

TRANSMISSION *IN VIVO* OF ELM YELLOWS PHYTOPLASMA (16SrV) BY *AMPLICEPHALUS CURTULUS* (HEMIPTERA: CICADELLIDAE) IN RYEGRASS (*LOLIUM MULTIFLORUM* CV. TAMA)

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Several leafhopper species are very important in the phytoplasma transmission and dispersion. Phytoplasmas are causal agents of a wide range of plant diseases around the world, being particularly important in Chile, current cases reported in sugarbeet, grapesvine, and Chilean shrubs with agronomic potential such as *Ugni molinae*. Current research has showed the presence of a phytoplasma of Elm Yellows group in *U. molinae*, *Lolium multiflorum* and the leafhopper *Amplicephalus curtulus*. With the aim to evaluate and confirm the transmission process from native plants to grasses by *A. curtulus*, nymphs of 5^o instar were put in cage with *U. molinae*-phytoplasma infected (n = 3 plant per cage, 3 cages) for 72 h. After that, phytoplasma infected plants were replaced by no infected ryegrass plants (n = 7 leafhopper per plant, 5 plant per cage, 3 cage) for 20 days (24±2°C, 16:8 h, and 60-75 % RH) (latent period). These plants were replaced by new plants of ryegrass and were put in the cages for 14, 7, and 1 day (transmission periods). Subsequently, these plants were taken off to other cages without insects and were maintained there for 30 days. Under the same conditions (but without insect) and an equal number of ryegrass plants were placed in other cages as a control treatment. DNA was extracted from insects and plants used in the latent and transmission periods, and controls. The DNA was amplified by direct (primers P1/P7) and Nested-PCR (primer F2n/R2). PCR products were sequenced directly. The 46, 60 and 13% of the plants exposed to infected *A. curtulus* by 14, 7 and 1 days, respectively, were inoculated with Elm yellows phytoplasma. Plants not exposed to *A. curtulus* or those plants that were in the latent period did not amplify phytoplasma. We show that *A. curtulus* has the ability to transmit phytoplasma from *U. molinae* to ryegrass, being an adequate period of transmission seven days; less time could affect the incidence or the detection process, because the results indicate that latent period in this leafhopper is higher than 20 days at controlled conditions.

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