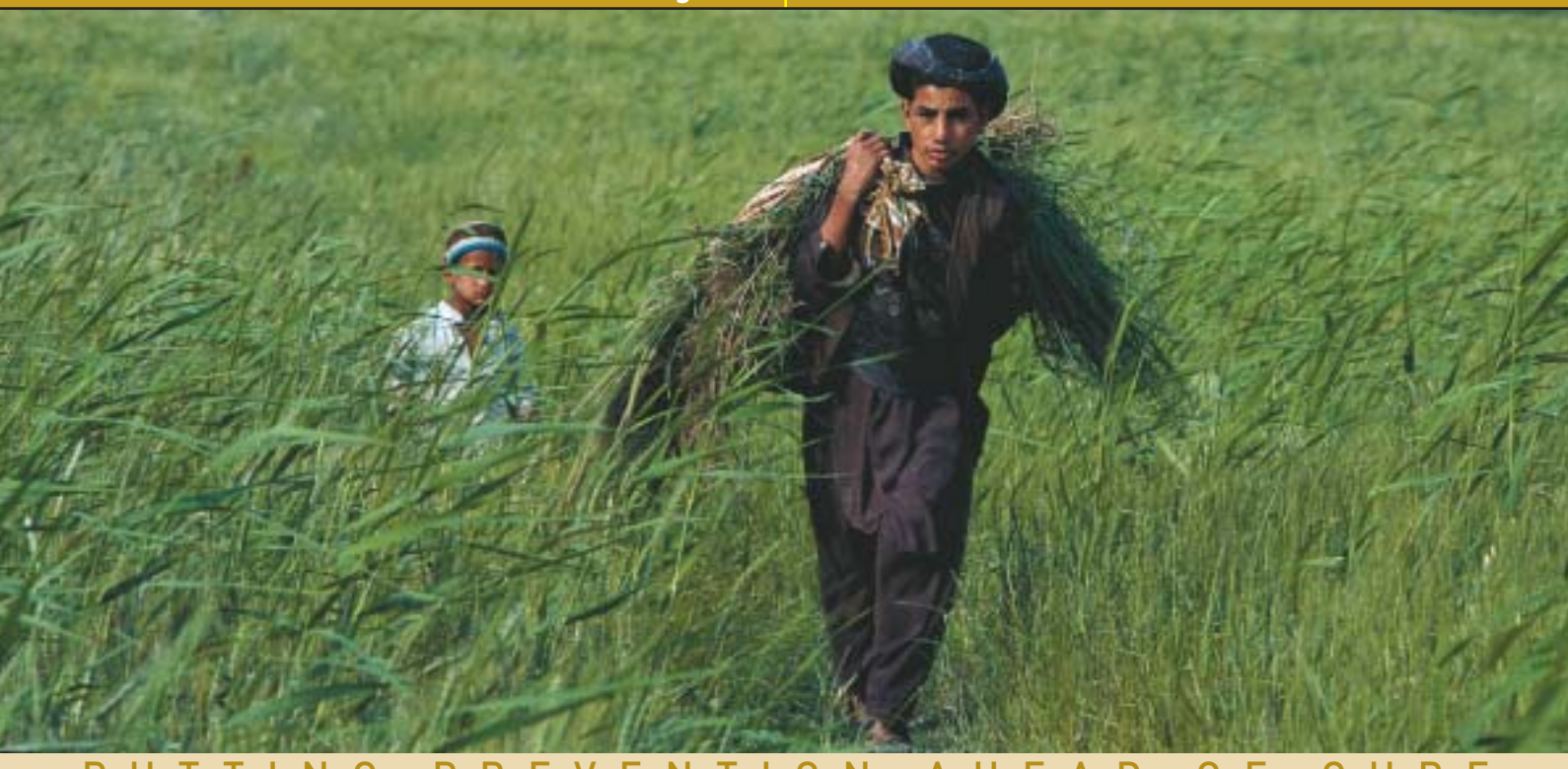

PUTTING PREVENTION AHEAD OF CURE

Pest control in organic agriculture begins by making sensible choices, such as growing crops that are naturally resistant to diseases and pests, or choosing sowing times that prevent pest and disease outbreaks. Careful management in both time and space of planting not only prevents pests but also increases populations of natural predators that can contribute to control of insects, diseases and weeds.

Organic agriculture requires informed decision-making about a range of pest management practices which are being developed. This decision-making and field management process, known as Organic Pest Management (OPM), is an outgrowth of Integrated Pest Management (IPM).

Although the latter allows usage of synthetic inputs, both systems emphasize prevention through such methods as:

Bitterwood spray repels aphids on lettuce, Italy

growing resistant varieties of crops;
growing in the proper season for the variety;
improving soil health to resist soil pathogens and promote plant growth;
rotating crops;
encouraging natural biological agents for control of disease, insects and weeds;
using physical barriers for protection from insects, birds and animals;
modifying habitat to encourage pollinators and natural enemies of pests; and
using semi-chemicals such as pheromone attractants to monitor and trap pests.

Parkya Biglobosa fruits used as natural insecticides

organic PEST MANAGEMENT

Tagetes minuta used to control soil nematodes, Italy

For curative practices, OPM limits itself to those products approved by certification bodies. But even among these products, there are differences in costs, applicability and access to be considered by farmers. There has been a great deal of research into OPM, and farmers' networks and organic agriculture associations encourage exchanges of experiences. **Products are approved based on their low risk for environmental and health impact as well as effectiveness in controlling target pests.**

Neem tree leaves used as natural insecticide

It is important to point out that some products allowed for OPM may be hazardous to applicators. For example, red chili mixtures or garlic oil which are used as pest repellants can be irritating to the skin. Applicators should have proper protective gear and application equipment.

At this point, most organic products, such as larvae of pest predators, are imported by developing countries. There is a need to promote local production to reduce import dependency. Wider accessibility and low tariffs should be encouraged. **Farmer education in OPM can be improved with better written materials, better field courses and, of course, exchange visits to meet with and learn from successful farmers.**

IPM programmes use "farmer field school" methods to teach ecological approaches to pest management. Similar types of group study are applicable to OPM, especially when combined with testing new methodologies, crops and marketing. Study groups and mutual support groups could also be used for peer review of practices within a specific organic labeling scheme. For example, California Certified Organic Farmers uses peer review to ensure that members using its organization label adhere to its more strict standards and develop mutual support systems. Such practices already are followed by several organic associations but could be more widely adopted.

Bark of *Teli* tree used as natural insecticide, Guinea

FAO's Global Integrated Pest Management Facility initiative, called "Agricultural Conversion 2015: Detoxing Pest Management", is surveying organic pest management and various non/low toxic pest management products.

Preparations of *Chrysanthemum* flowers control soil pests, Bolivia