

USING CHLORELLA AND SPIRULINA MICROALGAE SUSPENSIONS FOR BIOSTIMULATION OF GRAIN SEEDS GERMINATION

E. S. Belokurova, I. A. Pankina, S. V. Volkova

Peter the Great St. Petersburg Polytechnic University,
195251, St. Petersburg, Politekhnikeskaya St., 29,
e-mail: belokurova_es@spbstu.ru

The biostimulating properties of *Chlorella vulgaris* Beijerinck and *Arthrospira platensis* microalgae were studied on the seeds of soft spring wheat Lada and brewing barley Scarlett. A solution of microalgae grown in laboratory fermenters was used for the study. The seeds were germinated in accordance with GOST requirements in Petri dishes at a temperature of 20 ± 2 °C. The dynamics of seed germination was assessed by the number of seeds that hatched after 24 hours, by the germination energy and viability. The results have shown that the treated seed samples had higher rates of germination energy and seed viability than the untreated seeds soaked and germinated in tap water. At the same time, the solution of *Chlorella vulgaris* Beijerinck was more effective than the solution of *Arthrospira platensis*. A fungistatic effect of the microalgae solutions was manifested as a significant decrease in mold lesions in the wheat seeds. Micromycetes were not detected in barley seeds soaked and germinated in the microalgae solutions, while in seeds soaked in tap water, spores of mycelial fungi were present and activated when the seeds were soaked.

Keywords: microalgae, *Chlorella vulgaris* Beijerinck, *Arthrospira platensis*, seeds, germination, wheat, brewing barley, micromycetes.