

The present invention relates to a plant biotic agent phenotyping platform comprising a container hermetically sealed with a lid delimiting an internal space divided into two spaces: - a lower internal space which comprises at least one temperature control means immersed in a temperature transfer liquid; and-an upper internal space, the surface of the temperature transfer liquid being the border between the lower internal space and the upper internal space; the lid comprising at least one orifice which is adapted to fit a pot and at least one pot whose bottom part is contained in the upper internal space and which is adapted to receive plant seeds and soil parasite and to enable development of such soil parasites and plants. The invention also related to the use of this platform for screening plant resistance or tolerance to soil parasite.