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# Dependence of the Electro-Stimulation of Saccharomyces cerevisiae by Pulsed Electric Field at the Yeast Growth Phase

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**Abstract :** The effects of electro-stimulation of S. cerevisiae cells in colloidal suspension by Pulsed Electric Fields (PEF) with electric field strength E = 20 – 2000 V.cm-1 and effective PEF treatment time tPEF = 10^−5 – 1 s were investigated. The applied experimental procedure includes variations in the preliminary fermentation time and electro-stimulation by PEF-treatment. Plate counting was performed. At relatively high electric fields (E ≥ 1000 V.cm-1) and moderate PEF treatment time (tPEF > 100 µs), the extraction of ionic components from yeast was observed by conductivity measurements, which can be related to electroporation of cell membranes. Cell counting revealed a dependency of the colonies' size on the time of preliminary fermentation tf and the power consumption W, however no dependencies were noticeable by varying the initial yeast concentration in the treated suspensions.

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