

REVIEW OF ANTIBACTERIAL ACTIVITY OF PLANT EXTRACTS AND GROWTH-PROMOTING MICROORGANISM (GPM) AGAINST PHYTOPATHOGENIC BACTERIAL TOMATO CROP

Roberto Arredondo Valdés ^a; Francisco D. Hernández Castillo ^{a*}; Julia C. Anguiano Cabello ^a; Yissa M. Ochoa Fuentes ^a; Gallegos G. Morales ^a; Diana Jasso Cantú ^b; Cristóbal N. Aguilar ^c.

^a Department of Agricultural Parasitology. Universidad Autónoma Agraria Antonio Narro, Buenavista, 25315 Saltillo, Coahuila, Mexico. Email: robqfb@gmail.com, julia_c922@hotmail.com, yisa8a@yahoo.com, ggallegos@uaaan.mx *Corresponding author: fdanielhc@hotmail.com

^b Department of Breeding Plant. Universidad Autónoma Agraria Antonio Narro, Buenavista, 25315 Saltillo, Coahuila, Mexico. Email: dianajassocantu@yahoo.com.mx

^c Department of Food research, School Chemistry, Univesidad Autónoma de Coahuila, 25000 Saltillo Coahuila México. Email: crisobal.aguilar@uadec.edu.mx

ABSTRACT

Tomato is the second vegetable more important crop in the world, but has problems with bacterial phytopathogen that causes economic losses. The effectiveness of bioalternatives for controlling phytopathogen bacterial tomato disease is importance nowadays. Scientists are working on the development of new techniques for bioalternatives to control bacterial tomato diseases trying to avoid the traditional chemical control, because side effects can affect human health and causes damage at environment. In this review summarizes the alternatives compounds of some extract plants, as well as some compounds by *Bacillus* used as plant-growth promoting rhizobacteria, and some compounds by *Trichoderma* like an plant-growth promoting fungi.

Keywords: Agrobiotechnology, Plant-extracts, Beneficial-Microorganism, Bacterial-phytopathogenic, Tomato.