filtered through muslin. Six concentrations of spore suspensions were prepared *i.e.,* 10^7, 10^6, 10^5, 10^4, 10^3, and 10^2 conidia/ml. Piece of corn leaves were dipped in the prepared suspensions and left for drying under laboratory conditions then placed in Petri-dishes (one/dish). For each concentration (4 replicates/ each), ten L3 larvae of each of the tested insects were transferred into each Petri-dish. Control larvae were fed on untreated castor leaves. Percentages of mortality were calculated according to Abbot, while LC_{50} was calculated throughout probit analysis. The experiment was carried out under laboratory conditions at 26°C± 2 and 60-70 % RH. Physiological and metabolic characteristics of *M. anisopliae* var. *frigidum*'' *and M. flavoviride* var. *minus*.

Semi-field (green house) trials: Tomato plant Variety Bio-Bride was planted in the green house in 40 plots in each artificial infestation was made by spraying the plant with the entomopathogenic fungi *M. anisopliae* var. *frigidum*'' and *M. flavoviride* var. *minus*, at the concentrations of $1X10^8$ spores/ml of the two fungi varities . Control samples were sprayed by water only. The plants were examined every two days, the percentage of infestation was calculated until the end of the experiment. Each treatment was replicated 4 times. The percent mortality was counted and corrected according to Abbott, 1925; while LC50s were calculated through probit analysis after Finney 1964.

Field Trials. Field trials were carried out at Nobaria region (Behera Governorate), Egypt during the two successive corn seasons 2013 and 2014 to study the effectiveness of the tested fungi on corn borers. Corn (variety Giza 2) was cultivated by end of May during the two seasons in an area of about half feddan. Fungi were applied as single treatments in randomize plots. Regular agricultural practices were performed and no chemical control was used during the study period. Weeds were removed by hand. Five plots were sprayed with water as control. Samples from each treatment were collected weekly and transferred to the laboratory for investigation. Percentages of infection were estimated.

Yield Assessment:
Yield data in treated and untreated plots in the corn harvest seasons (2013and 2014), represented by weight in kgs were determined. Yield loss was estimated according to the following equation:

$$\text{Yield loss} = \frac{\text{Potential yield} - \text{Actual yield}}{\text{Potential yield}} \times 100$$

Potential yield is *M. anisopliae* var. *frigidum*'' treatment (the best result among the tested pathogens) was considered the standard for comparison with the other ones (Actual yield).

3. Results and Discussion

The LC50 of *M. anisopliae* var. *frigidum* $156X10^4$ and $168\ X10^4$ spores/ml unde laboratory and greenhouse effect. The correspondingLC50of *M. flavoviride* var. *minus* were $169\ X10^4$ and $172\ X10^4$spores/ml (Table 1&2).The higest yied obtained in El-Esraa (Nobaryia) 3999± 49.41 and 4697± 49.33 Tons/kg in El-Kassaseen (Ismailia) after *M. anisopliae* var. *frigidum* treatments the yield loss ranged between 7 and 72 % in the two regions (Table3). Frigure(1&2) show that the the infestations significantly decreased in plots treated with *M. anisopliae* var. *frigidum* as compared to the control plots. The obtained by Joseph et al (2014), Theoduloz et al(2003), Sabbour 2006, Sabbour and Abd el Aziz 2007, Sabbour, 2007, Sabbour and Abbas, 2007. Sabbour and Hany, 2007, Sabbour,2008. Asmaa et al 2009. The same results obtained by Sabbour 2003,(20014a&b), 2013.Magda Mahmoud Sabbour and Shadia El-Sayed Abd-El-Aziz. 2014, Magda Sabbour, 2001, Sabbour (2002 a &b), Magda Sabbour and Ismail2002, Sabbour and Sahab 2005 &2007, 20011.The same results obtained Sabbour 2006, Sabbour and Abd el Aziz 2007, Sabbour, 2007, Sabbour and Abbas, 2007. Sabbour and Hany, 2007, Sabbour,2008. Asmaa et al 2009. Sabbour 2014 control *Tuta absoluta* by three microbial control agents *Bacillus thuringiensis(B.t)var kurstaki; Beauveria bassiana(B.b*)which increase the yied. Sabbour 2014 controlT.absoluta by fungi under laboratory and field conditions. The same obtained by Sabbour & Singer2014, Sabbour & Soliman 2014, Sabbour and Moursy2014, Sabbour and Abdel-Raheem 2014. The same findings obtained by Sabbour, 2013(a,b,c,d,e,f,g,h,I,j)

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Table 1: Effect of microbial control agents against *Tuta absoluta* under laboratory conditions.

Microbial control agents	Lc50 spores/ml slope variance confidence limits
M. anisopliae var. *frigidum M. flavoviride* var. *minus*	$156\ X10^4$ 0.01 1.1 116-208 $169\ X10^4$ 0.1 0 1.2 119-210

Table 2: Effect of microbial control agents against *Tuta absoluta* under green house effects

Microbial control agents	Lc50 spores/ml slope variance confidence limits
M. anisopliae var. *frigidum M. flavoviride* var. *minus*	$168\ X10^4$ 0.02 1.0 100-237 $172\ X10^4$ 0.07 1.1 131-288

Table 5: Weight of tomato after fungi treatments against the target insect pests during 2014 in two different regions .

Treatments	El-Esraa (Nobaryia)		El-Kassaseen (Ismailia)	
	Weight tomatoes (Tons/feddan)	% yield loss	Weight tomatoes (Tons/feddan)	% yield loss
Control	1106± 27.61	72	2009±60.60	52
M. anisopliae var. *frigidum*''	3999± 49.41	-	4697± 49.33	-
M. flavoviride var. *minus*	3689± 49.41	7	3988± 41.43	15
F values	30.02		30.11	
LSD 5%	89		87	

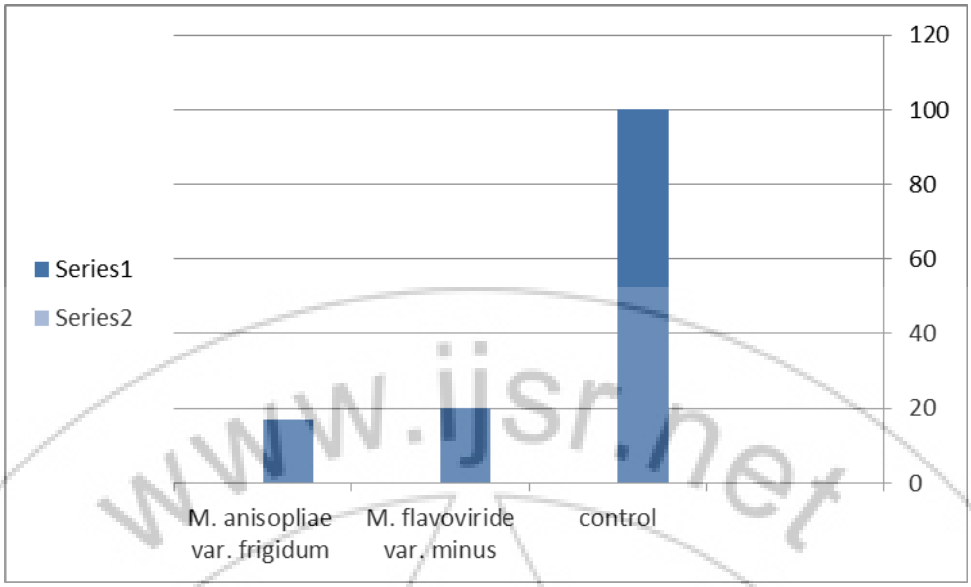

Figure 1: The insect pest infestation during season2014 in El-Esraa (Nobaryia)

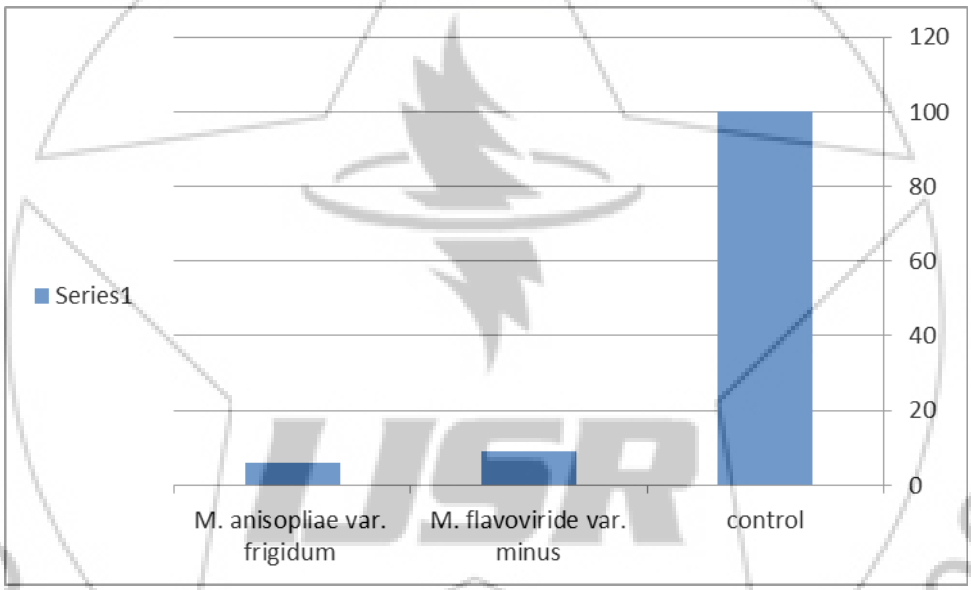

Figure 2: The insect pest infestation during season2014 El-Kassaseen

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