

***Cyttariaespinosae* Lloyd extracts with antibacterial effect *in vitro* to control plant pathogenic bacteria of agricultural interest.**

¹Perez, A.¹, Rebolledo. C.¹, Mendoza. D.¹, Reyes, M.¹ y Parada M.¹

¹Laboratorio de Microbiología y Rizobiología, Centro Biotecnológico de estudios microbianos CEBEM. Facultad de Ciencias Agropecuarias y Forestales, Universidad de La Frontera, Francisco Salazar 01145, Temuco, Chile

andreaperezbriones@gmail.com

The dihueñe (*Cyttariaespinosae* Lloyd) is a parasitic fungus of trees of the genus *Nothofagus* (*N. obliqua*, *N. glaucay* *N. procera*), used in Chile and Argentina as a food product in salads, typical dishes and alcoholic beverages. Different species of *Cyttaria* have also been used medicinally to treat sarcoma and lymphoma. Currently in Chile, the phytopathologies in fruit of the genus *Prunus*, *Malus* and *Actinidia* and legumes of the genus *Hordeum*, generate significant losses in the export productive sector. Because of this, it was proposed to study the antibacterial effect of dihueñes on *Cyttaria* plant pathogens as *Pseudomonas syringae*, *Pseudomonas fluorescens* and *Erwiniasp*. To this end, during harvest time (August to October 2014) of dihueñe collected in different places in Chile, of which aqueous, alcoholic and hydroalcoholic extracts were obtained, which were evaluated for their antibacterial activity by diffusion method agar (*Bauer et al., 1966*). The minimum inhibitory concentration test (MIC) and bactericidal (CMB) was performed observing growth kinetics at 24 hours. The results show an effective bactericidal activity *in vitro* against strains extract above outperforming the positive control (gentamicin 25µg / mL) to give a rating of "very sensitive" according to the criterion *Gaudana et al*, even when it seems that this activity is not inherent to the genre *Cyttaria*, since there were differences between the results of testing by locality during the season, which could be indicating an important action of external factors such as soil and climate, among others. Data were recorded and quantified by ImageJ analysis program. This study leads to the realization of more specific about the mechanisms of action of antibacterial research.

Keywords: antimicrobial, wild mushrooms, plant pathogens.

Funding:Proyecto Fondef-IDeA CA12i10134.