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Leafminers (Agromyzidae) – dynamics and harmfulness on winter wheat in Poland

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Leaf miners from the family Agromyzidae commonly occur in cereal crops in Poland. However their harmfulness is not considered as very high, locally they can cause losses of economic importance. In Poland there is more than a dozen species of leafminers. They may occur locally in large numbers, and cause substantial damage to the crops which reduce quality and quantity of the harvest. Larvae of the leafminer feed on the parenchyma, causing damages (so-called mines).

Effective methodology of fighting the insects with chemical means have not been developed yet. Studies carried out so far in terms of integrated methods of protection for cereals have shown that a good practical method of chemical signaling control these insects is to control the number of adults trapped on yellow traps. Monitoring of cereal leaf miner flights in winter wheat was carried out at in Poland in Wielkopolska district (Słupia Wielka) in vegetation seasons 2009/2010 and 2010/2011.

The traps were replaced once a week. Additionally, the abundance of leafminers was recorded on experimental plots and selected wheat plantations located in the proximity of the experiments in May, leaves with visible larvae or pupa inside were collected for rearing purpose to obtain imagines and identify leafminer species. Values monitored included the dynamics of flight for leafmining flies along with the speed of development of leaf beetles. The accuracy of the suggested dates was measured by the quantity of the yield obtained. During the years of the research, the biggest yields were obtained when both pest species were chemically treated during the period when the leaf mining flies were abundant with the oldest leaf beetle larvae reaching the size of about 2 mm.

The most common species were: *Chromatomyia nigra* (Meigen, 1830), *Chromatomyia fuscula* (Zetterstedt, 1838) and *Cerodontha (Poemyza) superciliosa* (Zetterstedt, 1860). The dynamics of flight of leafmining flies on the winter wheat plantations typically changes a lot, it is necessary to monitor particular plantations. It was also determined that the species composition of Agromyzidae damaging the winter wheat changes between particular years.

Key words: wheat, cereal pests, *Chromatomyia fuscula*, *Chromatomyia nigra*, *Cerodontha superciliosa* dynamics, harmfulness

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