Abstracts

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OVERPOPULATION OF COMMON VOLE MICROTUS ARVALIS IN AGRICULTURAL FIELDS IN SERBIA

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Common vole Microtus arvalis is the most frequent and most harmful Eurasian vole. It is an herbivorous species with considerable needs for high-protein food. Its pronounced environmental adaptability is responsible for its spreading from places of its original habitation (non-agricultural areas, clearings and pastures) into agricultural fields, especially wheat and alfalfa crops. There is a tendency of its cyclic overpopulation. The last common vole overpopulation event in agricultural areas of Vojvodina Province in Serbia occurred in the mid-1980s.

A number of factors, including climate as the most decisive one, initiated in 2012 and 2013 a strong selection pressure on common voles. At the beginning of 2014, high frequency of common voles was reported on nearly 300,000 ha of arable fields, while overpopulation (more than 50 000 animals/ha) was detected on some 3,000 ha. Overpopulation area was located in central parts of the Vojvodina, Banat region. Initial significant increase in their frequency was found in alfalfa and all winter cereals (wheat, barley and oat) during the early spring. As the summer months approached, significantly higher vole numbers were detected also in soybean, maize, sunflower and sugarbeet crops.

Yields of grain and fresh green biomass of all cultivated crops sustained ensuing economic losses, reaching as much as 100% in fields with confirmed vole overpopulation. Besides the damage caused to field crops, which was most evident during vegetation, increased vole frequency was also observed in orchards, in which damage will be assessed during the 2015 vegetation season.