



SPOTLIGHT on AGRICULTURE

Ministry of Agriculture,
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Vegetable production, a growing business... But what about Pests?!

INTRODUCTION

Vegetable production is gaining in popularity as an income generating activity and also as a welcome addition to the diet of the rural and urban people in the northeastern part of Namibia. However, vegetable growers are facing several challenges of which pests are their main concern. Pests can cause considerable damage to the valuable crops. This results in poor quality vegetables which are difficult to market.

The Mashare Agricultural Development Institute-based Integrated Pest Management Project tries to address this problem by looking for appropriate, cost effective pest control methods which are less harmful to the environment and the health of the farmer.

WHAT IS INTEGRATED PEST MANAGEMENT?

Plant protection is not a new practice. Farmers have always tried to keep crop losses as low as possible, using measures which were found appropriate within their farming systems. Dusting ash on the plant to combat aphids or collecting insects by hand, roasting them and throwing them back in the field are examples of the indigenous knowledge of farmers that can still be useful.



A cabbage field destroyed by diamond-back moth

With the development of chemical pesticides farmers can have access to highly effective means of controlling pests. However, these chemicals can cause hazards and risks which become more obvious the longer they are used.

Dangers in using chemical pesticides are:

- Lack of protection of the user whilst spraying.
- Poisonous residues in foodstuffs.
- Contamination of the environment.
- Promotion of other pests (natural enemies are wiped out).
- Development of increased resistance of pests to chemical pesticides.

Moreover, the vegetable growers in the rural areas often do not have the resources to buy chemical pesticides. Access to these pesticides is poor and information on correct usage is lacking.

These factors call for a different approach and thus the Integrated Pest Management (IPM) concept was developed.

IPM is a pest management system that, in the context of the environment and the population dynamics of the pest species, utilizes all suitable techniques and methods in as compatible manner as possible. IPM tries to maintain the pest populations at levels below those causing economically unacceptable damage or loss (FAO, 1994).

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WHAT ARE THE MAIN PESTS?

Red spider mite (*Tetranychus evansi*), bagrada bug (*Bagrada hilaris*), diamond-back moth (*Plutella xylostella*), cabbage aphid (*Brevicoryne brassicae*) and pumpkin (fruit) fly (*Dacus cucurbitae*) are among the most problematic pests in horticultural crops in the Kavango Region.

WHAT IS THE IPM PROJECT DOING?

The IPM project, which started at the end of 1997, consists of two components:

- Research of appropriate control methods;
- Training vegetable growers in IPM principles.



Most botanicals can be made by the farmer him/herself, are less harmful to health and the environment and are generally cheaper

RESEARCH

The project is focussing on the testing of botanicals and chemicals in combination with cultural control practices such as weeding, soil cultivation and intercropping.

Understanding of population dynamics and actual losses caused by pests is obtained by collaborating with entomologists of the GTZ Horticultural IPM Project in Southern Africa.

Botanicals that are tested are:

- Chilli and garlic mixtures;
- Tobacco extracts (*Nicotiana tabacum*);
- Neem extracts (*Azadirachta indica*);
- Corkbush extracts (*Munduleae sercea*).

TRAINING

An important aspect of the project is to train vegetable growers in how to adapt the IPM techniques in their own gardens. This is done through village-based workshops in the Kavango and Caprivi Regions carried out by both Extension and Research staff.



Participatory Rural Appraisal (PRA) tools and visual aids are used to assure that farmers' knowledge and skills are utilized and to create a better dialogue between the extension worker and the farmer

The emphasis of the workshop is on the importance of good crop management. Practices such as crop hygiene, intercropping and crop rotation can considerably reduce pest populations.

Components of the three-day workshops are:

- Problem tree (identifying causes of pest occurrence);
- Pest identification, scouting & monitoring;
- Crop management and cultural, natural and biological control practices;
- Chemical pesticides (precautions, dosage, hazards, operating a knapsack sprayer).

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