Modeling of ethanol fermentation from low-grade raw materials, including lignocellulose

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Experiments on ethanol fermentation based on low grade substrates (stillage after alcohol distillation and acid hydrolysate of lignocellulose) are carried out. The traditional yeast Saccharomyces cerevisae is used. The ethanol fermentation is modelled using two different kinetic equation of product inhibition: the Levenspiels one and that of Monod-Yerusalimskii. Fermentation processes are described by systems of ordinary differential equations associated both with cell growth and the stationary phase of microbial growth. Both kinetic equations are applicable but for the two different substrates separately.

Acknowledgement. This work was supported by the Fund for Scientific Research, Republic of Bulgaria, by grant E02/16.