

Local Methods Of Insect Pest Control In Ogoni Lands Rivers State -A Review

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ABSTRACT: A review of available local methods of insect pest control in ogoni land, Rivers state was made. Major economic importance of insect and most common available types were x-rayed. Of most likely effects, damage on seedlings, mature plants and under storage were Identified. Intercropping, use of plant extracts, wood ash, sand, dust and quick lime were the most common local methods used in control of insect pest in Ogoni- Land. [Offor U.S, Nwi – Ue S. Waka, And D.D. Jumbo. **Local Methods Of Insect Pest Control In Ogoni Lands Rivers State -A Review.** *Researcher* 2014;6(1):73-76]. (ISSN: 1553-9865). <http://www.sciencepub.net/researcher>. 13

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INTRODUCTION

Insect are the most diverse of animals living on earth. Apart from the open ocean, insect can be found in all habitats, swamps, and jungles desert even in highly harsh environment such as pools of crude petroleum. Insect pest are undoubtedly the most adapted form of life as their total numbers far exceed that of any other animal category. The majority of insect are directly important to human and the environment. For example several insect species are predators or parasitoids on other harmful pest; other are pollinators, decomposers of organic matter or producers of valuable products such as honey or silk. Some can be used to produce pharmacological active compounds such as venoms or antibodies. Less than 0.5 percentage of the total number of the known insect species are considered pest and only a few of these can be a serious menace to people and crops. Insect pest inflict damage to humans, farm animals and crops. Insect pest have been defined by Williams (1947) as any insect in the wrong place depending on the structure of ecosystem in a given area and man's view point, a certain insect might or might not be considered a pest, some insect can constitute a major threat to entire countries or group of nations. One prominent example is the Tse – est fly that put about 60 – 100 million head of cattle at risk in sub – Saharan Africa due to the transmission of transposomiasis (ICIPE 1997). The literate level of the farmers in Igoni land also contributes to the growth of insect pest. This result in the introduction

of alien pest into their environment because of lack of awareness, they don't understand step to be taken before accepting the introduction of innovations, when pest is carried to a new geographical area. Its natural enemies that kept it in check in its aboriginal home are normally left behind. This situation in most cases may lead to critical complications as limiting productivity or total crop loss.

Economics Importance of Insect Pest

One major reason why there are pest is the creation of the man – manipulated habitats, that is agro systems that fulfill man needs where crops are selected for their large size, high yield, and nutritious value and clustered in confined area. This does not only satisfy human demand but provides highly conducive environment for insect pest at the same time. In the process of artificially selecting suitable crops for human consumption highly susceptible plants for infestation by insects are also selected. Many of the crops varieties that were developed during the past 30 years produce high yield, but they also have poor example, overcome the effect of food has always been a challenge facing mankind. A major corner stone in this challenge is the competition from insect pest. The people of Ogoni land is no exception, where the climate provides a highly favourable environment for a wide range of insect, massive efforts are required to suppress population densities of the different insect pest in this area in order to achieve an adequate supply of food.

Common Field / Storage Insect Pest Found in Ogoni Land. Below are the lists of major economic pest found in Ogoni land viz

CROP	PEST	LOCAL NAME
MAIZE	Africa army worms	Generally called
	American boll worms	Akam
	Maize alphids	
	Pin stalk borer	
	Web worm	
YAM	Yam beetle	Kpaa
CASSAVA	Mealy bug	
	Spider mite	Kpokor
	White Fly	

Effect of Insect Pest Infestation on Crop

The Ogoni's are known to be involved in the growing of some particular crops namely Maize, cassava, pumpkin, yam etc, Insect pest inflict their damage on these crops both in the field and store houses mainly by direct feeding. Some species feed on the endosperm causing loss of weight and quality while other species feed on the germ resulting in poor seed germination and loss of viability (Offor and Okirika 1998) thus, due to damage done by insect pest grain lose value for marketing, consumption or planting is high. Most storage pest are able to increase in number drastically within a relatively short time at an early stage of development, population growth takes the "expressed" form where the number of insect at a given time can be expressed by this equation Nr-No ert.

Where-

Nr = Is the number of insect at time

No = Is the original number of insect

R = Is the rate of intrinsic increase of the population

In addition to direct consumption of the product, insect pest contaminate their feeding media through excretion, moulting, dead bodies and their own existence in the product which is not commercially desirable. Damage done by insect pest encourages infection with bacterial and fungal diseases through transmission of their spores. The present of insect also raises the product temperature due to feeding activity resulting in "hotspot". These spot in turn lead to concentrating of humidity within the product thus stimulating seed deterioration and further fungal activity.

Damage of Insect pest to Seeding

Various species of insect pest e.g. termite build large moulds often containing many thousands of individuals. Termite constructs shallow subterranean forgoing galleries radiating from the nest for distance of up to 50cm. The main galleries rise to a network of small galleries from the which foraging parties can exploit potential food resources over extensive area of land. Termites forage directly on underground plant materials seedlings either cut just below or above soil surface. In the later case termite gain access. From soil covered galleries unpinding on the base of plant usually, the seedlings are completely severed, resulting in lowered plant population.

Damage to Maturing and plants

Damages to maturing plants are largely caused by species that have entirely subterranean nest consisting of a diffuse net work of galleries and chambers.

These insect pests enter and consumed the root system, which directly kills the plant or indirectly lower yield through decreased translocation of water and nutritions. Attack to the root system can also lead to increase susceptibility to pathoges or lodging of mature plants. When the grain in lodging plants touches the ground, soil fungi such as aspergillus may invade it.

Damage to Stored products

Insect pest damage to stored product e.g. Termites generally results in invasion by Aspergillus. The fungus causes indirect losses and contaminates production aflatoxins.

Local Method of controlling Insect pest

Management of insect pest generally varies according to the type of insect pest involved and can conceive in three ways:

- i. Preventing the insect pest from gaining access to the plants.
- ii. Reducing the insect pest density in the vicinity of the plants and
- iii. Reducing the plants less susceptible to attack by insect pest.

The three approaches may overlap in some cases.

In Ogoni land, a number of techniques are employed by the farmer to help reduce the insect pest density in the vicinity of their plants. In a bid to achieve this objective local measure are employed in addition to the following: Deep ploughing or hand tillage exposes insect of desiccation and to predators thus reducing their numbers in the crops. Crop rotation is also being employed in the area, leading to reduction to insect pest attack. In all, the most effective local methods adopted include:

Intercropping:

Is the most effective local practice employed, intercropping is suggested as a means of retaining insect pest diversity in crop in order to prevent them from achieving pest status. Certain grasses are intercropped with different crops in their farm lands. The removal of residue and other debris from the field may reduce potential insect pest supply and hence lead to a reduction in insect pest numbers and subsequent attack. On the other hand leaving residues in the field or adding further organic matter could provide alternative food to which insect pest will be attracted, thereby reducing levels of attack on the main crops. However, this is not true in all cases. E.g. in most parts of Ogoni land monocropped groundnut is cultivated after cereal crops. Post-harvest debris from cereal planting is often left behind which serves as food to insect pest.

Plant Extracts:

This is equally employed by the local farmers in the control of insect pest. Various parts of plant and extract are known to be either toxic or repellent to insect pest of agriculture and are widely used in rural settings. However no specific recommendation have been made for their large – scale utilization in Ogoni land. Some of these extracts have been investigated in the laboratory and proven effective against some species of insect pest (Offor and Okirika 1998). Plant extracts such as those of Neem wild tobacco and dried cilli have been used to

control insect pest in the field and storage warehouses.

Wood Ash:

Heap around the base of the trunk of plants has been recorded as preventing insect pest infestation in the area. Wood ash has also been reported to repel insect pest from plants and to protect stored yams, maize, straw, tree seedlings. It could be mixed with/ and applied also during nursery stages. However the potential benefits of using wood ash for insect pest management required verification.

Sand:

In many parts of Ogoni land, sand is added to cereals, provided the cereal grains are substantially larger than the grain of sand. The use of this method is dependent on the availability of sand close to the place of storage and is thus limited to area where sand occur naturally.

Dust:

Dust is used to protect corn against insect attack by mixing them with red soil. The tribe-men have discovered that the clays from certain parts are significantly more effective than others. This practice is common with the subsistence farmer, it is not encouraged in the mechanized practice because of the health risk. Another reason for abandoning the practice in the modern cereal cultivation is that cereals containing impurities are graded as inferior.

Quick Lime:

It has been observed that some farmers in the area employed the use of quick lime as an additive to cereal. Although the method is very effective against some insect pest. However. Since quick lime is highly Hygroscopic, there may be other useful side effect. The farmers owing to the resources available at their disposal or ignorance still goes ahead to use the quick lime in control of insect pest attack on their crops.

CONCLUSION

Farmers in Ogoni land suffer a lot of losses which are insect pest infestation. Farmers after managing to get some produce from the field within the vicinity infested by insect pest often harvest and sell off their produce because they do not want to deal with the storage problems. A related problem in this direction is the lack of capital to invest in modern control techniques and storage facilities. Although selling early in the storage season result in loss of income because prices rise as product become increasingly scarce Invariable late selling results in deterioration in product quality which is also a

problem faced by farmers. In all the application of efficient cropping systems, deep ploughing, (pre-planting tillage) intercropping coupled with the use of plant extract-wood ash, sand dust and quick lime have proved effective local ways of controlling insect pest on crops in Ogoni land.

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