BEER MALT CONTROL BASED ON PESTICIDE AND RADIOACTIVITY ANALYSIS FINDINGS

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Abstract

One of the key elements in every beer production beside quality is its safety and health protection of beer consumers. The selection of raw materials is important for controlling internal factors since subsequent processing can rarely compensate for poor quality and safety of raw materials. That's why the aim of our research was to analyze pesticide residues and radioactivity in malt used for production in factory "Birra Peja" in Peja, Kosovo.

The material for analysis was malt resulting from a mixture of barley varieties containing: 40% Scarlett + 30% Prestige + 30% Jersey with favorable characteristics for the production of beer, which varieties have been produced at the factory "Boortmalt", Croatia. For the purpose of this analysis were analyzed 155 components of pesticide residue in malt through the DIN EN 15662 method and radioactivity residue components through the Gamma - spectrometric analysis and 0.204 PY 5.4.06 method. Then, in order to confirm the results of these uncommon analyses of malt through the two already-mentioned methods, the beer produced from this malt was analyzed according to European Brewery Convention (EBC) and MEBAK standards and instructions, since all findings of this research have an impact and value primary for the preservation of consumer health and, secondary, in order to show that the technological process of beer production is not flawed and produces quality beer.

Analysis findings show that the pesticide and radioactivity residues are within the DIN EN 15662 standard norms, which in technological terms is interpreted as the malt pesticide and radioactivity residues not being present in beer. Furthermore, after monitoring of the technological process including brewing of beer as well as fermentation and filtration of beer, we have witnessed a regular process which also confirms the pesticide and radioactivity residue within expected DIN EN 15662 standard norms for pesticide residue and 0.204 PY 5.4.06 standard norms for radioactivity residue. Finally, the produced beer was tested by EBC and MEBAK methods and standards, and the results were also within EBC and MEBAK norms.

We can conclude that the quality of the malt that "Birra Peja" used for beer production have acceptable quality and does not pose any harm to consumers' health.

Key words: *Beer, KEB, MEBAK, DIN EN 15662, 0204 PY 5.4.06, Gama spectrometric analysist.*