Non-Pesticide Methods for Controlling Plant Diseases

Effective protection of agricultural plants against diseases and pests is critical to ensure a good and productive harvest. Two main methods of crop protection are in use: chemical pesticides and non-pesticide methods (NPM). In APO member countries, chemical pesticides are the more popular as they are economical and effective. However, there are problems associated with their use, such as pests developing resistance against chemical pesticides, health hazards during the application of chemical pesticides, pesticide residues in food, and degradation of the environment. Because of this, there is growing interest in using NPM for pest control.

To review the current status of NPM use in the Asia-Pacific region and find ways to promote its greater use, the APO held a seminar on "Non-Pesticide Methods for Controlling Diseases and Insect Pests" in Tokyo on 10-17 April 2002. The program was hosted by the Japanese Ministry of Agriculture, Forestry and Fisheries and implemented by the Association for International Cooperation of Agriculture and Forestry. Sixteen participants from 12 APO member countries attended the meeting. Presentations by resource speakers in the seminar touched on: NPM for managing crop diseases, insect pests, and weeds: present status, issues, and strategies; Biological control of vegetable pests with natural enemies; and Control of plant virus disease by cross protection.

In endorsing the greater use of NPM in agriculture, the participants are also mindful of the constraints. Among those they highlighted were: farmers' ignorance of NPM; the advantages pesticides have over NPM in terms of cost and effectiveness; the slow effects of NPM, and its cumbersome implementation; lack of incentives to produce pesticide-free crops; presence of a strong pesticide-industry lobby; inadequate research; and insufficient governmental financial and policy support. To overcome these constraints and others, the participants proffered the following suggestions: 1) NPM should form an integral part of an overall integrated pest management program. 2) The government should increase its support for multi-disciplinary, applied, and demand-driven research on NPM. 3) There should be incentives for farmers to use NPM. 4) Farmers should be educated in the importance of NPM and trained in using it. 5) The education and training of farmers should be supported by the government, either directly or indirectly. 6) Regulations limiting the use of chemical pesticides should be formulated and strictly enforced. 7) The efforts of the government in promoting the use of NPM should be complemented by NGOs, civil society organizations, and other public-based groups, including consumer associations.

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