

**Egyptian Journal of Biological Pest  
Control,23(1),2013,137-144**

**IMPACT FACTOR=0.044**



## **NON-TRADITIONAL METHODS TO CONTROL CHOCCLATE SPOT OF FABA BEAN CAUSED BY BOTRYTIS FABAE SARD UNDER GREENHOUSE CONDITION**

[Derbalah](#), [G A El-Kot](#), [Y M Hafez](#), [A F Omar](#)

**Dept. of Pesticides Chemistru, Fac. Of Agric. Kafr-El-Shiekh Uniersity**

**Dept of Agric. Botany, Fac. Of Agric. Kafr-El-Shiekh Uniersity**

### **ABSTRACT**



study was carried out to evaluate the efficacy of some non-traditional methods, alone and in combination with recommended fungicides, for controlling *Botrytis fabae* Sard, the causal agent chocolate spot of faba bean under laboratory and greenhouse conditions. Accumulation of reactive oxygen species ( $O_2^{\cdot-}$  and  $H_2O_2$ ) which induce oxidative stress in plants was determined. Moreover, protein analysis of faba bean infected leaves was carried out to investigate the mechanism of disease reduction in different treatments. Results showed that all the tested materials were effective against *B. fabae* under laboratory conditions relative to control while in greenhouse experiments tested fungicides were the most effective ones, followed by microorganisms and nanosilver, respectively. Moreover, the mixtures of tested fungicides with nanosilver improved their efficacy against chocolate spot disease of faba bean rather than using each separately. The endogenous superoxide and hydrogen peroxide levels increased significantly in treated leaves relative to untreated control. Data of protein analysis showed differences in faba bean leaves protein under the tested treatments which implied different gene(s) expression and different response of faba bean to the disease severity of the chocolate spot. Effective microorganisms and nanosilver are promising alternatives to fungicides for controlling chocolate spot of faba bean. Also, this study suggests the possibility of mixing nanosilver with some fungicides to minimize health risk and environmental pollution.