



PLANT PROTECTION PRODUCTS AND THEIR SUSTAINABLE AND ENVIRONMENTALLY FRIENDLY USE

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Abstract

Protection of plants from diseases, pests and weeds plays a decisive role in agricultural development, as an essential part in planning and policy of numerous countries. Since the plant protection products are mainly chemicals and may be not only poisonous for humans and fauna, but they may also pollute water bodies, ground water and soil with hazardous pollutants, their use have to be environmentally friendly and sustainable. The paper discuss some aspects of benefits and risks concerning the use of pesticides as an important tool for plant protection agents, reductions and limitations of uses devoted to the improvement of the residue in plants and food and the environmental quality. It is showed that, although a long-lasting residue may be desirable in some situations because the pesticide is effective for a longer period of time, long-lasting residues are not always desirable.

Pesticides are presented as grouped mainly according to their mode of action or the way a pesticide destroys or controls the target pest (herbicides, fungicides, insecticides), and their characteristics, targets, structure and categories are presented, along with their formulation into many usable products for satisfactory storage, effective application, safety of the user and the environment.

Existing policies and legislation on pesticides are briefly outlined. In addition, considering the environmental side effects of traditional pesticides, some aspects on the impacts and risks to the environment, human health, non-target organisms in relation with the use of these compounds are highlighted. Several indicators of sustainable use of pesticides are analyzed in terms of the beneficial effect of the product, and also considering monitoring and pollution prevention.

Key words: chemicals, crop, impact, indicator, pesticides, policy, risk, structure

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