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Amido Black Staining Method for Detection of Barley Kernel Having Abnormal Aleuron Layer

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1) Kirin Brewery Co., Ltd.

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Abstract:

In spite of normal appearance and germinative energy, some malting barleys become a low-quality malt. Among those barleys, there is a barley which can be stained by Amido black, a pigment for protein, when the barley is immersed in the pigment solution after dehusking treatment with 50% sulfuric acid. Under observation with a canning electron microscope, the stained part showed a honeycomb structure due to the pealed surface of the aleuron cell layer. The endosperm of such barley kernel (deembryonated half grain) showed a low reponse to gibberellin (GA_3). From these results, the staining method with Amido black was found to be an easy and effective method for the detection of barley of which the aleuron layer was damaged.

Keywords:

Aleuron layer, Amido black, Barley, Flocculation, Germination, Gibberellin, Malt quality, Staining method

[Full-text PDF (1553K)] [References]