EVALUATION OF ANTIFUNGAL ACTIVITY *IN VITRO* OF *Allium savitum*, AND *Ficus carica VS Penicillum expansum*

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Introduction. It is estimated that worldwide post-harvest losses of fruits and vegetables caused by microorganisms, are of the order of 5-25% in developed countries and 20-50% in developing countries. The difference in the extent of damage to both scenarios is because in developed countries prevailing environmental conditions of temperature and humidity less favorable for the occurrence of damage, have increased availability of technological and economic resources to prevent post-harvest losses and are more demanding markets (FHIA, 2007).
The objective of this work was to evaluate the inhibition kinetics of *Penicillum expansum* using different vegetable extracts.

Methods. *Penicillium expansum* was proportionated by Biorganix Mexicana SA de CV. The strain was cultured in PDA at 25±2°C. The *Allium savitum* (garlic) and *Ficus carica* extracts were produced by Biorganix Mexicana. Inhibition kinetics of *B. cinerea* was performed in poisoned culture at 0, 0.25, 0.50 and 1% of the extract.

Results. The figure 1 shows the inhibition curve of *P. expansum* in PDA with garlic extract (*Allium savitum*); in the concentration of 0.25% is observed exponential growth at 24 h of incubation with a 56% of inhibition; in the concentration of 0.50% the range or inhibition were in the values of 63% and using the garlic at 1.0% the inhibition was 52%. No significative differences were observed between treatments. The inhibitory power of garlic is due to its active component diallyl sulfide, it should be emphasized that even though it is reported by several authors that garlic extract have a broad reference to its inhibitory action on pathogenic bacteria, fungus and microorganisms mycotoxigenic organisms having in common sulfidrilic enzymes (García, 2007). Figure 2 shows the comparison between the control growth curve and the inhibition curves to apply the three different concentrations of *F. carica*; at 25% the % of inhibition was 8.7, at 0.5% was 5.4 and at the concentration of 1.0% the inhibition was in the range of 25.2% respect to the control. The low inhibition range is because the phytochemicals with high inhibition power are presents in leaves (Borboa, 2010).

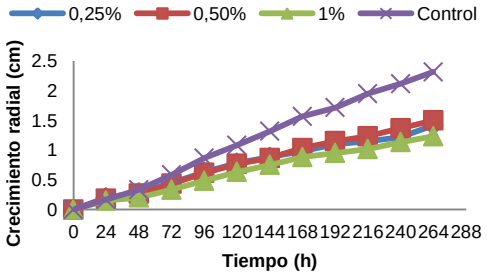

Fig 1. Inhibition growth curve using *Allium savitum* over *P. expansum* in PDA at 25°C.

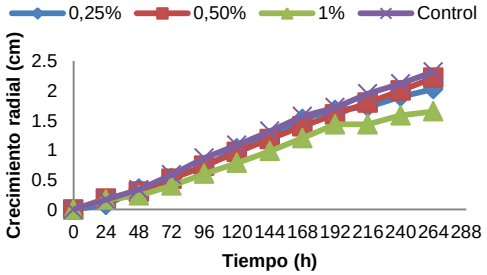

Fig 2. Inhibition growth curve using *Ficus carica* over *P. expansum* in PDA at 25°C.

Conclusions. No conventional vegetable extracts represent an alternative to prevent postharvest economic loses.

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