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ADVANTAGES OF ETHANOL PRODUCTION FROM STARCH-CONTAINING RAW MATERIALS USING POLIHEKSAMETHYLENEGUANIDINE (PHMG) SALTS

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Expediency of using of poliheksamethyleneguanidine (PHMG) salts is reasonable as the antiseptic preparation «Polidez» in producing alcohol from starch-containing raw materials grounded. In working environment its influence on the course of microbiological and biochemical processes, quality of semiproducts and alcohol was investigated and efficiency of the preparation «Polidez» for inhibition of contaminating microflora growth was confirmed.

It is established that adding the mentioned antiseptic preparation into mash for productive yeasts growing slightly reduced the reproduction speed of yeast cells. But after 3 generations of the intensification process of yeast biomass accumulation took place during all period of their generations by 6,7-10,6 %, compared with the control as a result of their adaptation to the antiseptic. Furthermore, in all control yeast seed vessels, in which the antiseptic preparation "Polidez" was added, dead yeast cells were absent. The concentration of yeast cells made up 120...125 mln/sm³.

Adding the antiseptic preparation "Polidez" to mash substantially repressed the accumulation of acid-formed bacteria, that was confirmed in comparison with the control speed decrease of mash acidity accumulation. Eventual acidity of productive yeasts with addition of the antiseptic was lower by 0,04 gr.

During the researches it is that adding the antiseptic preparation "Polidez" in fermenters in the established amount 20 sm³/m³ of mash at the beginning of the fermentation process largely influenced the motion of biochemical processes and chemical-technological indexes of fermented wort.

It is established that the antiseptic mentioned used in the concentration marked above repressed the process of acid accumulation in mash according to the control model, at 31...46% during all process of its fermentation and reduced eventual acidity of fermented wort by 0,18 gr.

KEY WORDS: alcohol production, contaminating microflora, antiseptic.