

## Farm Operation – Pest and Disease Management

*Sustainable pest and disease management reduces losses and costs, while minimizing on-farm and off-farm health and environmental impacts.*



1. Farmers should monitor and examine their crops closely to accurately diagnose the nature and source of pest and disease problems for evaluating the management needs specific to their farms.

2. An integrated pest and disease management programme adopting an optimal combination of physical, biological and chemical control measures should be put in place, taking into account historical data, trends and current pest and disease conditions. The programme should include the basic sequential steps of prevention, observation or monitoring and intervention.

3. Physical control measures are the first options to consider. They include simple hand-picking, erecting insect barriers, using traps, vacuuming, tillage, flaming, mulching, soil solarization and adopting protective structures such as net houses and greenhouses.

4. Natural biological processes and materials can provide adequate control with minimal environmental impact. The main focus here is on promoting beneficial insects that capture and consume target pests. Farmers should therefore conserve and manage habitats for natural enemies of the target pests by, say, planting hedges and windbreaks.



### About “GAP- CROP”

The GAP-CROP provides guidelines on local sustainable production of safe, healthy vegetables and fruits. It focuses on reducing the risk of chemical contamination (e.g. by pesticide and heavy metal) at farm level. This article is the seventh of a series of 12 Codes of Practice (COP) making up the GAP-CROP. Farmers may voluntarily follow this COP, identify potential problems in their farms, take appropriate control/mitigation measures, and monitor the effectiveness of such measures.





5. Chemical control should only be used as a last resort, and with care to minimize risks. Bio-pesticides are the first options to consider. Synthetic pesticides are generally only used as required and often only at specific times in a pest's life cycle. Farmers should spray with the least toxic, most effective, and most pest-specific chemical available. Timing of chemical applications is critical to effective pest control. Farmers should carefully read the manufacturer's instructions about how to use the product and how often they should spray.



6. Farmers should as far as possible adopt farming practices complementary to pest and disease control. The following are some examples

- Use disease-free seed and nursery stock to prevent the introduction of disease.
- Use disease tolerant and resistant crop varieties.
- Adopt crop rotation, intercropping and green manure planting. Grow crops with pest deterring value (e.g. spring onion, herbs).
- Keep planting beds clean. Discard any diseased or infected material.
- Clean and sterilize equipments immediately after being used within infected plots.



**Next COP:**  
Farm Operation –  
Use of Pesticides

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7. The pest and disease management programme adopted and details of its implementation should be well documented (record keeping).

