

ESSENTIAL OIL TO REDUCE THE PESTICIDES USE

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Agricultural pesticides are an heterogeneous compounds group used to protect crops against biotic and abiotic diseases. Pesticides have an high intrinsic toxicity that determines adverse effects to human health and environment. Current studies show that some pesticides are potential endocrine disruptors with pseudo-hormonal activities that interfere with the reproductive process on exposed workers. Especially in greenhouses female workers are particularly exposed to chemical risk directly for the use of pesticides and in some cases following to the inappropriate use of personal protective equipment. Studies carried out on primigravitous greenhouse workers have indeed shown that there is a probable link between women's exposure to pesticides and the occurrence of reproductive disorders (reduced fecundability ratio, spontaneous abortion or preterm delivery, prolonged time-to-pregnancy and birth defects). Directive 2009/128/EC of 21 October 2009, establishing "a framework for Community action to achieve sustainable use of pesticides", proposes to reduce risks and impacts on human health and the environment and promotes use of integrated pest management techniques and agricultural alternatives to pesticides. Adoption of national plans by the Member States which, according to their specific agricultural and environmental conditions, will set up their quantitative targets to "reduce dependency on the pesticides use". To protect workers, reduce production costs and get healthier crops and less environmental impact is therefore necessary to address alternative or complementary phytoiatric practice to reduce pesticides use. In recent years is growing interest in using allelopathic mechanisms in agriculture, (direct or indirect, beneficial or harmful to a plant on another, through production of chemical compounds released into the environment). Our study proposes to test, in open-field and in greenhouse, a formulation based on essential oils, for common weeds control, to reduce level of risk greenhouse workers, consumer and environment.

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