

CONTENTS & MODULES

IPM PRINCIPLE C5



Prioritize the use of selective pesticides

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| WHAT IS... | Selective pesticides are those non toxic to non-target organisms, such as beneficial organisms, including vertebrates and human beings. Specific pesticides are those toxic only to a limited number of pests. The specificity may be limited to a unique species, such as some entomopathogenic virus, or to a group of them. This principle provides a rule to select the pesticides, including plant extracts and mineral pesticides, to be used in case of need: priority shall be given to those pesticides which have the minimum impact on human health, non-target organisms and the environment. |
| WHY | The selectivity of the pesticides minimizes the impact of chemical control on human health and on the environment. More specifically, it minimizes their undesirable effects on natural enemies that maintain insect pests below the economic thresholds, preventing the possible outbreaks of secondary pests. Nevertheless, it is also necessary to keep in mind that when a broad spectrum pesticide (toxic to several pests) is substituted by a selective one, the populations of some secondary pests may temporarily increase, until a new equilibrium with their natural enemies is reached. |
| HOW | Educate farmers and advisers to always choose the right pesticide for the right job. As usually a given pesticide is not selective to every natural enemy, it is essential to identify the key natural enemies in each specific crop for each region. The protection of these key natural enemies should be the priority. One important source of information on the toxicity of pesticides to natural enemies and humans is the work of the IOBCwprs Working Group "Pesticides and Beneficials." |
| EXAMPLE | The use of entomopathogenic virus and other selective pesticides for codling moth control facilitates the control of the European Red Mite on apples by its phytoseiid predators. Different species of phytoseiids that occur naturally in apple orchards are able to maintain the populations of ERM below the economic threshold. The continuous use of pesticides for codling moth control that are toxic to them is responsible of ERM population outbreaks that seriously damage apple trees. The use of pesticides selective for the precise species of phytoseiid present in the region allows successful ERM biological control. |

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| SOURCES | http://www.iobc.ch/toolbox.html |
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