

Effect of Aqueous Extracts of *Handal* (*Citrullus colocynthis* (L. Schrel)), *Sanna mekka* (*Senna alexandrina* Mill) and *Umm Galagil* (*Aristolochia bracteolate* Lam.) on control of Leafminer (*Liriomyza* spp.) in Snake Cucumber.

Muddather S. A. Younis, Faiza E. E. Salah and Ahmed A. E. Omer

Introduction

- Snake Cucumber (Cucurbitaceae) is one of the most popular and important vegetable crop. It is used worldwide as a daily diet and it can be eaten fresh, salad or cooked.
- The crop in the field suffers from being attacked by many pests and diseases; leaf miner is a major insect pest on the vegetable.
- The damage caused by *Liriomyza* spp. can be direct, caused by larval feeding can reduce the photosynthetic capacity of the plant, heavy infestation causes desiccation and premature fall of leaves.



Liriomyza sativa



Liriomyza trifolii



damage of *Liriomyza* spp.



Cucumber

The objectives of this study:

- To evaluate the effect of the extractions of the natural products *Handal* (*Citrullus colocynthis* (L. Schrel)), *Umm Galagil* (*Aristolochia bracteolate* Lam) and *Sanna mekka* (*Senna alexandrina* Mill) on vegetable leaf miner infesting snake Cucumber plant



Citrullus colocynthis alexandrina



Aristolochia bracteolate



Senna

Materials and methods:

The study was conducted in the Agricultural Research Corporation Wad Medani, Sudan.

Three natural products were used in study; *Handal* (*Citrullus colocynthis* (L.)), *Senameka* (*Senna alexandrina*) and *Umm Galagil* (*Aristolochia bracteolate*).

10% prepared by mixing 15 grams of the plant powder with 150 ml distilled water in an oil container. 1.5 grams of Gum Arabic and 3.75 grams of molasses.

The snake Cucumber variety "Silka" was used.

Design: (RCBD) with 4 replications.

The mixture was shaken for 2-3 hrs., stored at 20°C and filtered ready for application. All treatments were used in the same dose (10% WV).

- Control was treated by distilled water mixed by gum Arabic (1%) and molasses (2.5%) only.

Results

Data collection and analysis:

The parameters: Infestation (%) of leaves
mean number of mines (active mines)

All data transformed when necessary before analysis of

(Anova) Genstat Analysis and (DMRT) was used for means separation. SAS programme were used

Results

Table 1: Mean infestation (%) and number of active mines on snake cucumber leaves by leaf miner *Liriomyza* spp. for 2 seasons treated by some natural products.

Treatment	Means			
	Infestation % (season 1)	No. of active mines (season 1)	Infestation % (season 2)	No. of active mines (season 2)
<i>Citrullus colocynthis</i>	5.3 (31.8)	2.6 (7.0)	5.8 (21.32)	1.9 (4.2)
<i>Senna alexandrina</i>	5.6 (36.35)	2.4 (6.0)	6.4 (20.74)	2.1 (5.2)
<i>Aristolochia bracteolate</i>	5.6 (35)	3.1 (10.4)	6.9 (23.28)	2.6 (8.0)
Control	5.9 (38.93)	4.2 (19.4)	8.7 (23.62)	3.6 (14.4)

CONCLUSIONS

The application of 10% aqueous extract of *Citrullus Colocynthis* fruit, *Senna alexandrina* plant and *Aristolochia bracteolate* plant on snake Cucumber had significantly reduced the damage of the leafminer compared to the untreated snake cucumber.

Suggestions

*The aqueous extracts of *Citrullus colocynthis* and *Senna Alexandrina* showed promising insecticidal effect on *Liriomyza* spp. on snake cucumber

*Further investigations to assess the effects of these extracts on other insect pests of snake cucumber plants.