

Ecological Pest Control Strategies in Orchard Ecosystems

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SUMMARY

The damages produced by animal pests in different ecosystems of environment is essential, because they cause extensive losses every year. The irrational use of chemical pest control determined a new pest management broach to study and use of some ecological control means in different agroecosystems. Our aim was to study and use some ecological control methods based on indirect and direct strategies: 1) the pest monitoring in orchard ecosystems and useful fauna identification (by visual control, manual collection - direct with pincers, striking method – shaking down on a tarpaulin); 2) the use of some physico-mechanical (manual collection - direct with pincers, striking method – shaking down on a tarpaulin; use of barriers – panels, vases, attractant traps – alimentary, visual, reflective mulching), biological (the natural enemies conservation) and chemical methods with low level toxicity to control the pests from studied ecosystems. The experiences were carried out in 2006-2008 at Cluj-Napoca (Romania), in laboratory and some private gardens, at apple-tree, plum-tree and cherry-tree. 1) Concerning the indirect strategies, after collecting and identification of biological materials, the harmful fauna proved to be very different, represented both by invertebrates and vertebrates, producing important damages; the useful fauna is represented both by predators and parasites. 2) The direct strategies has aim the use of unpollutant, alternative methods in studied orchard ecosystems. The following materials has been used: a) reflective repellent for aphids - micronized mica dust, which had a very good action, removing the pests from the host plants; b) coloured sticky panels in 7 variants (white, silver, light-green, emerald-green, light-blue, dark-blue, red) + control (yellow), which recorded a very good efficacy at all variants, catching aphids, psyllids, adult flies, small beetles, wasps; c) yellow ceramic plates with water between the tree rows with a very good efficacy, the average captures being of about 1000 aphids/vessel; d) vegetal and mineral repellents, selective for useful fauna - decoction of wormwood (*Artemisia absinthium* L.) for aphids and butterflies larvae, decoction of walnut tree (*Juglans regia* L.) repellent for aphids, brew extract (*Urtica dioica* L.) repellent for aphids; kaolinite against a large number of pests, making a delicate whitish film which sticks on insect bodies, removing them. All the variants recorded a good efficacy removing the pests.

REFERENCES

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