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Determination of seventeen mycotoxins in barley and malt in the Czech Republic

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1 **DETERMINATION OF SEVENTEEN MYCOTOXINS IN BARLEY AND MALT IN**
2 **THE CZECH REPUBLIC**

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14 **Abstract**

15 In this study, an analytical method for the determination of 17 mycotoxins was
16 developed and validated: common (aflatoxins B₁, B₂, G₁, and G₂, fumonisins B₁ and B₂,
17 ochratoxin A, deoxynivalenol, nivalenol, zearalenone, T-2 and HT-2 toxin) and “emerging”
18 toxins (enniatiins A, A₁, B, and B₁, and beauvericin) were detected using ultra-performance
19 liquid chromatography coupled to mass spectrometry. A modified QuEChERS method was
20 used for extraction. The method was applied to a total set of 52 barley and malt samples. All
21 samples were contaminated with at least one of mycotoxins. None of the investigated samples
22 contained any of four aflatoxins nor ochratoxin A. Fumonisin B₁ occurred only in one sample,
23 Fumonisin B₂ and zearalenone were found in two barley samples. Enniatiins were detected in

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