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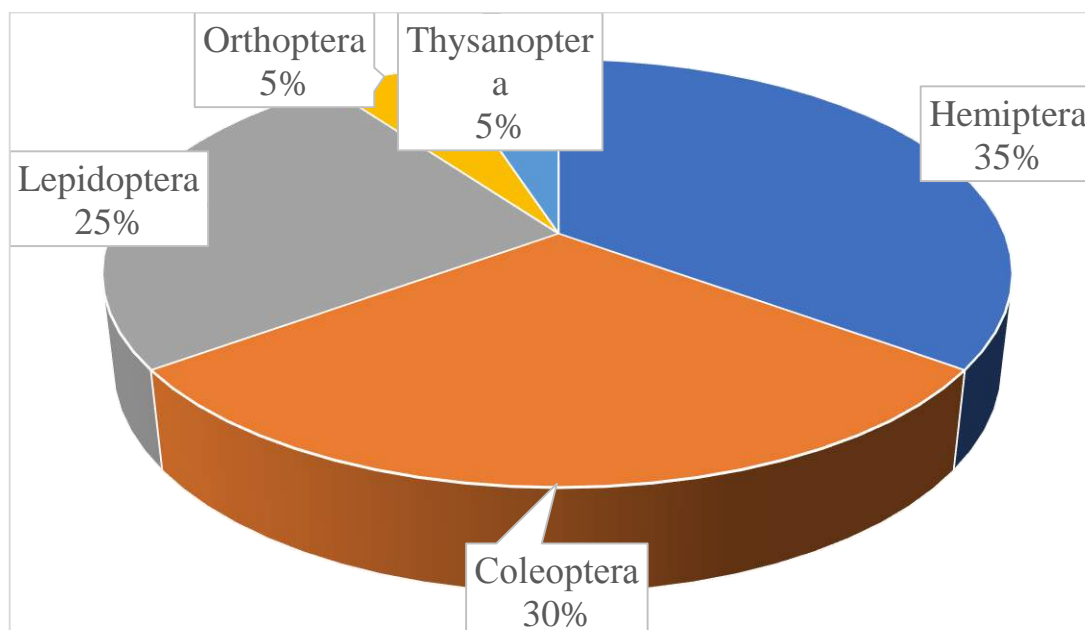
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## **SPECIES COMPOSITION OF INSECT PESTS OF SOYBEAN IN UKRAINE AND IN THE WORLD**

Analysis of literature sources indicates about the differences in species composition of pests on soybean. There are more than 500 potentially harmful species in the world fauna. In the whole world, approximately 380 species of harmful insects collected on soybean are described. The biggest number of them was found in the countries of the Asian Region. In Japan, for example, on soybean can be found 220 species of insects, 30 of them cause significant crop losses. The greatest harm is caused by *Nezara viridula* L., *Leguminivora glicinivorella* Mats., *Etiella zinckenella* Tr. and *Matsumura phaseoli* Mats.

In the conditions of Ukraine 68 harmful species were determined, among which the most dangerous are *Delia platura* (Meigen), *Sitona lineatus*, *Loxostege strictalis* L., *Etiella zinckenella* Tr., *Heliothis dipsacea*, *Tetranychus urticae* Koch. and Elateridae. This description of soybean photophagous is given in O.A.Grykun's works in 1976. Later, in 1983, the list of entomofauna expanded to 72 species, which belong to 10 genera and 39 families and three classes – insects, ticks and slugs. As of 2009, year it contains 114 species of anthropodas.

Analysis of species composition of pests on soybean crops from Experimental Field “Experimental Farming Elitne”, V.Ya.Yuriev Institute of Plant Cultivation of National Academy of Science of Ukraine in 2018–2020 indicates that in systematical relation the biggest quantity of harmful species belongs to the rows of Hemiptera – 35 % and Coleoptera –30 % of the total number of phytophagous insects. Lepidoptera belongs to the third largest group of species (25 %). Less numerous representatives are Orthoptera and Thysanoptera, which made up 5 % (each) of the total number of pests (Figure 1 and Table 1).



**Fig. 1. Taxonomic structure of harmful soybean entomological complex in the Eastern Forest-Steppe of Ukraine**

*Table 1*

**Species composition of soybean polyphagous insects in the Eastern Forest-Steppe of Ukraine**

Row	Family	Species	Specialization	Frequency of occurrence
1	2	3	4	5
Orthoptera	Tettigoniidae	<i>Tettigonia viridissima</i> L.	P	C
Hemiptera	Cicadellidae	<i>Stictocephala bubalus</i> F.	P	C
	Miridae	<i>Lygus pratensis</i> L.	P	D
		<i>Lygus rugulipennis</i> Popp.	P	SD
		<i>Adelphocoris lineolatus</i> Goeze.	P	Д
	Pentatomidae	<i>Dolycoris baccarum</i> L.	P	SD
		<i>Piezodorus lituratus</i> F.	P	D
		<i>Palomena viridissima</i> Poda.	P	C
Thysanoptera	Thripidae	<i>Thrips tabaci</i> Lind.	P	C
Coleoptera	Elateridae	<i>Agriotes obscurus</i> L.	P	C
	Curculionidae	<i>Sitona lineatus</i> L.	S	D

Continuation of table

1	2	3	4	5
		<i>Sitona crinitus</i> Hrbst.	S	D
		<i>Tychius quinquepunctatus</i> L.	S	C
		<i>Psolidium maxillosum</i> D.	P	D
		<i>Tanymecus palliatus</i> F.	P	C
Lepidoptera	Noctuidae	<i>Autographa gamma</i> L.	P	C
		<i>Chloridea viriplaca</i> Hfn.	P	C
	Phycitida	<i>Etiella zinckenella</i> Tr.	S	C
	Pyraustidae	<i>Margaritia sticticalis</i> L.	P	C
	Nymphalidae	<i>Vanessa cardui</i> L.	P	R

Note: P – Polyphagous; S – Specialized Species; D – Dominant (more than 5.0% of the total number); SD – Subdominant (2.0–5.0%); C – Constant; (0.5–2.0%); R – Rare (less than 0.5%)

During experiments, we have identified pests, which belong to six rows. Generally, 20 species were counted. No excess of economic threshold of harmfulness was observed.

Soybean plants are damaged at all stages of development, but the most vulnerable are in phenophases of sprouting, laying of generative organs, grain formation and grain ripening. Accounting on the surface of the soil and on plants is carried out throughout the active life of insects.