

How to avoid misusing pesticides

Recognize the problem

Incorrect use of pesticides often leads to failure in pest control. Sometimes it even negatively affects the crop. Moreover, the misuse of pesticides results in different health problems in humans and their animals such as skin irritation, breathing problems, headaches or more serious poisoning. If water is polluted with pesticides, fish may die so it's important to use and dispose of pesticides and pesticide containers safely. Pesticides can also cause bees to die, meaning they cannot pollinate the crop which leads to reduced yield.

Background

There has been an increased influx of new chemicals flooding local markets and agro-dealer shops because of major pest outbreaks. Farmers have little experience with those new products. Thus, farmers often indiscriminately spray these pesticides with little knowledge about the active ingredients and their modes of action.

Management

Avoid the negative effects of pesticide misapplication:

- Identify the pest or disease through scouting the field and taking an infested sample to a local plant clinic for advice
- Always try cultural methods first. In many cases, crop rotation and field sanitation work well against pests, diseases, nematodes and weeds.
- Choose a *fungicide* to prevent spread of a *fungal disease*, and *insecticides* for *insect pest* control, and *acaricides* for *mites*. This classification is on the product labels.
- There are NO chemicals allowed or available against bacteria diseases (except copper-products), plant nematodes, viruses or phytoplasma
- Consult a local plant doctor for effective and registered pesticides before you seek advice from agro-input dealer shops.
- Always wear protective clothing during mixing and spraying. Note that mixing is often the most dangerous step.
- Always spray the correct dosage as on the label.
 - Ask plant doctors for help in calculations.
 - If rates on the label are for 1 hectare, then divide by 13 for one 16 litre knapsack sprayer, or by 10 for a 20 litre knapsack sprayer. These calculations work if you spray at 200L per hectare.
 - Never spray too low dosage, as there may be no effect and money is wasted. Moreover, the pest or disease may develop resistance.
 - Never spray too high dosage, as it may affect the crop.
- Adhere to the re-entry interval (REI) and pre-harvest interval (PHI) for the chemical.

Spraying without proper protective clothing. (Photo by Joseph Ntawumeny, Développement des Horticulteurs au Burundi, CC BY-NC)



Complete protective clothing. (Photo by Jan Nimmo, CC BY-NC-ND)



When using a pesticide, always wear protective clothing and follow the instructions on the product label, such as dosage, timing of application, and pre-harvest interval.

The recommendations in this factsheet are relevant to: Zambia



Authors: Vincent Simwinga
Zambia Agriculture Research Institute
tel: +260972256284 email: vsimwinga@yahoo.co.uk

Edited by Plantwise.