

FACTORS AFFECTING ON QUALITY OF IRANIAN WHEAT MALT

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Malting of wheat is a biological process, including steeping, germination and kilning. During steeping (soaking) the moisture content of the wheat increased to prepare the kernels for germination. During germination (growing) there is a high level of enzyme activity that triggers a lot of biochemical changes such as cell wall break down and decomposition of storage protein. This simultaneously occurs with the production and activity of amylolytic enzymes, which convert starch to reduced sugar and modify the endosperm. Kilning (drying) reduces the moisture content of the kernels, stops the biochemical processes, carefully preserves the enzymes generated during germination, and generates color and flavor of the compounds. In this study, some functional properties of three hopeful Iranian wheat varieties, (Hirmand, Pishtaz and Bezostaia) such as Protein, Starch, Diastatic Power, Hot Water Extract and Cold Water Extract and some physical properties such as thousand kernel weight and length of wheat sprouts were investigated during the germination and malting process. Samples were taken every 8 hours during the germination time, and all the data was analyzed with the statistical software of Minitab 15. The Results indicated that Diastatic Power, Cold Water Extract and Hot Water Extract increases while Protein and Starch content decrease during Malting, Significantly ($p < 0.05$). Also wheat variety had a significant effect on Diastatic Power, total protein content and starch.

Keywords: Wheat malt extract, functional properties, germination

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