DETERMINATION OF LETHAL DOSES OF ANTIBIOTICS (HYGROMYCIN, GENETICIN AND NOURSEOTHRICIN) FOR SELECTION IN GENETIC TRANSFORMATION OF *Fusarium decemcellulare,* ISOLATE FROM GUARANA PLANT (*Paullinia cupana* var. *sorbilis)*

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Resumo: *Fusarium decemcellulare* is an important pathogen of various economic and cultural plant species from tropical and subtropical areas. In guarana plant this pathogen cause the supersprouting sympthoms disease and showing different symptoms, such as galls on the stem, hyperplasia in the vegetative buds and floral hypertrophy. Guarana plant is originally from Amazonas state (Brazil) and is an important crop because of its medical and stimulant properties, and it is also used on the beverage and cosmetics industries. Unfortunately this disease can cease with almost 100% of its production since the early stages of development. Researches had demonstrated that *Liothrips adisi* is a vector of infection transporting spores of *F. decemcellulare* to the plant. However it is not known the exact mechanism of penetration, colonization or infection, or if the insect is the only way of infection. Aiming to elucidate these questions, it is possible to make use of important tools of functional genomics, such as reporter genes GFP or RFP, and gene knockout or gene knockdown by RNAi. In order to accomplish the main goal is it necessary to establish some conditions for genetic transformation which have great influence on the process, such as determination of lethal doses of antimicrobial agents, depending on which selection marker is it chosen to be used. The markers chosen to work were Hygromyicin B, Geneticin (G418) and Nourseothricin. Thus, spore solutions (on potato-dextrose liquid medium) were spread on plates containing different doses of the antimicrobials (40, 80 and 100 µg . mL^{-1}) and maintained on 25 ºC for 7 days and a photoperiod of 12h. No micelial growth was observed after this period of incubation, confirming a lethal dose of 40 µg . mL^{-1} of Hygromycin B, Geneticin (G418) and Nourseothricin for *Fusarium decemcellulare*.

Keywords: Lethal dose, *Fusarium decemcellulare*, supersprouting, geneticin, hygromycin.