EFFECT OF *LACTOBACILLUS PLANTARUM* CONSORTIA ON GROWTH CHARACTERISTICS OF SOME PLANTS

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Development of new biological preparations based on microorganisms is very important for organic agriculture.

The aim of study was to investigate the stimulating effect of some strains of *L. plantarum* and their consortia on the growth of test plants.

The effect of bacteria *L. plantarum* on garden cress growth was studied. Suspensions of overnight cultures of each strain were prepared in two concentrations – 1% and 2%.

Strains of *L. plantarum* ONU 12, 313, 355 showed a clear stimulating effect on the growth of cress, increasing the average length stems in 16,0 – 35,3%, roots – 18,3 – 46,6%. 1% suspension had the best effect.

Thus, all three investigated strains of lactobacilli could be used for seed treatments in order to stimulate the growth of plants.

We have made an attempt to create the consortia with strains of lactic acid bacteria *L. plantarum.* The plants treated with a mixture of 1% overnight cultures of the strains *L. plantarum* 12 and ONU 313, ONU 12 and 355.

Application of the consortium *L. plantarum* ONU 12 and *L. plantarum* ONU 355 in comparison with the use of certain strains separately increased the average length of the stems in 23,0%, and the length of the roots – in 9,7%.

Increasing of the stimulation activity of lactobacilli in the consortium has not been described in the literature yet.

An attempt to create a consortium of bacilli and lactobacilli for seed treatment has been done. By itself, the culture of *B. atrophaeus KB* positively influenced only the average length of the roots, increasing it in 31%.

Addition of the overnight culture of *L. plantarum* ONU 12 increased the average length of garden cress stems in comparison with the use of the culture *B. atrophaeus KB* alone in 25,2 – 28,5%, and the average length of roots – in 54,6 – 61,3%.

Lactobacilli could be the inducers of the stimulation activity of biological preparations based on bacilli. Our studies showed the positive influence of *L. plantarum* consortia on the growth of test-plants.