

UDC 595.7

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Influence of insecticides at different methods of their applications upon numerosity of entomofauna herpetobionts on winter wheat

Objective. Determine the best way to use pesticides to preserve the entomo- fauna of the herpetobionts. **Methods.** Field and laboratory. **Results** The influence of different methods of insecticidal treatments on the change of the dynamism of the number of entomofauna of herpetobionts in agroecosystems of winter wheat has been studied. **Conclusions** Experimentally proved expediency of using insecticide. Parachute microscope. - 0,75 l / ha for the cross-breeding method, when the smallest number of useful insects-herpetobionts perish.

Key words: entomofauna of herpetobionts, agro-landscapes, population, dynamics or numerosity, insecticides, entomophages, necrophags.

In artificially created man agroecosystems of field crops are not provided with proper self-regulation, so a large number of chemical preparations and other means of agrotechnics are used to protect the crop from harmful organisms. Complex pesticide contamination with other types of anthropogenic landscape leads to the degradation and decay of primary natural ecosystems, the occurrence of secondary anthropogenic landscapes with zonal flora and fauna [1, 6]. Among entomofauna herpetobionts entomophages part is that must be an effective means of pest control and scavenger affecting the rate of decomposition of detritus and fertility pounds. When pesticides are used, they die at the level with phytophagous. However, with time after pesticide treatment, pests soon recover their population, since the habitat - feed resources - remains [9]. **Research methodology.** The research was carried out in agroecosystems of the forest-steppe zone of Ukraine at certain sites during 2009-2012. The target of the research was the populations of pre-mating species of insect-herpetobionts. Collection of entomophages was carried out according to recommended methods [3]. Taxonomic membership of entomological assemblies and insect species was established using determinants [2, 7]. The winter wheat crops were cultivated with insecticides BI-58 in the growing season. New k.e. - 1.5 l / ha, Damascus cu - 1.5 liters per hectare, bulldog k.e. - 0,25 l / ha, Karate Zeon microscope - 0,15l / hectare, Parashut microscope - 0,75 l / ha. Determining the optimal method of application of pesticides to preserve entomofauna herpetobionts was conducted as follows: spraying (Traditional), regional (for initial regional zonal phytophages) and intermingled (to create favorable conditions for beneficial insects herpetobionts). The treatment with insecticides was carried out by strips of width to CM in the production masses. The controls were not cultivated with pesticides in the area of winter wheat. **Research results.** During doslidzhen was found that among relatively stable entomofauna detected pterostichus usual type (*Pterostichus meianarius* VA), among scavenger - beetle silphidae (*Silpha obscura* L.). *Pterostichus meianarius* V. - is an active zoophagous-herpetobiont that regulates the number of many litter and pound invertebrates, in particular other species of the Turunii family - Carabidae. The basis of the diet is V. P. meianarius snails, larvae and pupae of many species of Lepidoptera, Coleoptera, Diptera, earthworms, woodlice, bahatynizhky and some other representatives entomonekro- complex, which play a crucial role in the expansion Dead plant and animal organics, humus formation [4, 8].

Fig. 1. Effect of insecticides for use in continuous sowing number entomofauna herpetobionts agroecosystems pshenytsi in winter (2009-2011 pp.): D - for processing; And - after processing (for tables 1-3)

The most stable in the entomological assemblies was the appearance of a dead dark (*Silpha obscura* L.). Distribution of dead-beetles on groups by way of food is rather conditional, because in the lack of food, even typical phytophagous can feed corpses of vertebrates and dead coma. Imago *Silpha obscura* L. are fed by corpses of various vertebrates, food wastes, extrusions, invertebrates (earthworms, mollusks, insects) and herbaceous plants. Dead-beetles take an active part in the native process of destruction of corpses [4, 5]. In

the continuous process of insecticide treatment, there is a decrease in the number of catchable imago entomophases of herptobionts (Fig. 1). Particularly detrimental effects on insecticide-herpetic biotypes were observed with the use of insecticides BI-58. -1.5 l / ha, bulldog cu - 0.25 l / ha and Karate Zeon μ .s. - 0,15 l / ha, which caused a decrease in the number of insects-herpesbionts in accordance with 20 to 6 specimens per trap, from 20 to 5 and from 20 to 5 specimens. / Trap (see Figure 1). To a lesser extent, the number of trapped ko-ma-herptobionts was influenced by insecticides Damascus cu - 1.5 l / ha and parachute microscope - 0,75 l / ha, after application of which there was a decrease in the ch-area of the enterophaun of herptobionts in accordance with 20 to 7 and from 20 to 10 tracts / trap. For the regional method of processing of agrocenoses of winter wheat used insecticides BI-58 New k.e. - 1.5 l / ha, Damascus, cu - 1.5 liters per hectare, bulldog k.e. - 0,25 l / ha, Karate Zeon microscope - 0,15 l / ha, parachute mc - 0,75 l / ha (Fig. 2). Preparation BI-58 New k.e. - 1.5 l / ha reduced the number of captured imago insects - herpetibionts from 24 to 15 specimens / traps, more influenced the number of entropophylls of herptobionts insecticides Bulod k.e. - 0.25 l / ha and Karate Zeon μ .s. - 0,15l / ha, which caused a decrease in the number of insects from 24 to 13 and from 24 to 14 samples / trap. Insecticides Damascus cu - 1.5 l / ha and parachute microscope - 0,75 l / ha reduced the number of insects-herpesbionts from 24 to 17 and 24 to 18 specimens per trap (see Figure 2). Insecticides BI-58 New Cu was used for the cross-breeding method of winter wheat agrocenosis processing. - 1.5 l / ha, Damascus cu - 1.5 l / ha, bulldog k.e, - 0.25 l / ha, Karate Zeon microscope - 0,15 l / ha, parachute mc - 0,75 l / ha (Fig. 3). Application of insecticide BI-58 New k.e. - 1.5 l / ha has affected the decrease in the number of caught imago herpetobionts from 22 to 12 specimens / trap. Insecticide Damascus - 1.5 l / ha reduced the number of captured insects-herpesbionts from 22 to 15 specimens / trap. Insecticides Bulod BC - 0.25 l / ha and Karate Zeon μ .s. - 0,15 l / ha influenced the decrease in the number of entomophonous herpetobionts in relation to 22 to 9 and from 22 to 10 samples / trap. The least affected by the number of insects caught using the drug Parachute micr. - 0,75 l / ha in a cross-sectional manner, which reduced the number of entropophones of herpetocytes from 22 to 16 specimens / trap (see Fig. 3).

Fig. 2. Influence of insecticides on the boundary mode of application on the number of entomophalin of herptobionts in agrocenoses of winter wheat (2009-2011)

Fig. 3. Influence of insecticides on the cross-border method of application on the number of entomo- fauna of herptobionts in winter wheat agrocenoses (2009-2011)

Conclusions

The influence of different methods of insecticidal treatments on the change in the dynamics of the entomophase number of herptobionts in agrocenoses of winter wheat has been studied. For a continuous method of invigorating with insecticide Parachute microscope - 0,75 l / hectare, the number of entomofauna of herpeto-bionts before and after processing was 20 and 10 pieces per trap, respectively. Number reduction - 10 items / trap. Insignificant insecticides have been noted for the breeding method of re-tightening. Parachute m.s. - 0.75 l / ha and Damascus cu - 1.5 liters / ha, which reduced the number of entomophones of hepotobionts, respectively, for 6 and 7 specimens per trap. Insecticides Parachute microscope is isolated due to the cross-sectional method of spraying. - 0.75 l / ha and Damascus cu - 1.5 l / ha, which reduced the number of enterophauna hermetic bionts, respectively, for 6 and 7 specimens / trap. The marginal and cross-breeding methods of using pesticides on winter wheat have advantages over continuous, especially in the years with a low number of phytophages, since the useful endopofuna of herptobionts (imago) migrates to untreated areas, which does not change the dynamics of the number of natural development of insects.

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Released on 2.02.2015.