Poljoprivredni fakultet
Sveučilište Josipa Jurja
Strossmayera u Osijeku

Faculty of Agriculture
University of Josip Juraj
Strossmayer in Osijek

49. HRVATSKI I 9. MEĐUNARODNI SIMPOZIJ AGRONOMA

49th CROATIAN AND 9th INTERNATIONAL SYMPOSIUM ON AGRICULTURE

16. – 21. veljače 2014. | Dubrovnik | Hrvatska

16th – 21nd February 2014 | Dubrovnik | Croatia

ZBORNIK SAŽETAKA | BOOK OF ABSTRACTS

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Effect of the plant hormone kinetin on reducing the intensity of brown spot disease on tobacco

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Summary

Brown spot disease is economically important disease which has a particular impact on the reduction of tobacco leaves quality and, hence, on the total economic effect. The main factors for its occurrence are the climate and irrational use of agrotechnical practices. Ontogenetic age of leaves has also a big influence on disease attack, i.e. its intensity increases with aging of the leaves. A number of fungicides are applied in the control of this disease. The aim of integral protection, however, is to include preventive measures and to reduce the number of treatments. Also, the biointensive model of integral protection aims to replace them by natural resources. Our objective was to study the effect of plant hormone kinetin on the intensity of attack of brown spot disease. Two concentrations of kinetin were applied (30 mg/l and 60 mg/l), with one and two treatments of tobacco plants. They were inoculated with a suspension of pure culture of the pathogenic fungus Alternaria alternata - the causing agent of the disease. It was concluded that kinetin treatment has a positive effect on reducing the disease intensity. The lowest intensity in the two-year investigation was recorded in plants with a single treatment of kinetin -60 mg/l. Among treatments with 30 mg/l, lower intensity was recorded when two treatments were applied. Histological investigations of tobacco leaves confirmed the effect of kinetin in reduction of the possibilities for infection. The investigations point out to the possibility for application of the plant hormone kinetin in tobacco as a biological and preventive measure in the control of brown spot disease.

Key words: brown spot disease, intensity of attack, kinetin, reduction, preventive measure