



SEEDLING GROWTH PROMOTION OF *Pinus chiapensis* by AUTOCHTHONOUS BACTERIUM

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Introduction. *Pinus chiapensis* (Pinaceae) is a large conifer, endemic to central and southern Mexico and north-western Guatemala, is a confined species to the subtropical forest of the mountain of Oaxaca, Chiapas, Veracruz, Guerrero, Puebla and some zones of Guatemala (1), it is catalogued as a species with necessity of special protection (2), due the scarce resident population, being probable cause of this phenomenon on the change in the microbiota present and associated to this species, due to the disturbance of man toward this ecosystem.

Some other works have showed how important some microorganisms are for the establishment and development of plants. In this study it was determined if bacterium from the rhizosphere of *P. chiapensis* in disturbance and not disturbance pine forests have some effect on seed germination.

Methods. Aleatory samples were done on disturbance and not disturbance pine forests of *P. chiapensis* in two epochs of the year. The bacteria isolation was done in medium culture broth and minimum to different temperatures. Seed germination studies with axenic seeds inoculated with bacterium were done in triplicate.

Results. After isolation 109 soil bacteria of *P. chiapensis* tests of seed germination done in vitro with axenic seeds and inoculated with the isolated bacterium, obtained as results that seven species, especially two of them, showed an important diminution (about half of them) in the time for the beginning of the seedling, different to the seeds that were not inoculated with none bacteria.

Another effect that the inoculated bacteria seeds showed was the size increase of the seedling, approximately nine times bigger with respect to no inoculated control.



Conclusions. 6% of the bacterium that were isolated from the soil and the rhizosphere of *P. chiapensis* in mountain forests in the Sierra Norte of the state of Puebla, showed to have a positive effect in the growing of the tree at diminishing the time of seed germination and increase the size of seedling, with lead us to believe that the presence of these bacterium in the surrounded soil to *Pinus chiapensis* is important for the seed germination of new seeds and the prosperity of this plant.

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