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# BIOLOGICAL CONTROL PROCEDURES IN INTEGRATED PLUM PROTECTION

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The role and prospects of using biological control processes through conservation in modern integrated plant protection systems are discussed.

The term "Conservation Biological Control (CBC)" refers to the manipulation of environmental factors and the behavior of resident populations of entomoacarifags to increase their viability, fecundity, lifespan and, consequently, their effectiveness in reducing the harmfulness of phytophagous arthropods present in agrocenoses (Barbosa, 1998, Landis et al., 2000). In critical situations, conservation biological control programs allow the application of specially modified methods of pesticide application with minimal impact on the agrocenoses.

Within the framework of State Projects and Programs, we have begun to develop procedures for the conservative biological control of harmful arthropod populations, for further use in integrated management programs for stone crop plantations. For our experiments, a 0.5 hectares plum plot with two late varieties was created. It borders a forest area dominated by acacias, an apple orchard and oilseed plantations. Insecticide treatments on this plot were only against *Eurytoma shreineri* Schr. From a wide range of approaches, we are focused on developing the most frequently used ones: 1. Providing additional nutrition to beneficial arthropods to attract and locate them in the plum orchard, increasing their survival capacity, fertility and lifespan. 2. Attracting entomoacarifagas to the agrocenosis of plum orchards by applying semiochemical attractants.

The tested nectar-producing plant mixture was the most effective in attracting entomophagous insects during the fruit growth period (June 15-21). Up to 24 entomophagous insects from eight families were recorded per sticky trap. In contrast, only one insect from two families was recorded in the control plots. Thus, the number of parasites in the experimental plots attracted by the nectar-producing plant mixture exceeded the control plots by 12 times. Egg parasites were detected in the

entomophagous collections. Comparing their occurrence with the phenology of the oriental moth, the plum worm, we conclude that they were able to parasitize the eggs of the first generation of the pests given from the second decade of May to the second decade of June. The proportion of parasitized eggs in the experimental treatments was 38%, 48% and 53%, respectively. In the control, infestation with ooparasitic insects did not exceed 27%, this being ensured only by individuals from resident populations of egg-consuming insects.

Monitoring the species composition and population size of predatory entomoacarifags. Threading on nectariferous crops revealed representatives of the orders DIPTERA (28% of the total population), from the families Agromyzidae, Phoridae, Cloropidae, Dolichopodidae, Strathyomiidae, Tachinidae and Syrphidae. The order HETEROPTERA (15.7%) was represented by the families Nabidae, Anthocoridae, Miridae and Rhapalidae. The order THYSANOPTERA (22.6%) was represented by the families Aeolothripidae and Phlaeothripidae. The orders ARANEA – (7.2%), COLEOPTERA – (2.2%), DERMAPTERA – (0.2%) and NEUROPTERA – (0.9%). In collections by mowing on nectariferous flowering plants, the most numerous parasites were from the order HYMENOPTERA, superfamily Chalcidoidea, Ichneumonoidea (23.2%).

Thus, the research results confirm the beneficial potential of nectariferous crops to attract entomocarifags in the agrocenosis of a plum orchard.

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