

# PineWALL Project: Linking pine cell wall composition and structure to pinewood nematode resistance under climate change

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The pinewood nematode (PWN) uses its stylet to perforate plant cell walls (CW), while releasing hydrolytic enzymes. Thus, understanding how CW anatomy, structure and composition can influence pine susceptibility to PWN infection is essential. A multidisciplinary project was settled to assess the influence of the PWN infection and climate change on pine trees CW anatomy, structure and composition and to identify structural biomarkers that can be used to predict *Pinus* spp. susceptibility/resistance in different climate scenarios.

Anatomical and structural studies in infected/uninfected *Pinus* spp. in different climate scenarios

CW characterisation by high-throughput vibrational spectroscopy and analytical chemistry

CW glycome profile and glycan distribution by *in situ* immunolabelling

Identification of anatomical/structural/biochemical characters associated with the PWN infection

Identification of host resistance/susceptibility biomarkers in different climate scenarios