
- Active ingredients & dosis.
- Genetic characterization & heritability

2011
- Gene sequencing &
- Gene mapping in Mol Lab.

2012
- Grain & biomass Yield drag field trials
Summer 2008/09, Venado Tuerto, Argentina - one of thousands rows...

M3 generation resistant mutation
Mol Lab: mutation sequencing /align
Field trials I: weed control effectiveness
Field trials II: imi herbicide tolerance
Field trials III: grain/biomass yield penalties
Yield drag I: isohybrids imi-non imi 
grain yield no sprayed
Yield drag II: **isohybrids imi grain yield sprayed – no sprayed**

![Grain yield bar chart](chart.png)
Yield drag I: isohybrids biomass dry matter yield
Tech to allow expressing yield potential
Tech to allow expressing yield potential
Igrowth Technology **main features:**

<table>
<thead>
<tr>
<th>Non transgenic</th>
<th>Specific mutation: no tolerance to sulfonylurea and so controlled by sulfonylureas</th>
<th>Recessive trait: homocigocity needed</th>
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<tbody>
<tr>
<td>Mutacion has no impact in yield neither grain nor dry matter with or without herbicide application</td>
<td>Post emergence alternative: unique</td>
<td>Safe technology very well known by farmers</td>
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Part of the team responsible for success
THANK YOU

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