SEEDS GERMINATION AND SEEDLINGS GROWTH STIMULATION USING *BACILLUS* SPECIES

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Bacillus species are widely used for biological preparations creation, because of their sporulation ability and broad metabolic potential. Besides of the antibiotic and entomopathogenic toxins production activity, it was established that these bacteria can synthesize plant growth stimulants and regulators. It has been shown that seeds, seedlings and soil inoculation by microorganisms that belong to different genera, frequently enhances plant growth.

The aim of this work was to determine *Bacillus* species influence on the tomato seeds germination, seedlings growth and formation. 14 antagonistic active against *Erwinia*, *Agrobacterium*, *Ralstonia* phytopathogens strains, isolated at Odessa I. I. Mechnikov National University were used in the research. Seeds were sterilized by H_2O_2 and then soaked for 1 h in 2% *Bacillus* strains suspension, which were transferred to humidity chambers — Petri dishes with two filter paper disks, moistened with sterile tap water were used. Data were registered the 7-th and 12-th days.

It was also shown the 35.71% germination power increasing for experimental seeds. Within 50% of experimental strains reliable increasing in comparison to control ones. During the research the 21.4% seedlings stalks mass increasment was observed. The maximum of germination power were shown for strains *B. megaterium* ONU 484 (51%) comparing to control, *B. subtilis* ONU 481(47%) to control. Other isolated strains *B. megaterium* ONU 500 influenced on the seedlings formation (roots +88.8%, shoots +97.8%).

So, seeds germination and seedlings formation influenced by the bacterial strains were researched. Growth-inducing strains were selected. Maximum germination power and tomato seedlings mass increase were shown for seeds, treated with *B. megaterium* ONU 484 and *Bacillus megaterium* ONU 500 strains. Obtained results are perspective because of the complex growth stimulation plant protection activity.