

**BMT/7/15****ORIGINAL:** English**DATE:** November 21, 2001

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

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

Seventh Session

Hanover, Germany, November 21 to 23, 2001

DNA PROFILING AND PROTECTION OF MUSHROOM VARIETIES

prepared by experts from The Netherlands

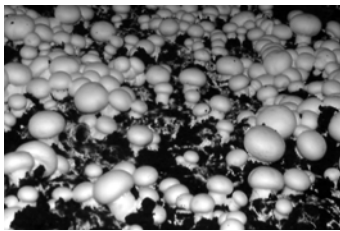
Slide 1

Strain Identity in Mushrooms

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Horst, The Netherlands

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Agaricus bisporus



Agaricus arvensis



Coprinus comatus



Pleurotus ostreatus



Lentinus edodes



Lepista nuda

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Slide 3

Why DNA Profyling for mushrooms?

- Lack of external characters
- Typical lyfe cycle
- Easy to copy

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Slide 4

Lack of morphological characters

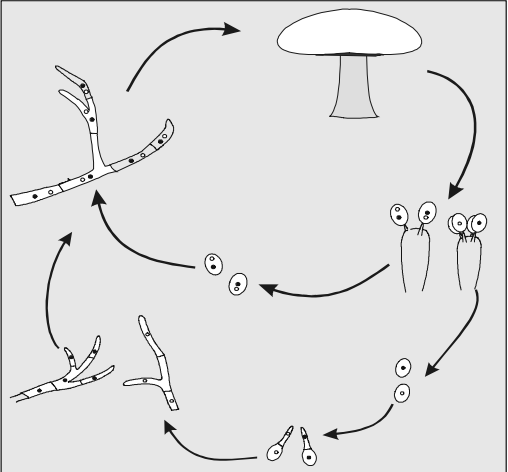


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Origin present-day hybrids

- <1980: selection
- >1980: hybrids



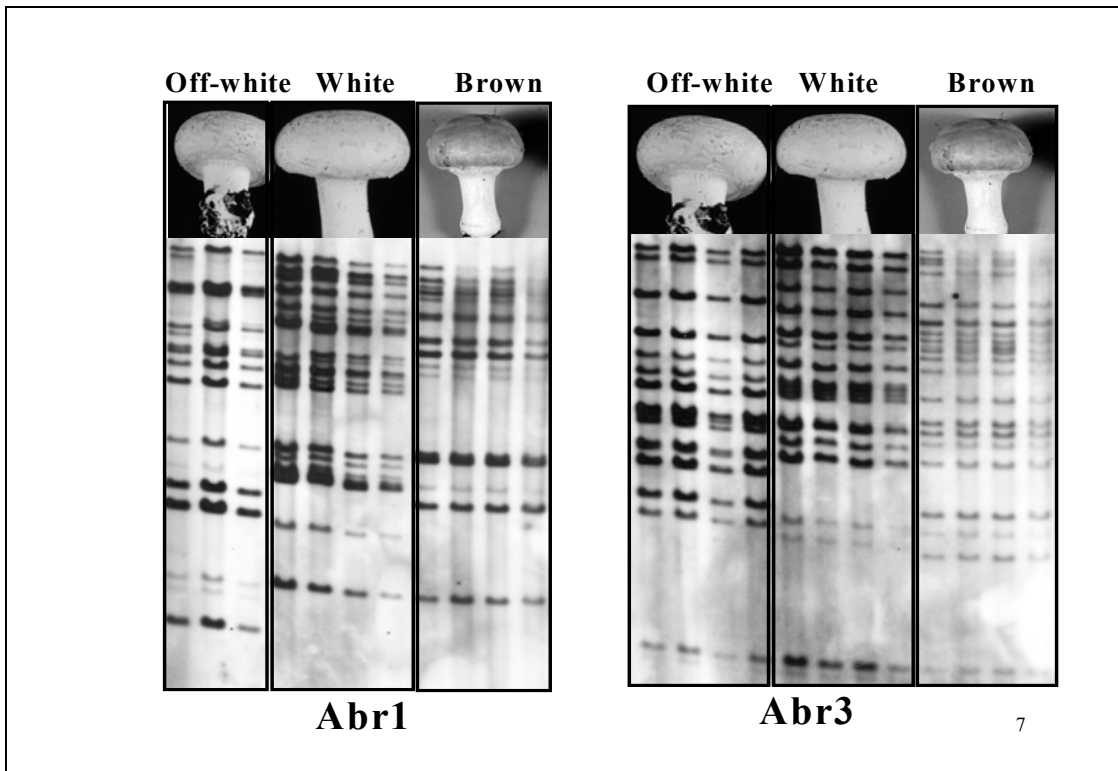
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Traditional strains

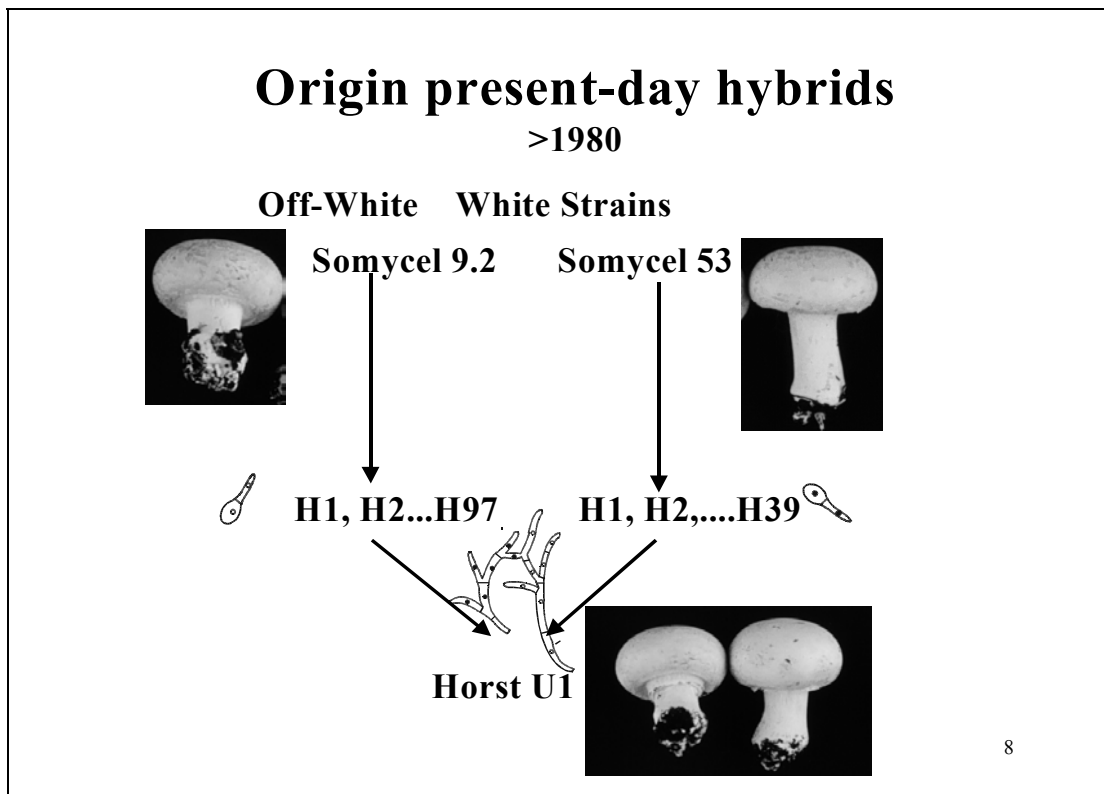
White strain	Off-white	Brown strain
		

6

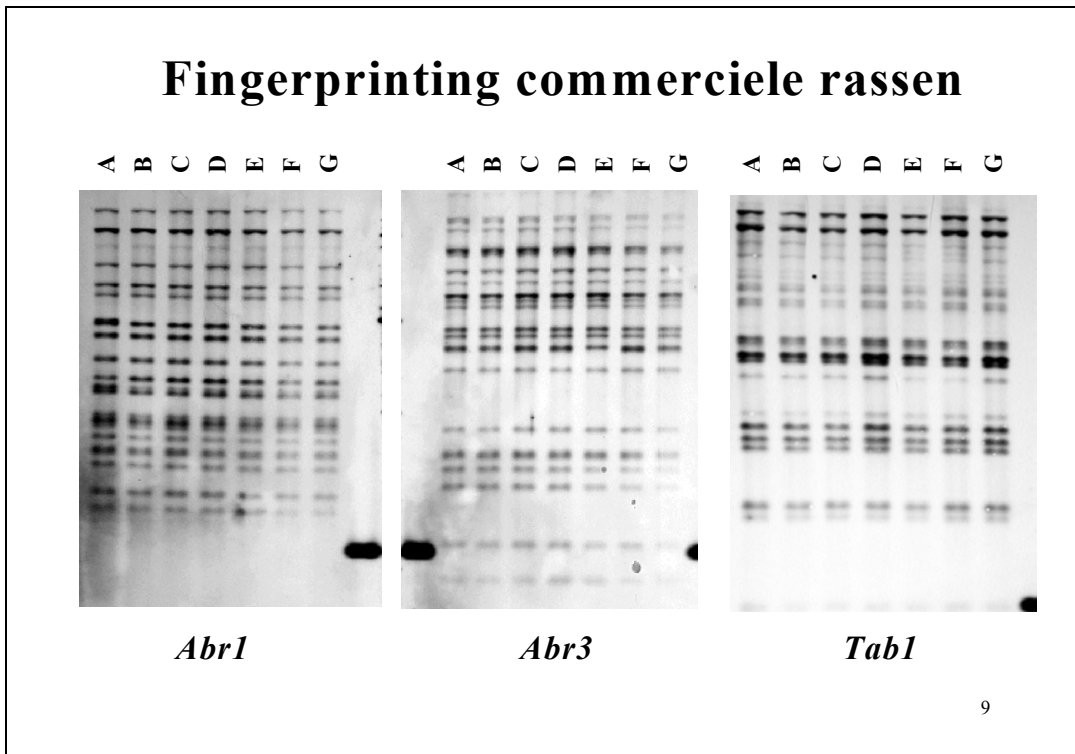
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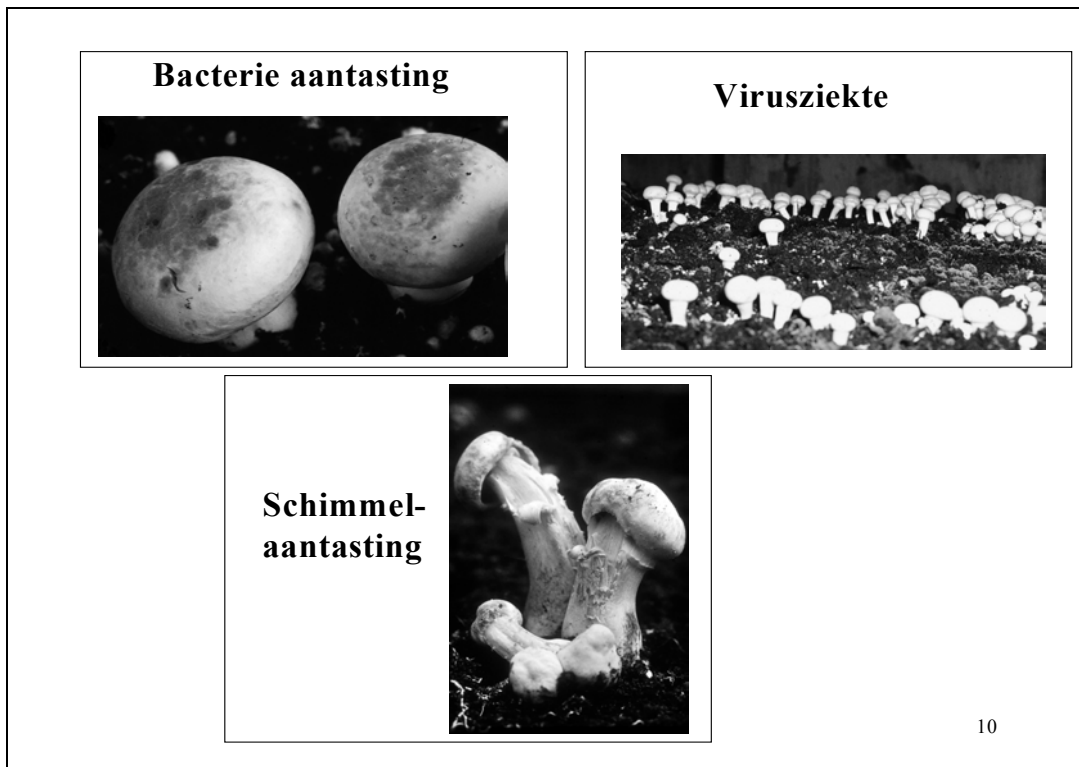
Slide 8



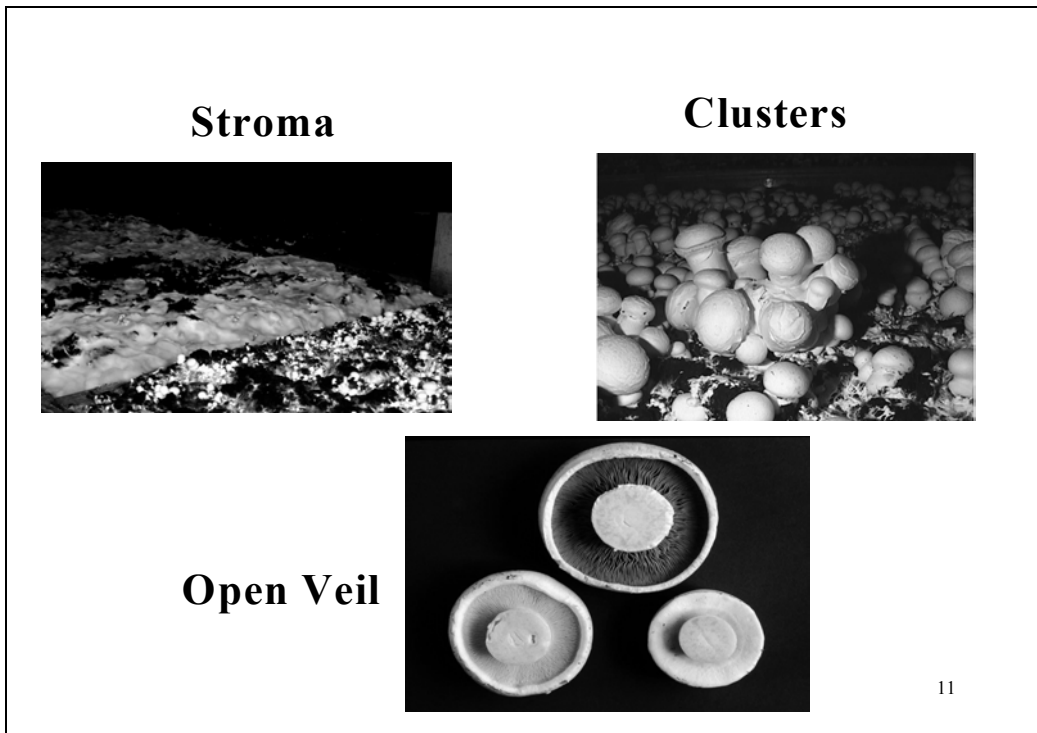
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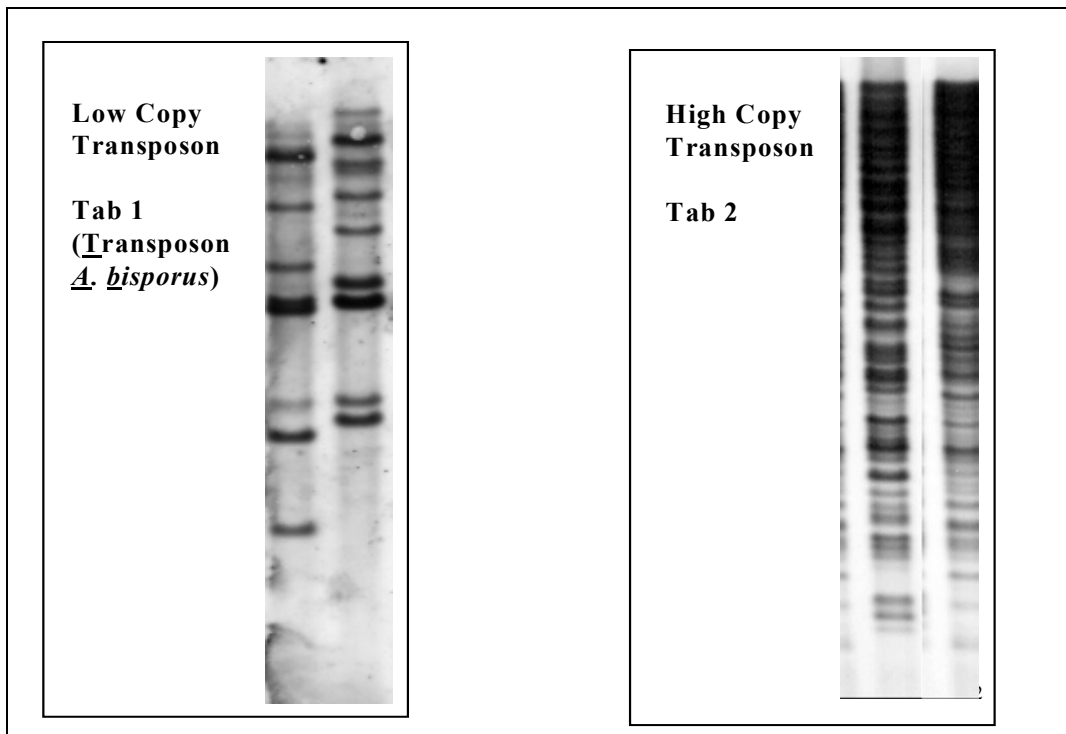
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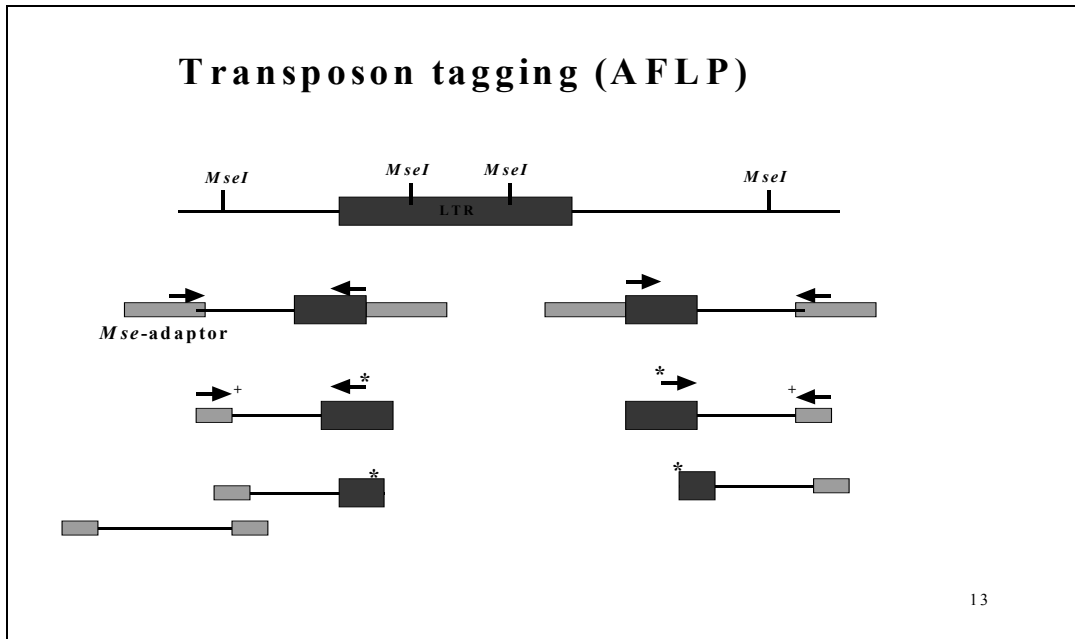
Slide 11



Slide 12

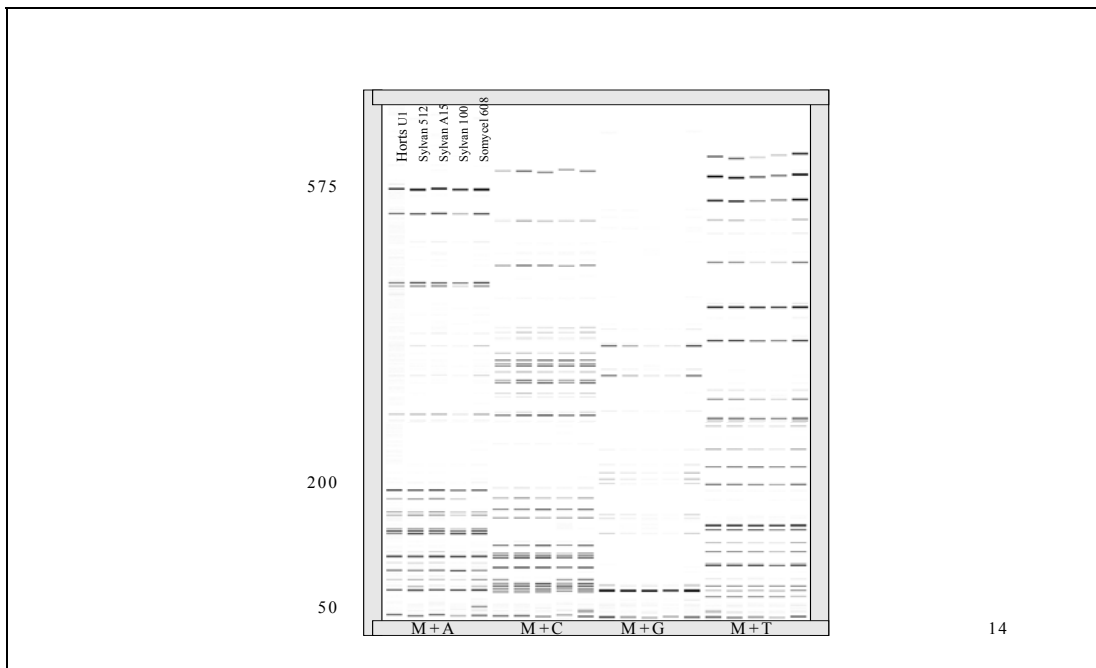


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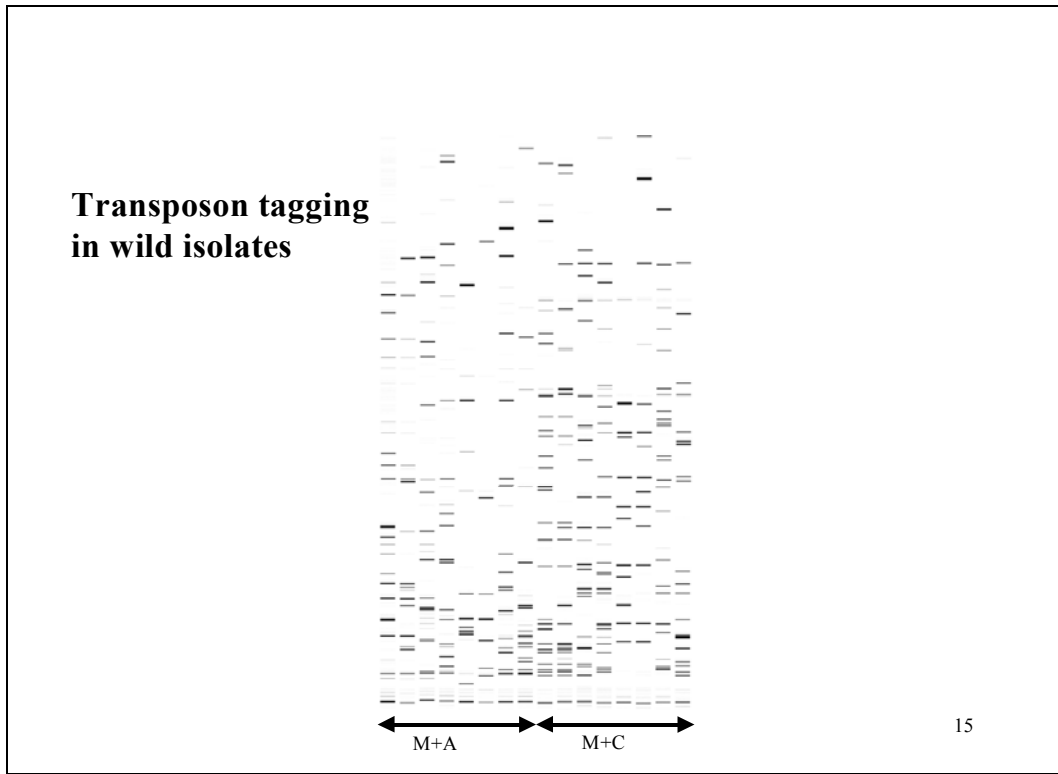


Using *MseI* as restriction enzyme, one can selectively amplify fragments that contain an LTR of Tab2. We use a nested primer within the LTR region and the second primer has 2 additional nucleotides as a overhang which reduces the number of bands in such a way that can be scored. We use a fluorescent LTR-primer and the separation is done by capillary electrophoresis. The detection is done by laser scanning and since only the LTR primer has the label only those fragments are detected that contain an LTR fragment.

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Slide 15



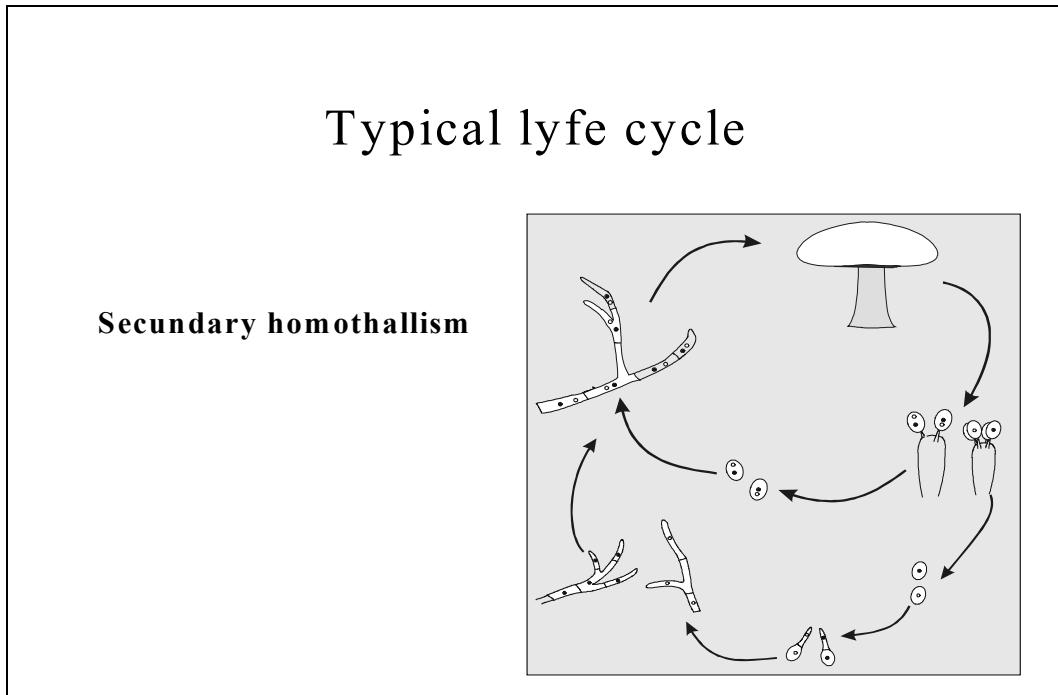
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What is considered as derived

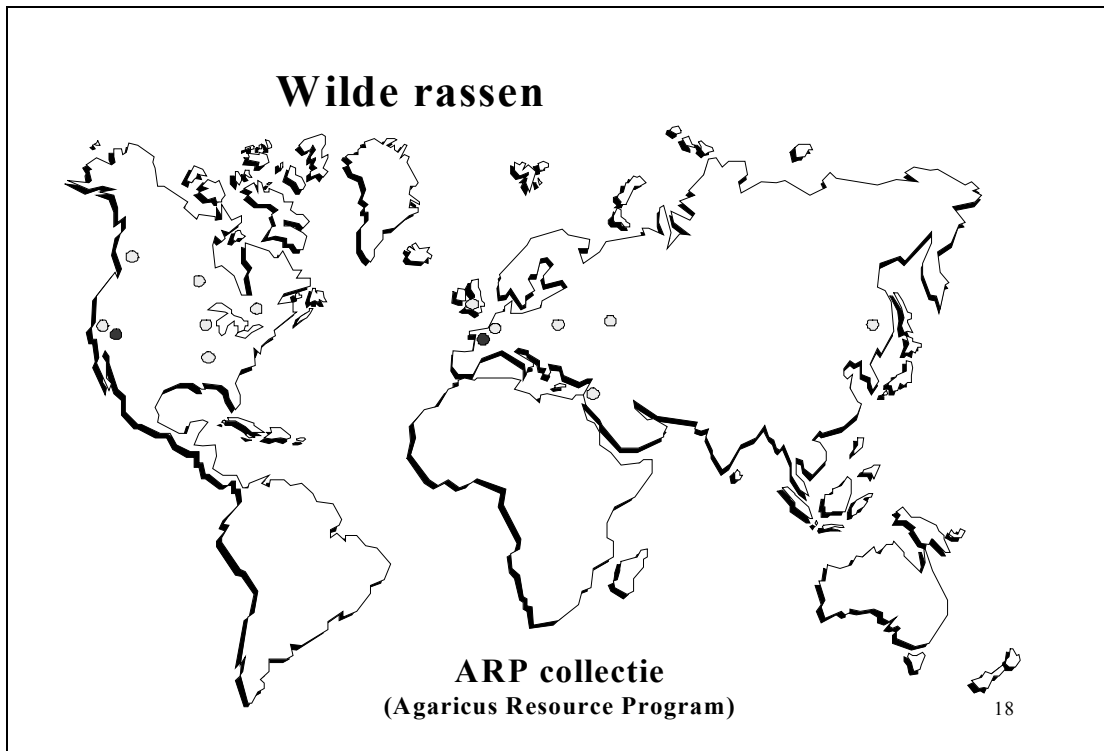
- Mutant
- Genetically modified
- Backcross

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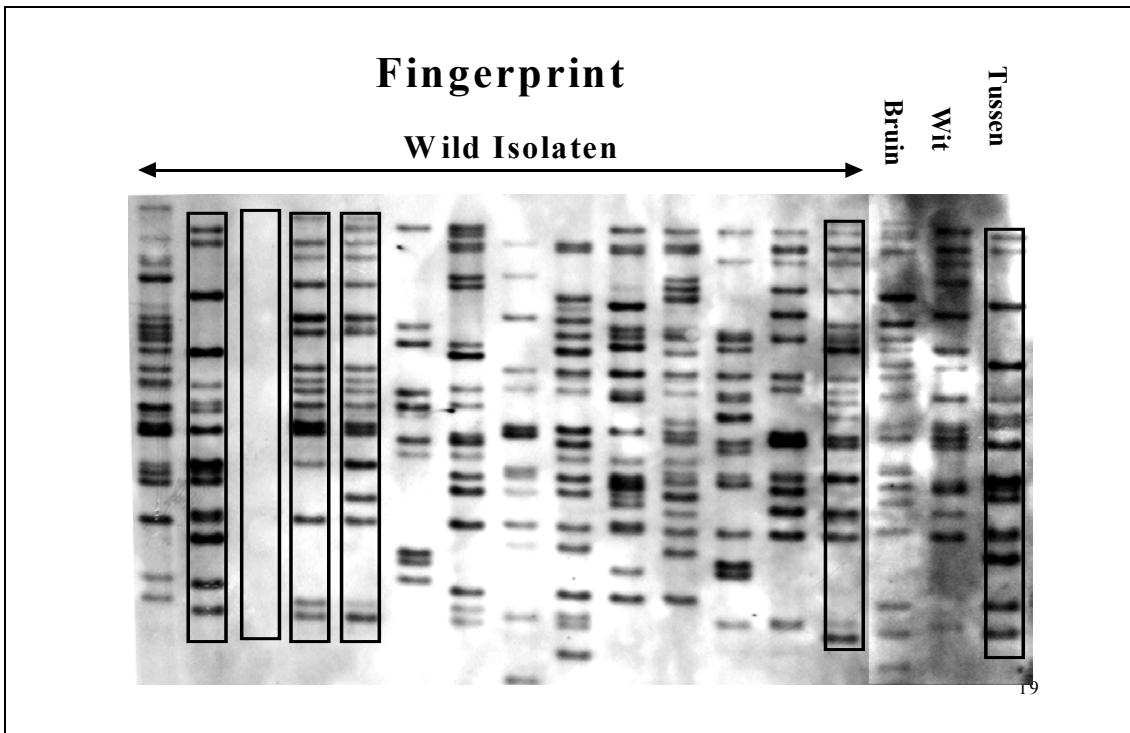
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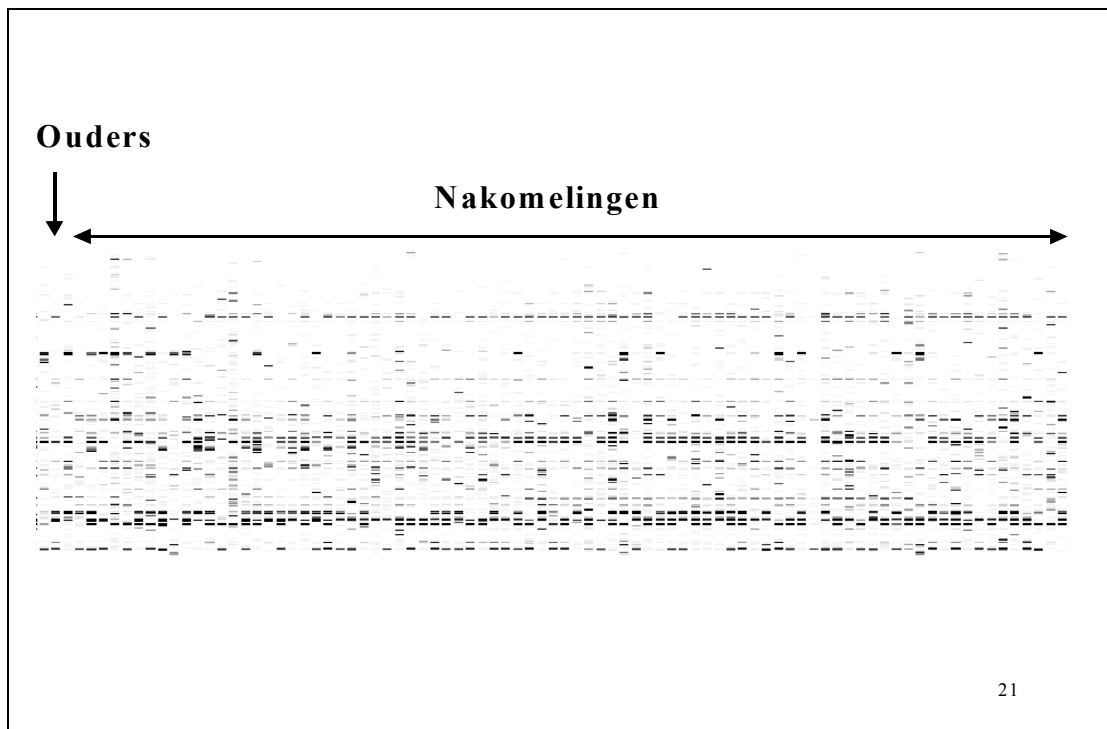
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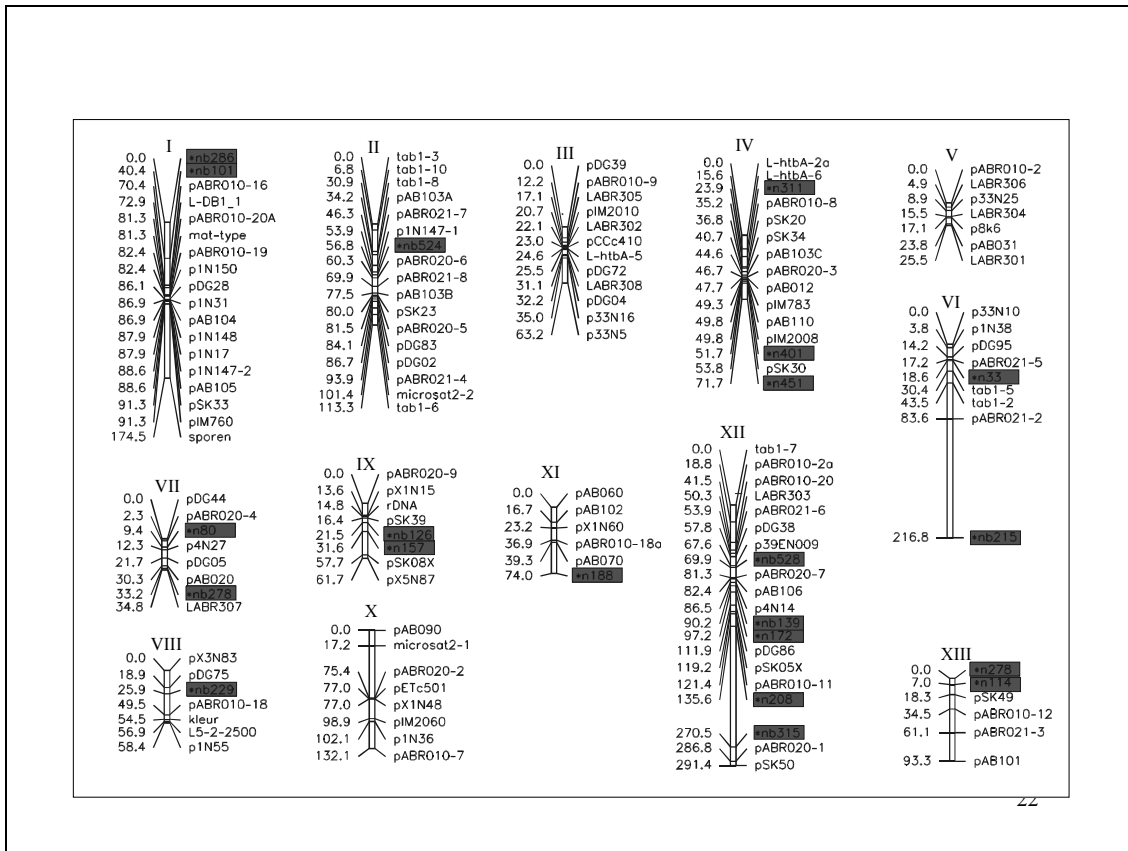
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Slide 20



Slide 21



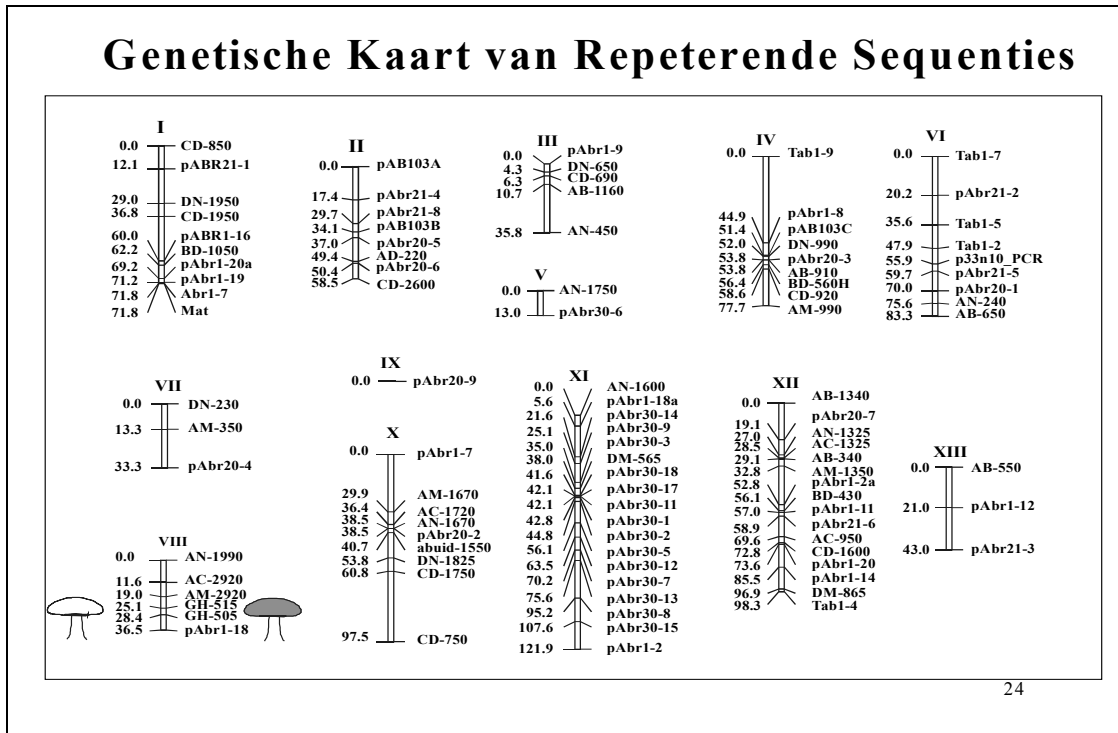
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Veredeling m.b.v. moleculaire markers

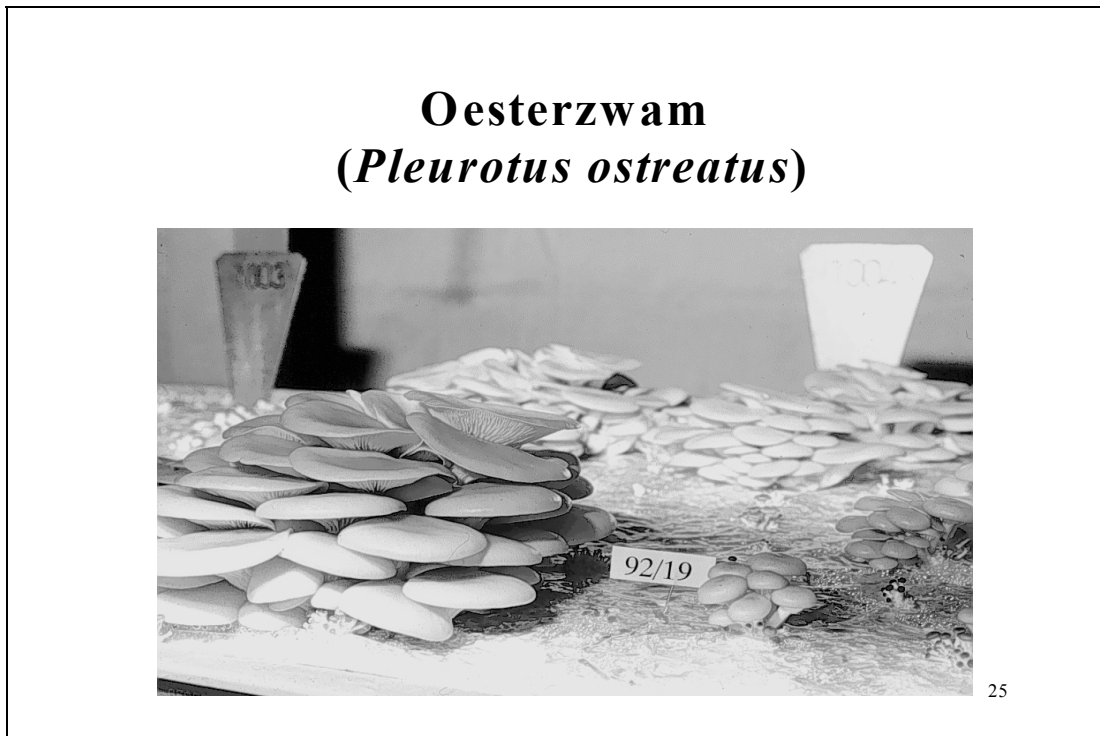
Marker Assisted Selection (MAS)

Bruine Champignons

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Slide 24




Slide 25

<u>White Strains</u>	<u>Off-white Strains</u>	<u>Brown Strains</u>
<ul style="list-style-type: none">• Les Miz Y217• Les Miz 66• Le Lion B14• Sinden A1• Le Lion B92• Somycel 53	<ul style="list-style-type: none">• Sinden A4• Le Lion B62• Somycel 9.2• Somycel 76	<ul style="list-style-type: none">• Royal 101• Som 856• Aqmycel 486• Le Lion C9• Amycel 2400• Le Lion C33

26

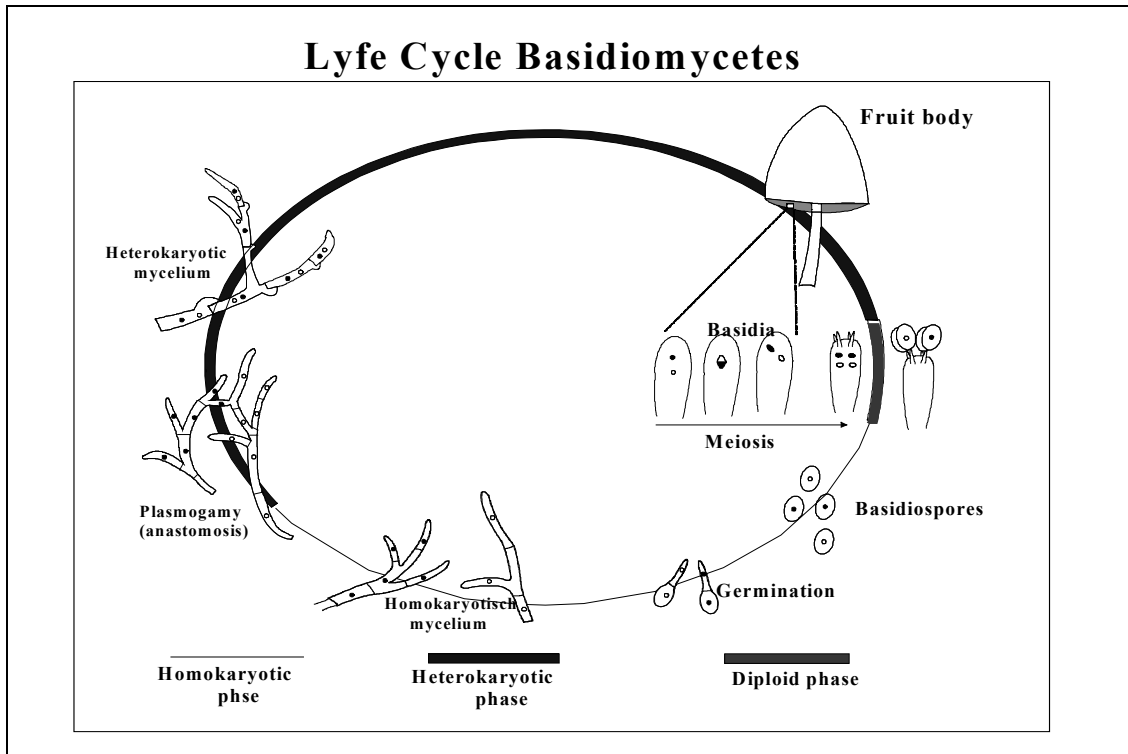
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Sporenloze Stam

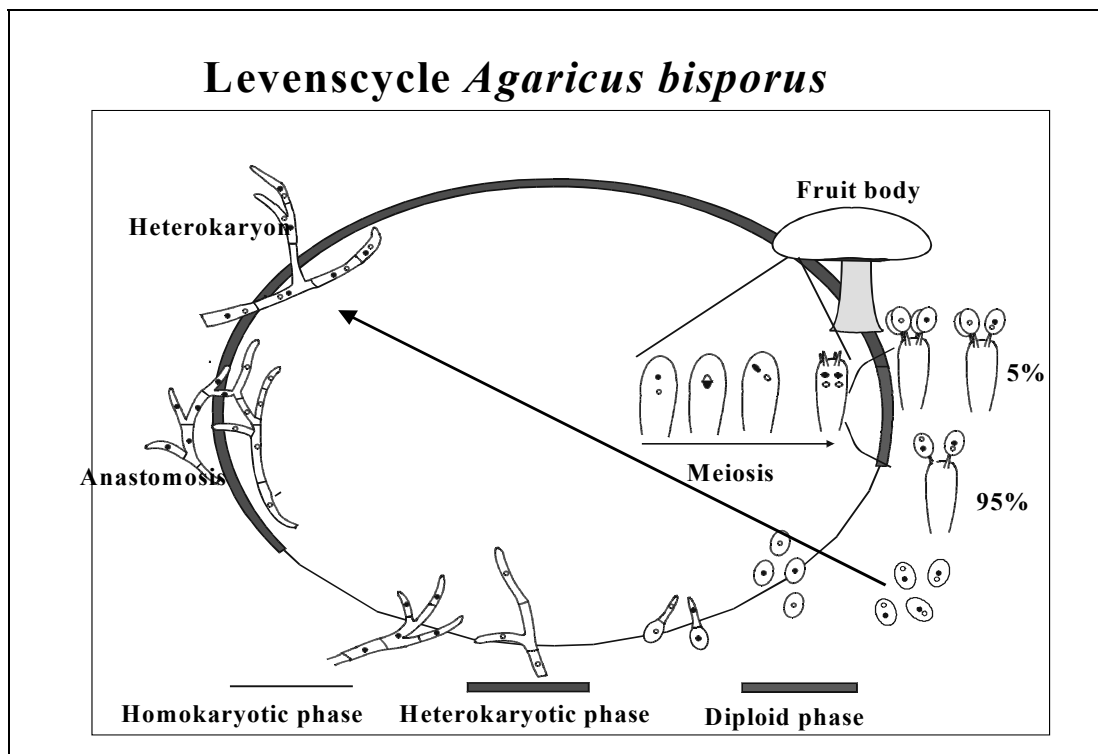


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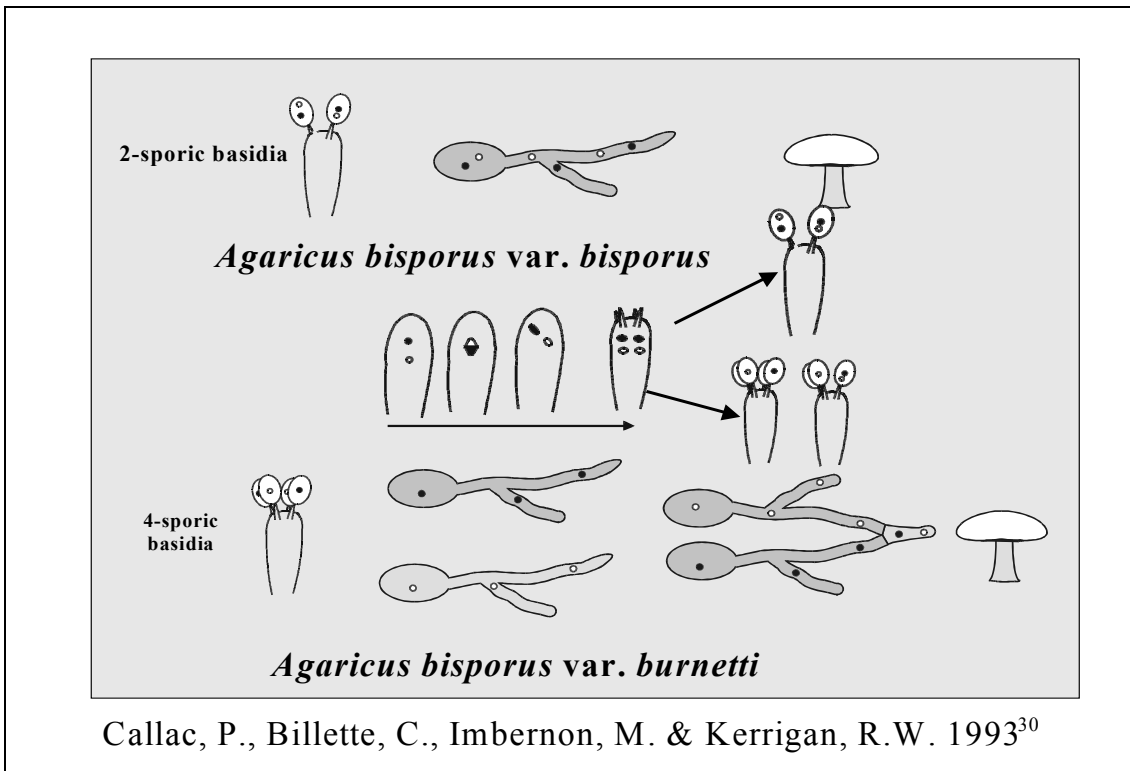
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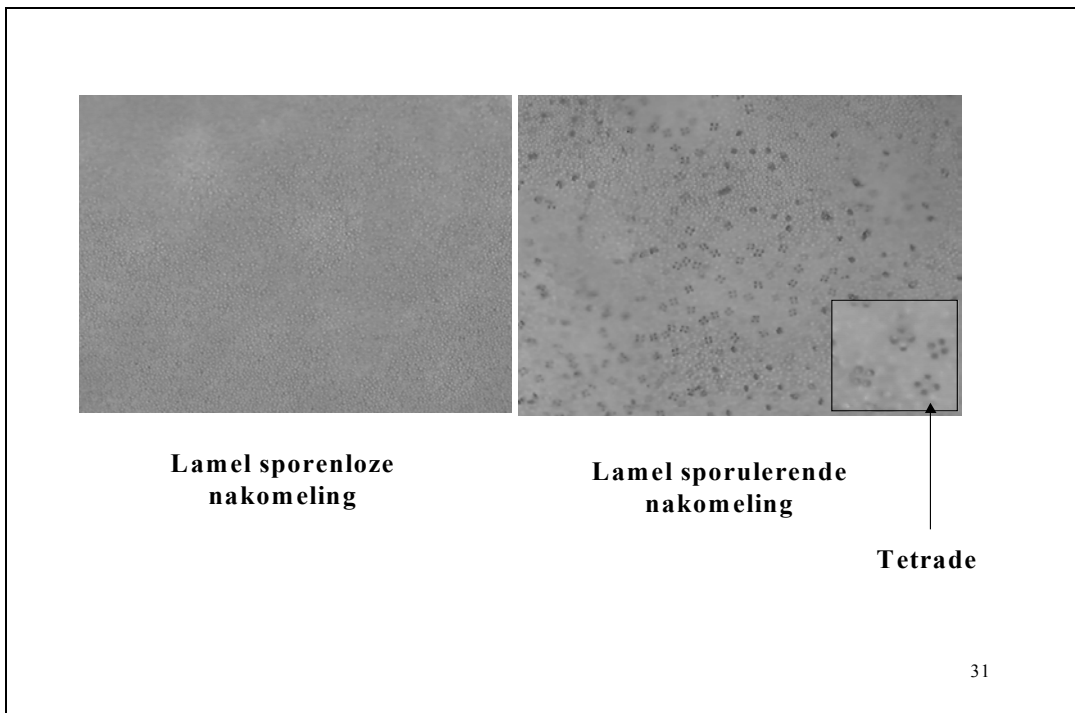
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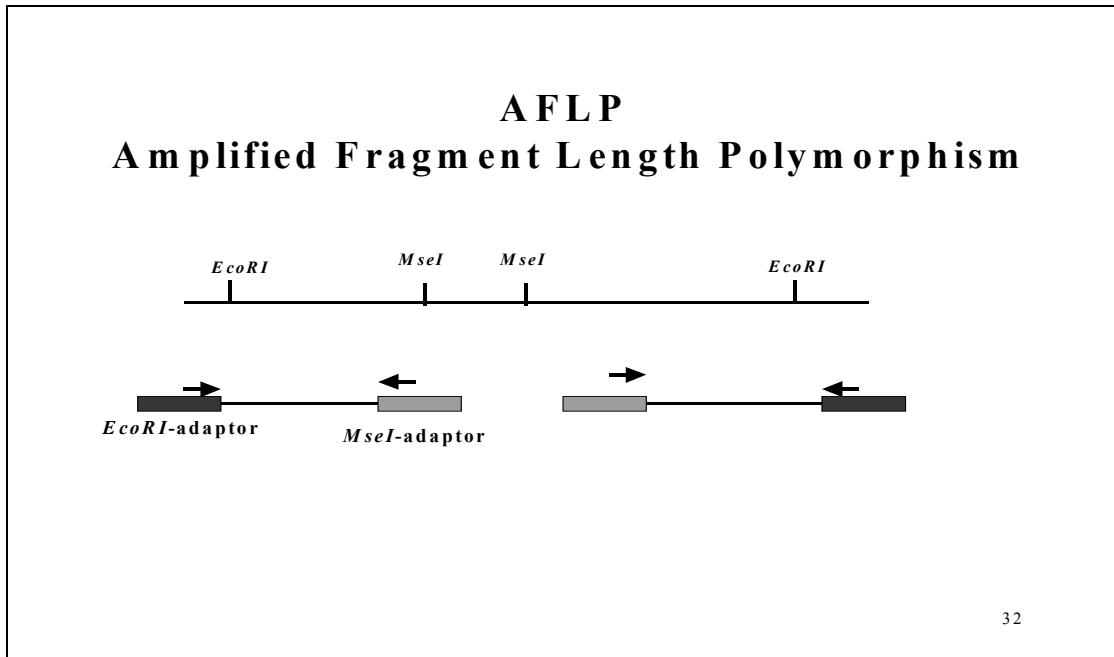
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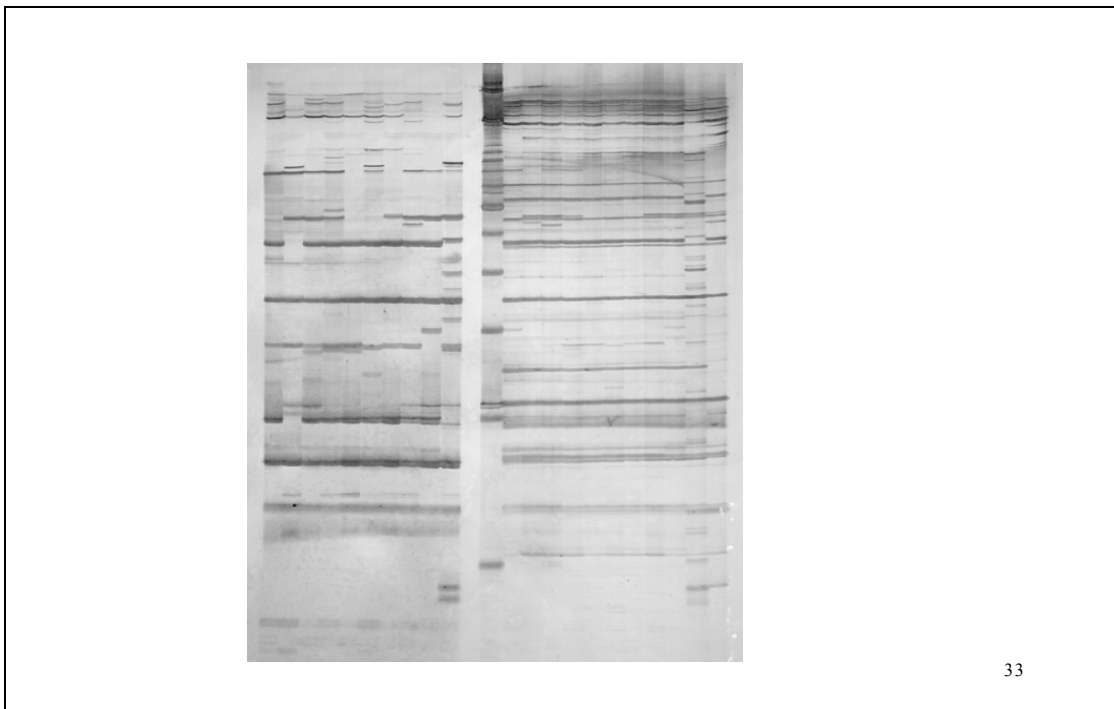


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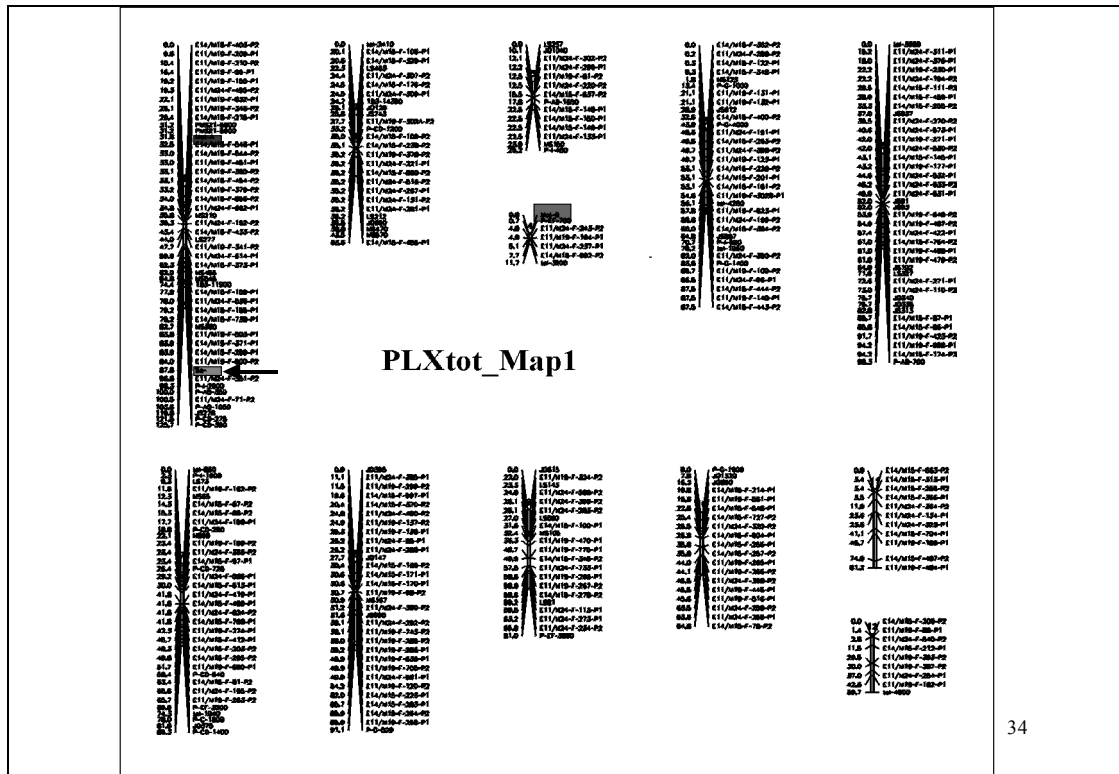


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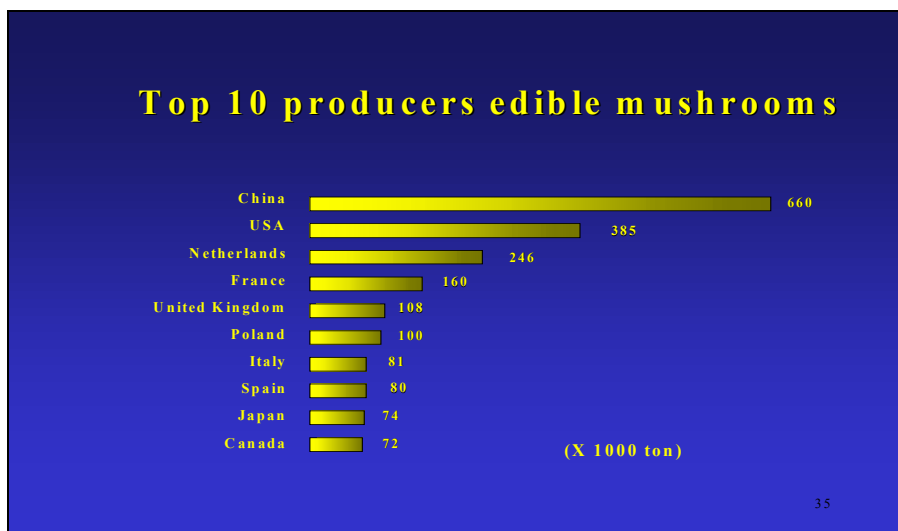
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Slide 33



Slide 34



Slide 35

Mushroom Experimental Station

- **Substraat (compost/dekaarde)**
- **Genetica en Veredeling**
- **Gewasbescherming**
- **Kwaliteit**
- **Proefkwekerij**

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[End of document]