

Effect of Polymer Micelles on Antifungal Activity of Geranylrocinol Compounds against *Botrytis cinerea*

Taborga L.

Díaz K.

Olea A.F.

Reyes-Bravo P.

Flores M.E.

Peña-Cortés H.

Espinoza L.

Herein, we explore the potential use of two micelle-forming block copolymers, i.e., Pluronic F-127 and poly(ethylene oxide)-b-poly(caprolactone), for application of fungicide agents. The polymer effect on the in vitro fungicide activity of a series of geranyl rocinol derivatives against *Botrytis cinerea* has been assessed. The results show that, for all test compounds, the incorporation into micelles, formed by Pluronic F-127, produces a great enhancement of the inhibitory effect on the growth of *B. cinerea*. For some compounds, at the lowest tested concentration (50 ppm), the percentage of inhibition increases significantly (from 0-10 to 80-90%) when the application is made using a polymer solution instead of an ethanol/water mixture. The synthesis and structural determination of a series of eight geranylphenols/diacetates, which were used as fungicide agents, are also discussed. These results suggest that polymer micelles are promising systems for application of crop-protecting agents. © 2015 American Chemical Society.

antifungal

Botrytis cinerea

linear geranylphenols

polymer micelles

structural determination

Block copolymers

Ethylene

Fungicides

Polyethylene oxides

Anti-fungal

Botrytis cinerea

linear geranylphenols

Polymer micelles

Structural determination

Micelles

Botryotinia fuckeliana

drug carrier

fungicide

micelle

orcinol

poloxamer

resorcinol derivative

Botrytis

chemistry

drug effects

growth, development and aging

micelle

Botrytis

Drug Carriers

Fungicides, Industrial

Micelles

Poloxamer

Resorcinols