THE DAMAGE OF LYGAEID BUGS IN SUNFLOWER AND THEIR ROLE IN THE DISTRIBUTION OF ITS SEED-TRANSMISSIBLE DISEASES

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The authors studied the damage of Lygus,Polymerus,Adelphocoris species in 25 m sunflower plots,by applying the following treatments in four repetitions:

- single insecticide spraying at the begin of flowering;
- double insecticide spraying at the begin and end of flowering;
- isolation of individual flower heads with cheesecloth at the begin of flowering;
- Colonization of Lygaeid adults on sunflower heads /10 on each/ and covering the heads with cheesecloth isolators.

The latter 10-10 Lygaeid adults caused a 31 % damage on the flowers while the natural Heteropteran population caused a 9.8 % damage.

In each treatment also the oil content and oleic acid number was assessed; due to the bug damage the oil content of seeds decreased by 6.2 and the oleic acid number increased by 0.48.

The role of bugs in disease transmission was also studied. After harvest the seeds /achenes/ were exposed to wet- chamber conditions.

In the flower heads isolated with bugs the number of seeds infected by pathogens was twice as much as in the heads isolated from bug damage, and the number of seeds incapable of germination was high. 20 % of seeds were unable to germinate. The pathogens isolated from the seeds were transferred to malt-agar and identified. In the isolates 8 fungus species occured,the most common were Botrytis cinerea,Alternaria helianthi,Fusarium tricinctum and a Fusidium species.

In course of pathogenicity tests the fungus Fusarium tricinctum was found the most pathogenic that destroyed 10 % of the seedlings.

It was most remarkable that while the fungi Alternaria helianthi and Alternaria zinniae are dangerous pathogens of the sunflower plants in the later stages of their development, they did not show pathogenicity towards the seedlings.