

BOIS NOIR IN TRENTO VINEYARDS: TWELVE YEARS VISUAL OBSERVATIONS AND RESEARCH ABOUT ROOTS ANALYSIS

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Eight Chardonnay vineyards (total n. plants 11.049) placed in Valsugana (Trento), bedded from 1989 to 1991, have been observed for twelve years, noting every year the different symptoms of Grapevine Yellows Disease, identified as bois noir (BN). The plants have been divided into five groups:

- a) never symptoms = n.9628 plants
- b) symptomatic only the last year = n.24 plants
- c) showing always or very often the symptoms (from 2 to 8 years)

years	n.plants	2 years	3 years	4 years	5 years	6 years	7 years	8 years
91-'02	11049	82	30	12	8	7	5	1

d) before symptomatic, without symptoms for 1-9 years, and symptomatic again

years	n.plants	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years
91-'02	11049	80	47	22	19	10	2	2	1	2

e) in "recovery" since 1-8 years

years	n.plants	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years
91-'02	11049	285	139	64	42	27	11	4	1

In fruit trees has been often observed the phenomenon of "recovery" in infected plants after a first shock time (2). "Recovery" is a spontaneous remission of symptoms in plants previously symptomatically affected by a pathogen (3). In recovered apple trees the AP phytoplasma has been found only in the roots (1).

Being the rate of symptomatic plants very low (5) and also that of the vector insect *Hyalesthes obsoletus* (M.Dalri, unpublished results), as regard the d) group, we presume very unlikely a new infection just in the same plants infected many years before. Considering the groups d) and e), we have supposed a recovery behaviour also in the grapevines.

In autumn 2002, 46 samples of roots samples (about 5 mm diam) were collected from vines belonging to the five groups choosing the DAPI microscopic method (4) to analyse them. As positive control we used a sample surely infected stayed in our "plant lazaret".

Results of DAPI

Group	n.samples	positive	negative	doubt
a)	3	0	2	1
b)	10	7	2	1
c)	8	8	0	0
d)	6	5	0	1
e)	19	13	4	2

Because of abundant rays and starch grains it isn't easy to analyse the grapevine roots.

Positive sample and 33 samples observed early after fixation showed clear phytoplasma presence in sieve tubes. 8 samples were negative and 5 doubtful. Also one of the 3 samples of a) group resulted doubtful, so we repeated some microscopic examinations but the tissues resulted damaged by the long fixation.

Some samples were analysed by RFLP-PCR but till now we haven't had clear results.

These results aren't definite but they suggest the opportunity to deepen this subject.

References

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