



Azadirachta Indica to control Destructive Caterpillar In Maize



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Introduction

Fall Armyworm (*Spodoptera frugiperda*) are the larvae of insect MOTH that feed on leaves and stems of different plants like Maize, Rice, Sorghum, Sugar cane, Fruits, and Vegetables, Fall Armyworms causing major damage to maize plants and hence reduce production of maize.

In 2016 fall armyworms were reported for the first time in Africa (West, Central, East Africa). In Tanzania a destructive caterpillar causes poor production of maize especially in rural area as the farmers fail to buy pesticides like duvall. As young scientists at our school we investigate the use of extract solution from *Azadirachta indica* to control fall armyworms in maize plants. Using *Azadirachta indica* is cheap to many farmers who practice substantial agriculture in rural area.

The project aim in killing larvae or disturbing the environment for larvae to stay as in the life cycle of moth only larvae stage is destructive stage (Egg - larvae - pupa - adult)

Method

Methods used in our research were about experimentation and observation methods, Experimentation was more important during the preparation of extract solution from different parts of *azadirachta indica* and the procedures taken during investigation while observation was also important during collection of data by observing different changes in each stages of action of *azadirachta indica* on a fall armyworm

Materials And Apparatus Used

- Leaves of *Azadirachta indica*
- Bark of stem of *Azadirachta indica*
- Bark of root of *Azadirachta indica*
- Maize plants
- Petri dish
- Beaker
- Knife
- Filter funnel
- Mortar and pestle
- Stop watch
- Water

Procedure

- I. Fall armyworm in a petri dish labelled A, B, and C, 5 mls of solution from a beaker labelled A, B, and C were put respectively.
- II. Fall armyworm in a petri dish labelled A, B, and C, 10 mls of solution from a beaker labelled A, B, and C were put respectively.
- III. Fall armyworm in a petri dish labelled A, B, and C, 15 mls of solution from a beaker labelled A, B, and C were put respectively.
- IV. Fall armyworm in a petri dish labelled A, B and C, 20 mls of solution from a beaker labelled A, B and C were put respectively.
- V. Fall armyworm in a petri dish labelled AB, 20 mls of solution from beaker labelled AB were put.
- VI. Fall armyworm in a petri dish labelled ABC, no any extract solution were put.

Results

The extract solution from *Azadirachta indica* especially extract solution from bark of the stem shows the effects on the fall armyworms as introduced in a petri dish as well as in a host maize plants in a field. As the volume of solution C and AC increased the fall armyworm become more weak and eventually died. After introducing extract solution C and AC in a host maize plants, the fall armyworm came out and it takes almost 15 hours for fall armyworm to die. The extract solution C and AC show effects on the

Fall armyworm in a host maize plants labelled ABC were continued to feed on the stem of maize plants, no body weakness were observed,

Conclusions

Since 2016 farmers tried to control fall armyworms in their farms by putting sand or ashes in the host maize plants trying to cut-off supply of oxygen, but in large extent this approach fail as the fall armyworms continue to attacks their crops, The Government from 2016 tried a lot on finding solution to this problem as many farmers harvest nothing due to the effect of fall armyworms of destroying crops like maize in the farms, This project can help our Government to find solution of the fall armyworm as pesticides are very costly to the most farmers in the rural areas. The problem of fall armyworms can be solved by using plants like *Azadirachta indica* and other local materials which are available from our common environment and cheaper than pesticides from industries. So when the farmers win to control fall armyworms in their farms, the maize production will increased and the issue of starvation will over. The project will provide good information for Agricultural sector in solving effects caused by fall armyworms.

References.

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Figure 1: To Mwenda get explanation from ward extension officer of msalato Bi Fatuma Doo

