THE ROLE AND THE INFLUENCE OF ENZYMES IN THE OPTIMIZATION OF WORT PRODUCTION FOR BEER

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ABSTRACT

Biochemical changes during the entire brewing process mostly involve the action of different enzymes which are essential in catalyzing these changes. Enzymes are present in mature barley (amylase and carboxypetidases), finished malt (α-amylase, limit dexrinase, proteases, glucanases, pentosanases) and yeast. They have optimal activity under specific conditions of pH and temperature and if these conditions are not optimal, enzymes do not perform their action. For beer production the most important spectrum of enzymes including amylase, protease and β-glucans. Using these enzymes in the boiling process, we complete the enzyme activity of malt supplement, or replace them when the boiling process does not allow the effectively action of natural enzymes of malt. The purpose of boiling process is to reduce the viscosity of wort, as well as reduce the resistance of the mass filter in order to significantly meliorate the circulation time in boiling process. The most important enzymes responsible for filtering process is β-glucanase. B-glucanase acting on gum substances of malt to improve the reduction of viscosity (liquefaction of wort) and clarity of beer. In this paper are presented the results of measurements performed for characteristic like viscosity, turbidity and filtration time. In the first test measurements were performed after the addition of β-glucanase enzyme. In the second test measurements were performed after the addition of breakbright enzyme. These results are compare with the values obtained when these enzymes are not added.

Keywords: Activity, β-glucanase, boiling process, enzyme, filtration time, viscosity, wort.