Factsheet
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Ecological approach to pest and disease management in the Tropics

Prevention and direct control measures

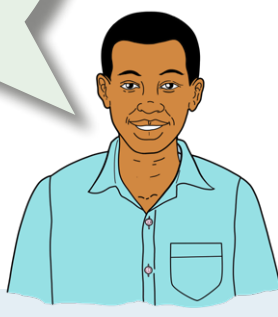
Pests and diseases can severely reduce crop yields. However, the use of synthetic agrochemicals to control them threatens human and environmental health, by polluting our soils and water systems, causing diseases, and killing beneficial organisms. Management of pests and diseases in organic farming requires not only renouncing synthetic agrochemicals, but including integrated approaches (e.g., companion cropping, push-pull technology, crop rotations, biorationals, i.e., botanicals, etc.).

This factsheet introduces the integrated ecological approach to organic pest and disease management, how to best prevent problems and direct control methods. The information is based on long-term experiments and on-farm research conducted in the scope of three projects across different countries in Africa, as well as Bolivia and India. Further products in the series, e.g., posters, videos and more, are linked in the 'Further information' section on the last page of this factsheet.

Key findings from the research

- Organic farming provides an alternative and **environmentally sound approach** to the use of harmful and expensive synthetic agrochemicals in conventional farming.
- Pest and disease pressure can be a major challenge in organic systems that mimic conventional methods by only substituting synthetic agrochemical with biorationals.
- Pest management in organic farming requires a **holistic approach:** focusing on practices which act to restore the habitat and support the balance between beneficial insects and pests.
- This approach can **reduce input costs** for the farmers while reducing chemical residues in our food and the environment.

The organisms that we call pests and those that cause diseases are part of the natural farming system. However, the activities of these organisms can negatively impact crops health, quality and yields. Organic pest and disease managements' first line of defence is: prevention. Many of the preventative measures used act both to promote on-farm diversity and keep pest and diseases at a level which does not cause economic damage. If pests reach critical levels, the second line of defence is employed: direct control measures.



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