5.20 A. KONJEVIĆ[1], V. STOJŠIN[1], D. BUDAKOV[1], F. BAGI[1], M. PETROVIĆ[1], A. POPOVIĆ[1], Ž. ĆURČIĆ[2], G. JAĆIMOVIĆ[1], D. LATKOVIĆ[1], J. CRNOBARAC[1]

[1] University of Novi Sad, Faculty of Agriculture, Trg Dositeja Obradovica 8, RS – 21000 Novi Sad

[2] Institute of Field and Vegetable Crops, Maksima Gorkog 30, RS – 21000 Novi Sad

INFLUENCE OF MINERAL NUTRITION AND CULTIVAR ON SUGAR BEET INFESTATION WITH THE ROOT APHID *PEMPHIGUS FUSCICORNIS* KOCH

ABSTRACT

Pemphigus fuscicornis (Koch, 1857) (Homoptera, Pemphigidae) is a pest of warm and dry regions worldwide. It is known as an important pest of sugar beet in Eastern Europe, mostly associated with fibrous roots, rather than the main one. Beside the outer symptoms of root aphid infestation, as wilting and yellowing of leaves, this pest causes looses in root weight together with reduction of sugar content. This study was conducted to determine the level of sugar beet root infestation caused by the root aphid, *P. fuscicornis*, in different cultivars of sugar beet, including different amounts of NPK fertilizers. Colonies of nymphs were monitored in plots with randomly chosen cultivars (1-8) and fertilization combinations (1. Without fertilization, 2. N_2, 3. P_2, 4. K_2, 5. N_2P_2, 6. N_2K_2, 7. P_2K_2, 8. $N_1P_1K_1$, 9. $N_1P_2K_1$, 10. $N_1P_2K_2$, 11. $N_2P_1K_1$, 12. $N_2P_2K_1$, 13. $N_2P_2K_2$, 14. $N_2P_3K_1$, 15. $N_2P_3K_3$, 16. $N_3P_1K_1$, 17. $N_3P_2K_1$, 18. $N_3P_2K_2$, 19. $N_3P_3K_2$, 20. $N_3P_3K_3$, where 1 stands for 50 kg/ha, 2 for 100 kg/ha and 3 for 150 kg/ha of pure element. Sugar beet roots attacked by root aphid were ranked from 0 (no attack) to 4 (high aphid population density). In general, most plants (more than 55%) were attacked by root aphid. At the same time, the infestation level was low, with most plants colonized with aphids only on individual root hairs (rank level 1). The lowest intensity of root aphid infestation was in nutrition containing only potassium, while the highest infestation was with nutrition which included higher dosages of all three essential elements.