

Determination of vicine and convicine in faba bean products

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Vicine and convicine, common antinutrients in faba beans, are the precursors of aglycones, divicine and isouramil, the main causative factors of favism. Recently, a hydrophilic interaction liquid chromatography (HILIC) method was proposed for determination of low quantities of vicine and convicine in faba bean seeds (Purves et al, 2018). The HILIC-UV based method was adapted and validated for in-house use for quantification of vicine and convicine in faba bean products: protein concentrates and plant-based meat analogue extrudates. Vicine and convicine were determined in different commercial faba bean protein concentrates intended for production of plant-based meat and dairy alternatives. It was shown that the method of extraction and concentration of plant proteins has obviously influenced the content of antinutrients in protein concentrates. Determination of vicine and convicine in two faba bean containing ingredients before and after the extrusion showed differences in the degree of degradation of antinutrients, depending on the nature of raw ingredient fed into extruder. The relationship between the composition of the faba bean containing ingredient, the extrusion parameters, chosen to obtain the sensory acceptable meat analogues from these ingredients, and the resulting degradation of vicine and convicine should be a matter for further investigation.

Purves, R.W.; Khazaei, H.; Vandenberg, A. Quantification of vicine and convicine in faba bean seeds using hydrophilic interaction liquid chromatography. *Food Chem.* **2018**, *240*, 1137-1145. DOI: 10.1016/j.foodchem.2017.08.040.

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