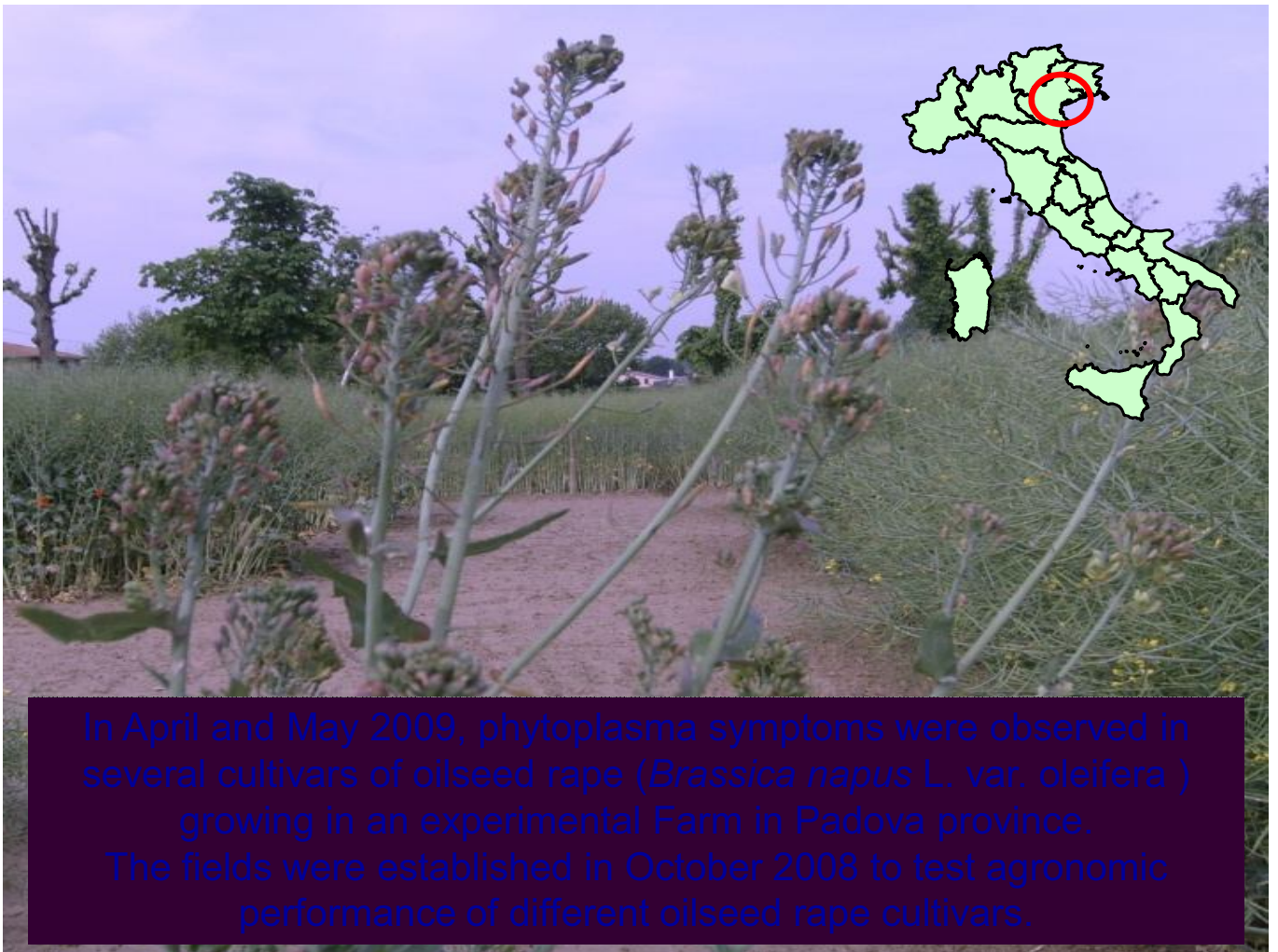


First report of 'Candidatus Phytoplasma asteris' associated with several cultivars of oilseed rape in Italy

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In April and May 2009, phytoplasma symptoms were observed in several cultivars of oilseed rape (*Brassica napus* L. var. *oleifera*) growing in an experimental Farm in Padova province. The fields were established in October 2008 to test agronomic performance of different oilseed rape cultivars.

Symptoms:

The affected plants are higher, loss apical dominance with the development of axillary buds.

Tillering and witches broom were also present.

The flowers showed green petals and extensive malformations



Symptoms:

Small and malformed inflorescences.

Only a small number of flowers were producing seeds of poor quality and poorly germinating.

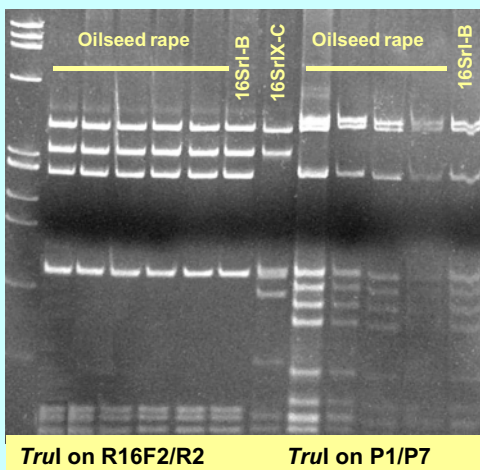


infected

healthy

Phytoplasma identification:

Symptomatic samples from 6 plots of 5 varieties were collected and tested by nested PCR followed by RFLP analyses on 16S + space region + part of 23S ribosomal gene for phytoplasma molecular characterization



Direct PCR assays
P1/P7 and
R16F2/R16R2

RFLP analyses
Trul, *Bfal*, *HhaI*

'*Candidatus* Phytoplasma
asteris' 16Srl-B

The same phytoplasma was detected in winter oilseed rape in Czech Republic (Bertaccini *et al.*, Plant Pathology 47, 317-324. 1998) and, recently in Greece (Maliogka *et al.*, Plant Pathology 88, 792. 2009)



Among the 51 varieties cultivated in the fields 31 showed the described symptoms with a disease presence ranging from 0.03 to 1.89 %.

No significant differences were found between agronomic inputs (sowing density, spring fertilization) and different genotype (Composite Hybrid Hybrid, Composite Hybrid Hybrid semi-dwarf, Composite Hybrid Line and Open Impollinated Line).

Epidemiological research:

In the cultivated plots and surrounding area:

Euscelidius variegatus, *Euscelis incisus*, *Macrosteles quadripunctulatus* and *M. laevis* (Ribaut), vectors of 16Srl-B phytoplasmas (Weintraub & Beanland, Annual Reviews Entomology 51: 91–111. 2006) were found



Many herbaceous plants (i.e. *Convolvulus arvensis*, *Oxalis corniculata*) and bush (*Prunus laurocerasus*) with symptoms associated to phytoplasma were observed



Molecular analysis to verify the phytoplasma presence in insects and plants are in progress

This is the first report of the association between 'Ca. P. asteris' and oilseed rape in Italy. Studies to verify epidemiological behaviours of the disease in seed, insect and weeds are in progress.

