



Journal

**J. Biol. Chem.
Environ. Sci., 2017,
Vol. 12(2): 575-600**

<http://biochemv.blogspot.com.eg/>

ALTERNARIA LEAF SPOTS ON BANANA CAUSED BY ALTERNARIA ALTERNATA AND ITS CONTROL ON EGYPT

Korra, A.K.M.¹ and A.A. A. , Deabes²

¹ Fruit and Woody trees Diseases Dept, Plant
Pathol. Insti. A.R.C, Giza ,Egypt

² Central Agri. Pesticides Lab, CAPL- A.R.C, Giza
,Egypt

ABSTRACT

Frequency of isolated fungi associated with leaf spot on banana Williams CV. recorded that *A. alternata* followed by *T. harzianum*, *Nigrospora oryzae*, *A. niger*, *B. subtilis*, *Cladosporium musae*, *Curvularia lunata* and *P. fluorescens*, in Giza, respectively. On the other hand, on Williams CV. recorded by *A. alternata*, followed by *T. harzianum*, *N. oryzae*, *A. niger*, *B. subtilis*, *C. lunata* and *P. fluorescens*, in El-Shohada, Menoof, Imbaba, El-Galaa, Badr, El-Shagah, and Bani-Sweef, respectively. banana Williams and Grandinain CVs. Followed by Maghraby and Paradaica cv. in Menoof followed by Imbaba (Giza) and at least West Nobareya (El-Galaa), respectively. The highest disease severity of leaf spots was obtained by *A. alternata* was recorded the highest D. S. % Followed by *Curvularia lunata* and *Cladosporium musae*, *Nigrospora oryzae* on banana (Williams, Grandinain Magkrabi and Paradaica CVs. Meanwhile, *Aspergillus niger*, *Bacillus subtilis*, *P. fluorescens* and *T. harzianum* were not recorded any symptoms on banana CVs. tissue culture transplants.

Disease severity % of *A. alternata* was the highest D.S. % on Grandinain and Williams CVs. in Menoof followed by Giza, at least El-Galaa. On the other hand, Paradaica CV. was the lowest D.S. %. In El-Galaa, Menoof and Giza And Magkrabi CV. D.S. %. in El-Galaa, Giza and Menoof at 2014 and 2015. *A. alternata* leaf spot isolates of Giza 1 from Magkrabi was the highest of D.S. % followed by Williams CV. Isolates from (Menoof, El-Shohada, El-Galaa, Badr, El-Shagah and El-wasta) by detached leaves and *A. alternata* leaf spot isolates of banana VSs. Williams CV. from (Menoof, El-Shohada, El-Galaa), (Giza 1 Magkrabi CV.), (El-wasta, Badr and El-Shagah Williams CV.) by banana tissue culture transplants.

The biocontrol agents significantly reduced the growth of *A. alternata* either by competition (over growing) or by antibiosis (exhibiting inhibition zones). It was noticed that maximum reduction in colony growth of *A. alternata* was observed in *T. harzianum*, *P. fluorescens*, *B. subtilis* (Bs37), *S. marcescens* and *T. viride* in compare with the control (0%). Sex Bio-agents were individually sprayed at concentrations i.e. 1200 and 1800 ppm in the three locations, i.e. Imbaba (Giza); W. Nobareya and Behera. The lowest D.S. % of leaf spots *P. fluorescens*, *T. harzianum*, *S. marcescens*, *T. viride* and *B. subtilis* (Bs37) on Williams CV., *T. harzianum*, *P. fluorescens*, *T. viride* and *B. subtilis* (Bs37) on Magkrabi CV., *T. harzianum*, *B. subtilis* (Bs37), *P. fluorescens*, *S. marcescens* and *T. viride* on Paradiaca CV. and *T. harzianum*, *P. fluorescens*, *S. marcescens*, *T. viride* and *B. subtilis* (Bs37) on Grandinain CV.

Fungicides i.e. Systhane-24, Sumi-8, Tilt-100 and Punch gave the highest reduction in growth of *A. alternata* at different concentrations. On the other hand,

Flint, Amstar-top, Bendazen, and Cuprio-top gave the lowest reduction of the fungus growth beginning of 100 ppm. Moreover, Acrobat cupper and Eubarin gave the least effect when it was used at 50 - 200 ppm.

Fungicides, *i.e.* Sumi- 8, Punch and Systhane – 24 were the most efficient followed by Tilt-100 and Flint at concentrations of 1000 ppm, compared with Amstar –Top, Bendazen were most efficient of D.S. % at 1000 ppm only on a (Williams), in Wady El-Molak, Abo-Homes and Tough at 2014 & 2015.

Kay words: *Alternaria alternata*, *B. subtilis* (Bs37), chemical Control, Host range *Pseudomonads fluorescent*, *Serratia marcescens*, *Trichoderma harzianum*, *T. viride*.