The 2015 CML Releases:
A Recap of the Year in the CIMMYT Maize Germplasm Bank

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Curator of Special Collections and Distribution Manager

Global Maize Program Meeting ● CIMMYT HQ ● 25-26 September 2016
My basic philosophy matches that of Woody Allen...

"I have no idea what I am doing. But incompetence has never prevented me from plunging in with enthusiasm."
Lucky for me, the CIMMYT MGB has an excellent, well-trained staff, including….

Cristian Zavala
Distribution Manager and Curator of Special Collections (including CMLs)
The CML Table is now on Dataverse

http://hdl.handle.net/11529/10246
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CML Class of 2015
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http://23.253.100.239/dvn/dv/cimmytdatadvn/faces/study/StudyPage.xhtml?globalId=hdl:11529/10246
<table>
<thead>
<tr>
<th>Name</th>
<th>Country</th>
<th>Cooperator</th>
<th>Environment</th>
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<tbody>
<tr>
<td>1</td>
<td>CML562</td>
<td>India</td>
<td>Lowland tropical Asia</td>
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<td>Zaidi</td>
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<td>CML568</td>
<td>Kenya</td>
<td>Mid-altitude/subtropical-Africa</td>
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<td>8</td>
<td>CML569</td>
<td>Yoseph Beyenne</td>
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<td>CML570</td>
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<td>CML571</td>
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<td>16</td>
<td>CML577</td>
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CML Introductions to the Collection

• We require 5 kilos of disease-free, clean seed with full passport information.
• First cycle after introduction, we grow 4 rows of 15 plants/row under observation, in an environment as similar as possible to the original.
• Data taken:
  • Adaptation, Plant Ht., Ear Ht., Ear L., Ear Diam., % ear rot, flowering dates, germination
• Check to make sure that it matches the original description, ie. kernel color, type, plant architecture, etc.
Size Variation in 2015 Seed lots

- Contamination?
- Genetic mixture?
- Seed lots from different locations?
- GxE?
- Some combination of these?
# Seed size variation: Case #1

<table>
<thead>
<tr>
<th>Seed sampling</th>
<th>Adaptation</th>
<th>Plant height cm</th>
<th>Ear height cm</th>
<th>Long ear (Avg) cm</th>
<th>DiamMz (Avg) cm</th>
<th>% ear rot</th>
<th>Anthesis</th>
<th>Silking</th>
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<tbody>
<tr>
<td>Random seeds</td>
<td>Bad</td>
<td>136.3</td>
<td>71.5</td>
<td>12.5</td>
<td>4.2</td>
<td>80</td>
<td>92</td>
<td>95</td>
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<tr>
<td><strong>Small seeds</strong></td>
<td>OK</td>
<td><strong>133</strong></td>
<td><strong>66.5</strong></td>
<td>10</td>
<td>4.5</td>
<td><strong>62.5</strong></td>
<td>91</td>
<td>94</td>
</tr>
<tr>
<td>Large seeds</td>
<td>Good</td>
<td><strong>183</strong></td>
<td><strong>112.5</strong></td>
<td>13</td>
<td>3.7</td>
<td><strong>9.4</strong></td>
<td>89</td>
<td>90</td>
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Small seeds

Large seeds
Size Variation in Seed lots—
How could we sort this out?
Size Variation in Seed lots—How could we sort this out?

Genetic fingerprints, of course!
Size Variation in Seed lots—How could we sort this out?

Genetic fingerprints, of course!

….coming in 2017

What else will be new in 2016-17 for the CML Collection in MGB?

- Regeneration (with cleaning) in a virus-free environment in Cycle 17A
- Continued updating, curating and improving of the CML table
- The first “CML of the Year” Award
Centeotl
God of Maize

2015
CML of the Year Award
Centeotl
God of Maize

2015 CML of the Year Award

- The most distributions in its first year after release
- Great line-up of traits: (Drought, low N and heat stress tolerant; resistant to SCLB, TLB and ear rot; good tolerance to TSC)
- Good Adaptation in Tlalti!
Centeotl
God of Maize

2015 CML of the Year Award

CML 577 Lowland Tropical Latin America
Looking forward to CML Class of 2017,
And may the best CML win!

CML 561  Toluca Station, Mexico  September 2015
(An excellent popper!)