P51- Studies on pear decline disease in Uruguay

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Pear decline (PD) caused by '*Candidatus* Phytoplasma pyri' (subgroup 16SrX-C of apple proliferation group of phytoplasmas) is an important pear (*Pyrus communis* L) disease. Pear production in Uruguay is based in self-rooted Williams plants initially grafted on quince. Recently less vigorous rootstocks that could be more susceptible to decline are being planted for precocity. Surveys were conducted to know if PD was present in the pear growing area of Uruguay (southern part near Montevideo city) during 1995 looking for premature reddening, upward rolling of leaves and decline. Phytoplasma were observed in 35 of 70 samples using DAPI test. Ten positive and 10 negative samples were analyzed by PCR assay using AP-group specific primers f01/r01. A 1050 bp amplicon was obtained only from all DAPI positive samples. The f01/r01 amplicon was sequenced showing 100% identity with 16S ribosomal RNA gene sequences of PD phytoplasma in NCBI database. An association was observed between phytoplasma detection, reddening, psylla infestation and premature leaf fall in this survey. Presence of PD-symptoms and phytoplasma detection were evaluated in an experiment where 20 scion/rootstock combinations were compared during 2005-2011. Self-rooted, OHxF 40, and OHxF 69 grafted plants showed less early reddening and leaf fall than those grafted onto quince rootstocks. Phytoplasma detection in this trial varied among seasons and was not associated to symptoms. Phytoplasma were detected on psylla during the whole 2009-2011 seasons on four pear orchards. An association between the efficiency of psylla control, phytoplasma detection and symptoms was found on an experiment with traditional Williams self-rooted plants in 2011. These results indicate the presence of PD phytoplasma in Uruguayan pear orchards, on psylla insects during the whole season, and its association to decline symptoms on plants depending on scion/rootstock affinity.

Keywords: *Pyrus communis* L, '*Candidatus* Phytoplasma pyri', *Psylla*, rootstock