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Research Centre for Forestry and Wood



New *P. xcanadensis* clones for wood industry and biomass production selected in Italy by the Research Centre for Forestry and Wood in Casale Monferrato

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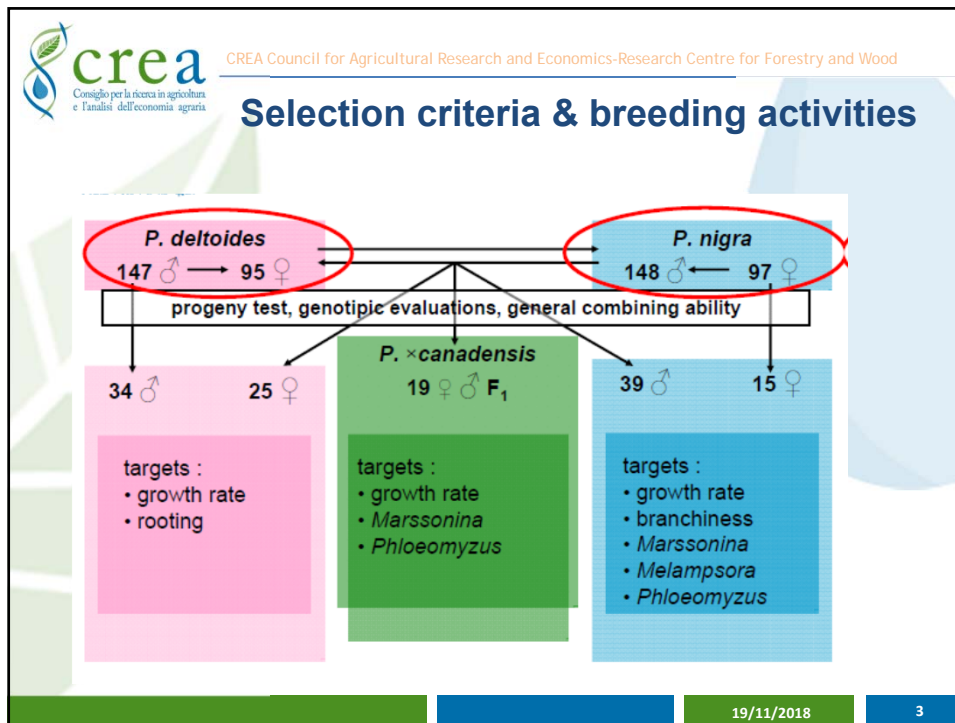
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## Selection criteria & breeding activities

Breeding strategies were based on a semi-reciprocal recurrent selection of *P. deltoides* and *P. nigra*, in order to:

- to produce improved populations of both species
- to get new *P. xcanadensis* commercial hybrids of increased productivity and improved wood quality
- to cope with the needs of a more sustainable cultivation

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## Results

**Inter-specific crosses (D×N) – progeny test**

- seedlings: n. 49000 progenies
- multi-stational selection nurseries: n.1700 clones
- multi-stational 1st selection stands: n.688 clones
- multi-stational 2nd selection stands: n.19 clones
- demonstrative stands: n.9 clones
- registered to the N.R.B.M. :  
**n.9 *P. × canadensis* clones**

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### Target: plywood

Code	Name	Mother	Father	Species	Sex
83.002.011	'Senna'	D0-006	P. nigra polycross	P. ×canadensis	F
83.002.031	'Diva'	D0-006	P. nigra polycross	P. ×canadensis	F
83.024.017	'Moncalvo'	D0-131b	P. nigra polycross	P. ×canadensis	M
83.141.020	'Aleramo'	D0-006	N083	P. ×canadensis	M
83.190.012	'Moletto'	D0-006	N325	P. ×canadensis	M
84.048.032	'Mombello'	D0-132	P. nigra polycross	P. ×canadensis	M
84.260.003	'Tucano'	D0-006	N110	P. ×canadensis	M

### Target: biomass production

Code	Name	Mother	Father	Species	Sex
83.148.041	'Orion'	D0-006	N094	P. ×canadensis	M
83.160.029	'Imola'	D0-006	N165	P. ×canadensis	F

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### Field evaluation of poplar clones selected for plywood production

Experimental sites	Vol.m <sup>3</sup> ha <sup>-1</sup>
Gabiano (AL)	304.13
Casale Monferrato (AL)	184.69
S. Agata Bolognese (BO)	176.36

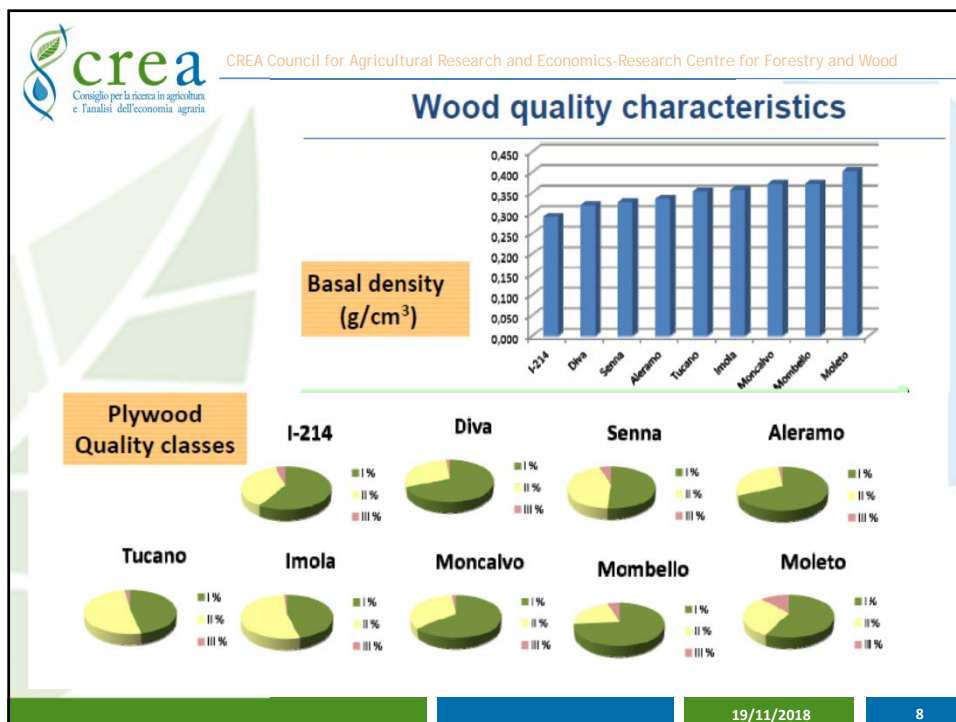
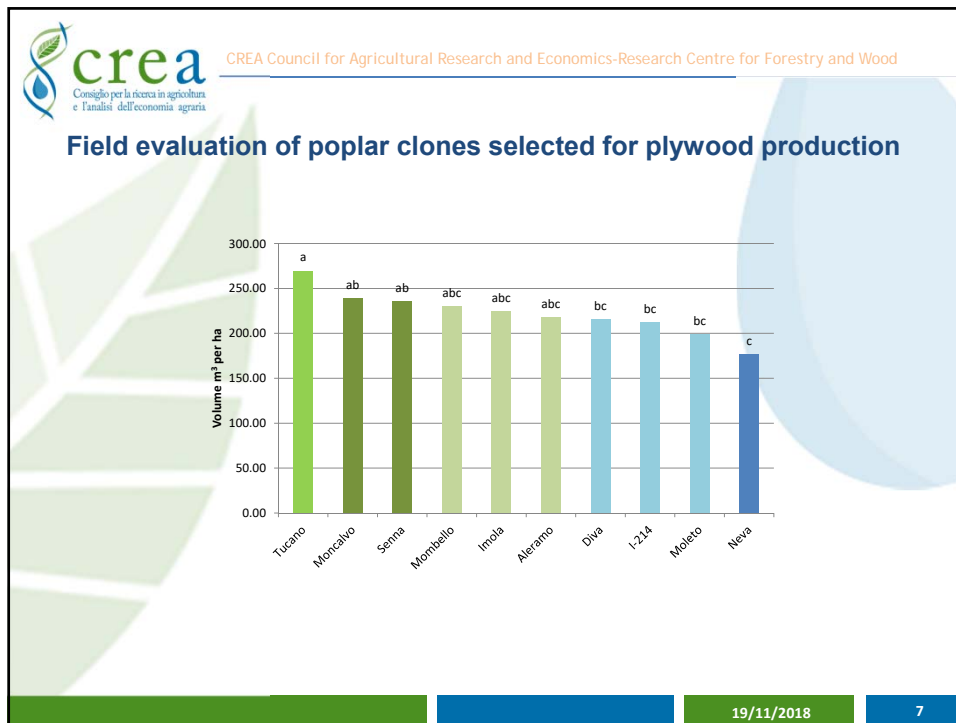
Volume m<sup>3</sup> per ha

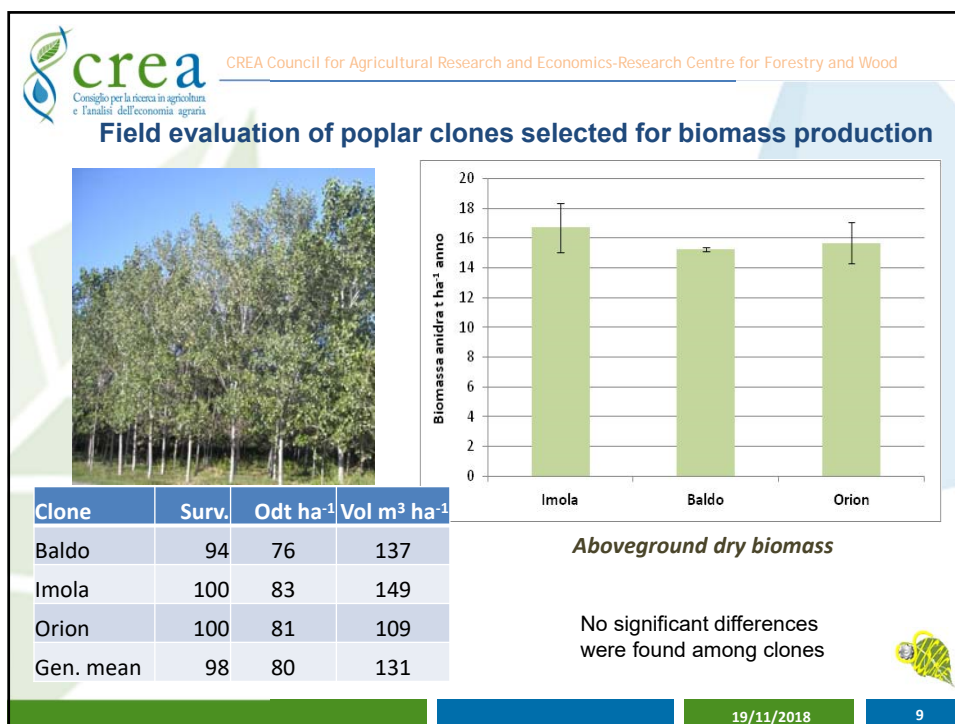
350  
300  
250  
200  
150  
100  
50  
0

a b b

Gabiano Casale S. Agata

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## Conclusive remarks

Trial activities also conducted in other countries (i.e. France, Spain) in different pedoclimatic conditions, has allowed to confirm their good level of environmental adaptability, tolerance to the main poplar adversities such as pests (*Phloeomyzus passerinii*) and diseases (*Marssonina brunnea*, *Melampsora* spp., *Venturia populina*)

Seven of these clones, registered in Italy in the National Registry of Base Materials and protected in Europe by the Community Plant Variety Rights (CPVR), have recently been included in the list of poplar clones named MSA "Maggiore sostenibilità ambientale" (Greater Environmental Sustainability) and will allow a more 'sustainable' cultivation as an alternative to the traditional one.

The adoption of cultivation models based on the use of poplar clones MSA, as envisaged by the Rural Development Plans, allows to pursue the strategic objectives set out in the EU Reg. 1305/2013 and, in addition to providing the poplar growers with numerous advantages of productive, economic and environmental nature.

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