



**BMT/13/20 Add.**

**ORIGINAL:** English

**DATE:** December 8, 2011

**INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS**  
GENEVA



**WORKING GROUP ON BIOCHEMICAL AND MOLECULAR  
TECHNIQUES, AND DNA-PROFILING IN PARTICULAR**

**Thirteenth Session**  
**Brasilia, November 22 to 24, 2011**


**ADDENDUM**

**MOLECULAR MARKERS USED TO DISTINGUISH VARIETIES OBTAINED BY  
REPEATED BACKCROSSING**

*Document prepared by experts from the Brazil*

  
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**BMT 13/20:**  
**Molecular Marker used to Distinguish**  
**Varieties Obtained by Repeated**  
**Backcrossing**

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## Introduction

- ▶ Varieties obtained by repeated backcrossing, potentially may be “essentially derived varieties”.
- ▶ When varieties are obtained by repeated backcrossing, generally it is difficult to distinguish the new variety from the original variety.
- ▶ Molecular markers can be used to distinguish these varieties.

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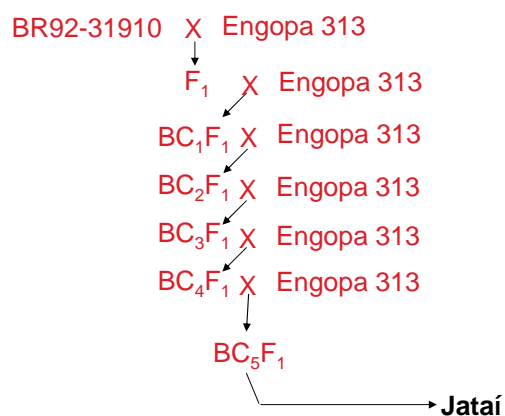
## Material and Method

- We evaluated, by SSR markers, two cases of soybean varieties obtained by repeated backcrossing.

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## Case 1



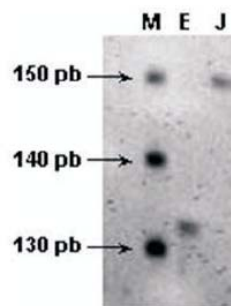
98,4% similar to  
Engopa 313  
by genealogy

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## Molecular analysis

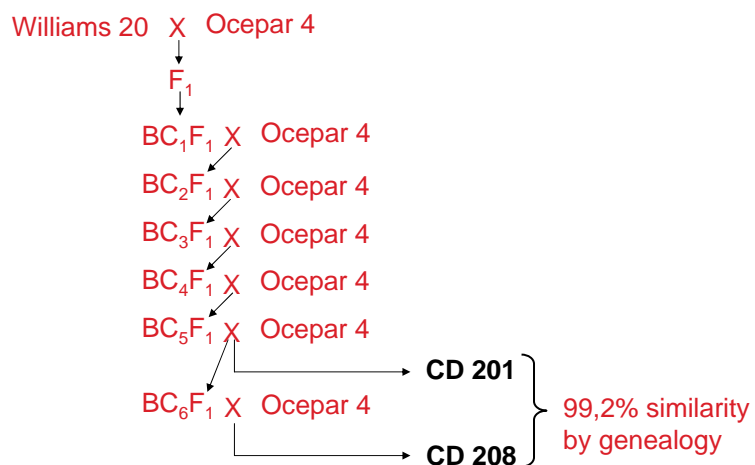


- ▶ From 42 SSR markers genotyped in Acrylamide gel, one showed difference between Engopa313 and Jatai.
  - 2.4% genetic distance from molecular analysis.



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## Case 2

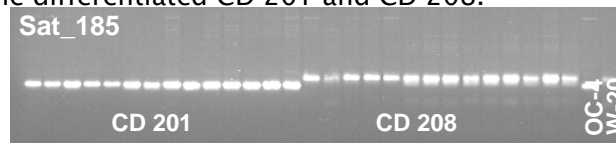


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## Molecular Markers

- ▶ From 53 markers genotyped in agarose gel:
  - Two differentiated CD 201 from Ocepar 4
  - Three differentiated CD 208 from Ocepar 4
- ▶ From 248 markers genotyped in agarose gel
  - One differentiated CD 201 and CD 208.



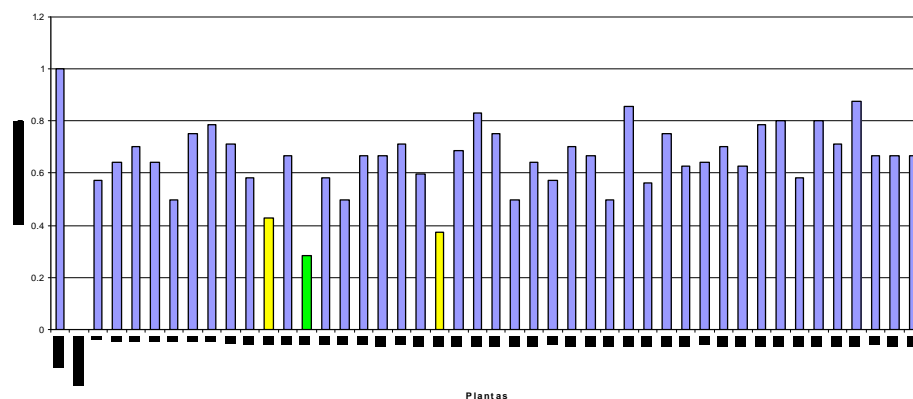
From 48 selected markers genotyped in Capillary gel  
Four differentiated CD 201 and CD 208.



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## Marker Assisted Backcrossing



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