Farmers Make Friends with Natural Enemies

Many small-scale vegetable farmers in sub-Saharan Africa rely on pesticides to control pests on their crops. However, there are many concerns about this practice. Often, farmers do not wear appropriate protective clothing; and sprayers are inadequately maintained; too much or too little pesticide may be applied, which can lead to the development of resistance by pests, if pesticides are applied too close to harvest; consumer safety is threatened as crops can contain unsafe levels of residues; and excessive use of pesticides can damage the environment.

Since 1997, the CPP has been funding work in Zimbabwe and Kenya to develop more sustainable approaches to pest management. These integrate cultural practices, e.g. crop rotation, practices which encourage and conserve natural enemies (predators, parasitoids and pathogens) of arthropod pests, and the careful use of selective pesticides which do not harm natural enemies. Surveys of vegetable farms in 1997 suggested that most smallholder vegetable farmers were unable to recognise important natural enemies of crop pests on their farms, limiting the contribution of natural enemies to pest management strategies. ‘Farmers’ friends’ were frequently being misidentified as pests and sprayed, costing the farmers money. The baseline studies also revealed a lack of information on best practices at both extension and farm levels.

Two CPP projects are addressing this lack of information. Working closely with local research collaborators, the government extension agency and NGOs, the natural enemies project (R7266) has produced a full colour field guide for trainers and extension workers, in three languages (English, Shona and Ndebele). Posters and flip cards are also available to enable farmers to identify natural enemies on the farm. Project R6764 drew on findings from the CPP cluster of vegetable projects and other research to produce a handbook of vegetable IPM strategies in Zimbabwe. This was tested at a series of dissemination workshops for extension staff and NGO trainers (held jointly with the natural enemies project) in three different regions of Zimbabwe.

A small farmer training programme initiated at the workshops will be used to evaluate the effectiveness of the training materials in raising awareness and farmer recognition of natural enemies. There has already been good uptake of the materials by NGOs. Further uptake is expected through Food and Agriculture Organization (FAO)-funded farmer field schools and a training of trainers programme being developed by Agritex, the government extension agency, and this will ensure that the information is widely disseminated in Zimbabwe.

There is also interest beyond Zimbabwe. The FAO Global IPM Project has ordered copies of the field guide. Strong interest has also been shown by International Institute for Tropical Agriculture (IITA) and other Consultative Group for International Agricultural Research (CGIAR) centres in adapting the materials for use in West Africa, including the production of a French language version, and the launching of a ‘Farmers’ Friends’ website. The materials could also be adapted for use in East Africa, linking with work carried out by a CPP-funded vegetable IPM project in Kenya (R6616).

Validating the IPM manual with extension workers in Zimbabwe

The ladybird beetle is an important natural enemy, feeding on a range of crop pests

R7266: Development and evaluation of a pilot field handbook on natural enemies of vegetable pest, R. Verkerk and D. Wright, Imperial College

R6764: Environmentally acceptable crop protection strategies based on the improved use of pesticides and adoption of IPM strategies by smallholders in Zimbabwe, H. Dobson, NRI

R6616: Pest management in horticultural crops: integrating sustainable pesticide use into biocontrol-based peri-urban production systems, J. Cooper, NRI

Overleaf: the Farmers’ Friends poster