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The effect of *Zataria multiflora* Boiss Essential oil on the growth and citrinin production of *Penicillium citrinum* in culture media and cheese

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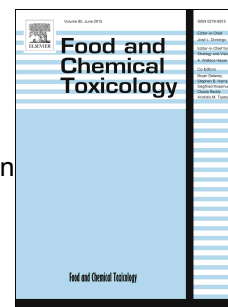
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1 **The effect of *Zataria multiflora* Boiss Essential oil on the growth and citrinin**

2 **production of *Penicillium citrinum* in culture media and cheese**

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23 24 25 **Abstract:**

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27 The effect of *Zataria multiflora* Boiss Essential oil (EO) on the growth, spore
28 production, and citrinin production of *Penicillium citrinum* PTCC 5304 in the culture media
29 as well as Iranian ultra-filtered white cheese in brine was investigated. Radial growth and
30 spore production on the potato dextrose agar (PDA) were effectively inhibited by EO in a
31 dose-dependent manner. At 200 ppm, the radial growth and sporulation declined by 92% and
32 100%, respectively. The growth was completely prevented at 400 ppm of EO on PDA and the
33 minimum fungicidal concentration (MFC) of the oil was estimated at 400 ppm. Furthermore,

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