

THE EMERALD CONFERENCE

Produced by MJBizScience

February 27 - March 1, 2022
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Cannabis Plant Pathogens Observed In-Vitro in Laboratory Settings

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Abstract: Although agriculture is a main focus of research, laboratories are a key environment of the cannabis industry which should not be overlooked. In this poster we look at the characteristics of Cannabis plant pathogens found in laboratory settings, with regards to tissue culture and pathogen isolation. Research done by Punja et al. identified the prevalence of diseases such as Powdery Mildew, Fusarium/Pythium crown and root rot, and damping-off of plants and plantlets in the recovery programs and grows of Canada. As such it is to be expected that similar pathogen-induced diseases will be pervasive in the domestic United States industry.

Working in house with contaminated in vitro specimens exposed our lab to a similar range of microbial contaminants. Using isolation and plating methods we were able to index a number of pathogens and their morphological and phenotypical behavior on medium and plantlets. We isolated contaminants in question, inoculated clean plantlets and observed symptoms induced in in vitro plantlets.

For this poster we focus on primarily Fusarium spp. Pythium spp. Golovinomyces spp. and Botrytis and their symptoms displayed by plants in vitro.

Laboratories which cater to health and maintenance in the Cannabis industry as a whole; government agencies, private laboratories, or with in-house technicians, will require the ability to quickly and reliably identify pathogen symptoms of in vitro and in vivo plants. Better research in this field will be paramount to the identification and management of problems caused by such pathogens.