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EFFICIENCY OF SOYBEAN-RHIZOBIUM SYMBIOSES FOR SEEDS INOCULATED WITH COMPOSITIONS BASED ON *Rhizobium* , *Azotobacter* AND PHYTOLECTINS

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Abstract

The aim of the work was to estimate the action efficiency of pre-sowing soybean seed bacterization with complex inoculants based on *Bradyrhizobium japonicum* 634b and *Azotobacter chroococcum*

T79 under influence of phytolectins in vegetation conditions. It was shown, that during all vegetation period the soybean plants formed vegetative mass more actively

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(in 1.2–1.5 times) above-ground part and in 1.2–1.7 times root system by the the complex seed bacterization as compared to the mono-inoculation. There is a direct dependence of soybean vegetative height on the functional (nitrogen-fixing) ability of the symbioses. Advantages of the application of complex compositions for intensification of beans formations (more early terms of reproductive organs forming, greater amount of beans on plants with their mass, exceeding control in 1.1–1.7 time) are shown. The middle increase of soybean harvest to control made from 13% (binary bacterial composition on basis of rhizobium and azotobacter) to 21% (polycomposition on basis of rhizobium and azotobacter activated by the wheat lectin).

The compositions based on rhizobium activated by the soybean lectin provided 18% increased seed harvest. Polycomposition containing nitrogen-fixing bacteria activated by appropriate plants lectins led to the 19% increased harvest. It is shown that the harvest increased with higher values of almost all indexes of its structure. The compositions based on rhizobia and azotobacter activated by wheat lectin as well as the compositions based on rhizobia activated

by soybean lectin are the most productive for practical use to increase the soybean yield.

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