

# Natural Bioproducts and Their Potential Preservative Properties in Food Industry <sup>†</sup>

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Phytosanitary products obtained from natural extracts represent an alternative, especially in the case of preservation of the products obtained from organic farming. The purpose of this work was to test the antifungal activity of three extracts obtained from a plant from *Plantaginaceae* family, obtained according to the methodology presented by Radu et al. [1]. The tests were performed in vitro on phytopathogenic fungi that cause alteration of the citrus fruits, such as *Penicillium sp.*; and *Aspergillus sp.* The methodology used was that of diffusive discs impregnated in sterile solutions containing 3% of the solid extract, dissolved into an inert solvent (respectively Dimethyl Sulfoxide) [2–4]. After inoculation with the tested microorganism and treatment with the analyzed phytoextract, the growth of microorganisms was monitored for two weeks. The obtained results showed that the tested extracts inhibit the development of the species of *Penicillium citrinum*, *Penicillium digitatum*, and *Aspergillus niger*. These effects have maintained for 72 h in the case of the above microorganisms. After 2 weeks the antifungal effect of the analyzed extracts was reduced at 78.5% in the case of *Penicillium citrinum*, at 83.5% in the case of *Penicillium digitatum* and respectively at 57.9% in the case of *Aspergillus niger*. In conclusion, the best results are obtained at the treatment of *Penicillium* species which attack the citrus fruits, with studied plant extracts. Here is needed a deeper research, in order to develop a bioproducts from *Plantaginaceae* indigenous plants, with a role in protecting and preserving of citrus fruits.

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