



Transmission of *Candidatus* *Phytoplasma prunorum* by formation of root bridges in Turkish apricot cultivars

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**COST Action FA0807 Integrated Management of Phytoplasma Epidemics
in Different Crop Systems**

'Candidatus Phytoplasma prunorum'

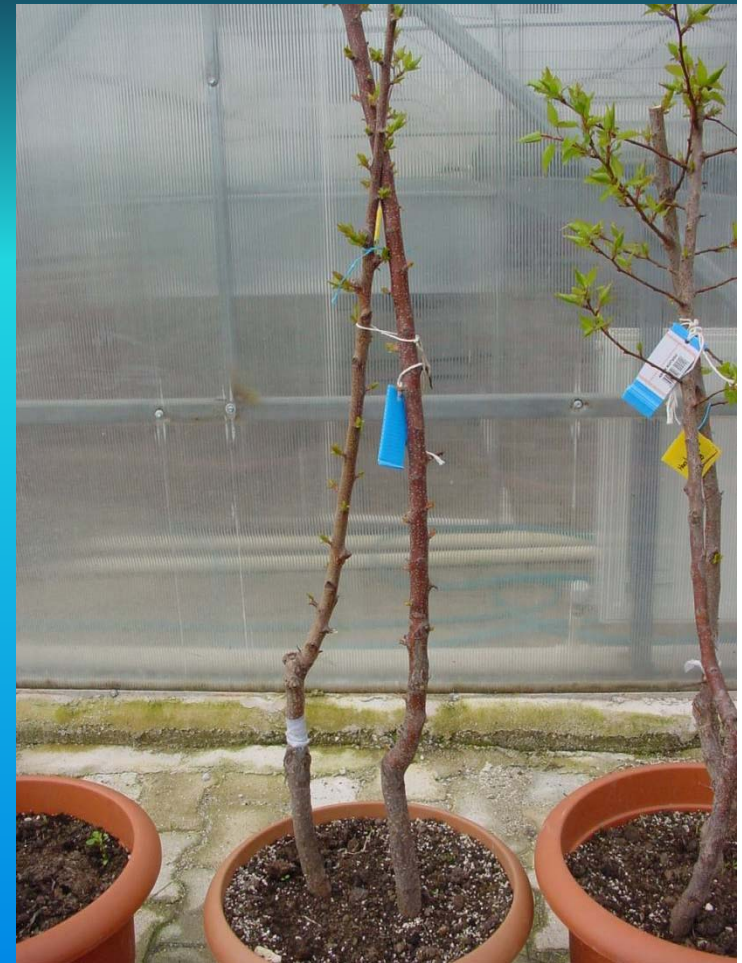
- Causes arly bud breaking and premature leaf droppig in summer
- Severe isolates can kill young plants in two years
- Transmitted by grafting and Psyllid vectors



Can transmit by
root bridges?

Experiment

- Two Turkish apricot (*Prunus armeniaca*) cultivars
 - cv. Sakit
 - cv. Hacıhaliloğlu
- Rootstock wild apricot
- Two plants from the same cultivar were planted together in a 30 l plastic containers. Testing for phytoplasma by PCR before inoculation.
- Inoculation of one plant in a pot with *Ca. P. prunorum* by two chip buddings in March 2009.
- Replicated 15 times for each cultivar.
- Three months after the inoculation, all inoculated plants were tested by PCR using P1/P7 and F01/R01 primer pairs. If one of the inoculated plants was found infected, counter part was also tested by PCR.
- Following months leaves, shoots and roots of inoculated plants and counter parts were used for total nucleic acid extractions.



The plants were maintained in screen house.

cv. Hacıhaliloğlu



cv. Sakit



Primary Results

		cv. Sakit		cv. Hacıhaliloğlu	
Months	Tested organ	Plant A (Inoculated)	Plant B (Non inoculated)	Plant A (Inoculated)	Plant B (Non inoculated)
March 2009	--	Inoculation		Inoculation	
July	Leaf	1/15	0/1	2/15	0/2
August	Leaf+Shoot	6/15	1/15	1/15	0/15
	Root	1/15	6/15	1/15	1/15
September	Leaf	0/15	Nt	4/15	Nt
	Shoot	1/15	Nt	Nt	Nt
	Root	6/15	4/15	4/15	4/15
October	Leaf	0/15	0/15	0/15	0/15
	Shoot	0/15	0/15	0/15	0/15
	Root	0/15	0/15	0/15	0/15
November	Shoot	2/15	9/15	12/15	0/15
	Root	1/15	1/15	4/15	3/15
December	Shoot	0/15	1/15	0/15	5/15
	Root	0/15	1/15	1/15	1/15
January 2010	Shoot	0/15	0/15	0/15	0/15
	Root	1/15	0/15	0/15	1/15

Present Conclusion

- Both Turkish cultivars seems to be very sensitive to ESFY
- Four months after inoculation, root transmission were detected in counter part of both cultivars.
- Root samples were found better than leaf and shoots for detecting root transmission of phytoplasma to counter part after the inoculation.
- This study has been under investigation and the data will be collected for two more years.

*THANKS FOR YOUR
ATTENTION*

PHYTOPLASMA TEAM

