

Title	Comparative study of sugar extraction procedures for HPLC analysis and proposal of an ethanolic extraction method for plant-based high-protein ingredients
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Supporting Information to article “*Comparative study of sugar extraction procedures for HPLC analysis and proposal of an ethanolic extraction method for plant-based high-protein ingredients*” in the **Journal of the Science of Food and Agriculture**

Table A.1: Sugar levels determined in wheat flour, wholemeal wheat flour and soy protein isolate using different extraction procedures

Extraction	Wheat flour			Whole wheat flour			Soy protein isolate		
	Sucrose/maltose	Glucose	Fructose	Sucrose/maltose	Glucose	Fructose	Sucrose/maltose	Glucose	Fructose
A1	1.87 ± 0.16 ^a	0.26 ± 0.03 ^a	0.21 ± 0.03 ^a	0.53 ± 0.04 ^{bc}	0.66 ± 0.05 ^a	0.81 ± 0.07 ^a	–*	–*	–*
A2	1.71 ± 0.02 ^a	0.34 ± 0.01 ^a	0.26 ± 0.00 ^a	0.45 ± 0.04 ^c	0.69 ± 0.02 ^a	0.91 ± 0.02 ^a	–*	–*	–*
A3	1.11 ± 0.17 ^b	0.13 ± 0.02 ^b	0.07 ± 0.01 ^b	0.79 ± 0.03 ^a	0.27 ± 0.01 ^b	0.18 ± 0.01 ^c	–*	–*	–*
A4	0.47 ± 0.23 ^c	0.02 ± 0.01 ^c	0.03 ± 0.01 ^c	0.61 ± 0.06 ^{abc}	0.05 ± 0.00 ^c	0.05 ± 0.00 ^c	–*	–*	–*
A5	0.60 ± 0.03 ^{bc}	0.03 ± 0.00 ^c	0.04 ± 0.00 ^c	0.63 ± 0.00 ^{ab}	0.06 ± 0.00 ^c	0.06 ± 0.00 ^c	–*	–*	–*
A6	2.09 ± 0.26 ^a	0.15 ± 0.06 ^b	0.08 ± 0.02 ^b	0.63 ± 0.08 ^{ab}	0.35 ± 0.05 ^b	0.39 ± 0.09 ^b	–*	–*	–*
E1	0.43 ± 0.02 ^c	0.03 ± 0.00 ^c	0.04 ± 0.00 ^c	0.58 ± 0.04 ^{bc}	0.03 ± 0.00 ^c	0.05 ± 0.00 ^c	0.33 ± 0.03 ^a	0.04 ± 0.01 ^a	0.04 ± 0.00 ^a
E2	0.45 ± 0.01 ^c	0.03 ± 0.00 ^c	0.04 ± 0.00 ^c	0.60 ± 0.00 ^{bc}	0.04 ± 0.00 ^c	0.05 ± 0.00 ^c	0.30 ± 0.01 ^a	0.04 ± 0.01 ^a	0.04 ± 0.00 ^a
E3	0.48 ± 0.01 ^c	0.03 ± 0.00 ^c	0.04 ± 0.00 ^c	0.62 ± 0.06 ^{abc}	0.04 ± 0.00 ^c	0.05 ± 0.00 ^c	0.36 ± 0.01 ^a	0.05 ± 0.00 ^a	0.04 ± 0.00 ^a

Means ± standard deviation with different letters in the same column were significantly different (p < 0.05).

* Method not applicable for this ingredient.

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Table A.2: Sugar levels determined in HPIs using extraction procedure E2

Ingredient	Sugar-Pak I column			High-Performance Carbohydrate column			
	Sucrose/maltose	Glucose	Fructose	Sucrose	Maltose	Glucose	Fructose
Soy	0.31 ± 0.02 ⁱ	0.04 ± 0.00 ^g	0.04 ± 0.00 ^e	0.28 ± 0.02 ^f	n.d.	n.d.	n.d.
Pea	0.77 ± 0.11 ^h	0.01 ± 0.00 ^j	0.04 ± 0.00 ^{ef}	0.71 ± 0.11 ^e	n.d.	n.d.	n.d.
Lupin	0.15 ± 0.00 ^j	n.d.	0.03 ± 0.00 ^f	n.d.	n.d.	n.d.	n.d.
Gluten	0.95 ± 0.00 ^g	0.06 ± 0.00 ^f	0.07 ± 0.00 ^b	0.16 ± 0.01 ^f	0.78 ± 0.05 ^b	n.d.	n.d.
Lentil IEP	0.81 ± 0.01 ^h	0.12 ± 0.00 ^e	0.06 ± 0.00 ^c	0.61 ± 0.01 ^e	0.19 ± 0.04 ^d	0.13 ± 0.02 ^b	n.d.
Lentil UF	0.05 ± 0.01 ^j	0.02 ± 0.00 ^b	0.02 ± 0.00 ^g	n.d.	n.d.	n.d.	n.d.
Carob	4.94 ± 0.08 ^c	0.25 ± 0.01 ^b	0.07 ± 0.00 ^b	4.60 ± 0.08 ^b	0.22 ± 0.04 ^d	n.d.	0.26 ± 0.01 ^a
Chickpea	1.56 ± 0.00 ^e	0.15 ± 0.00 ^c	0.03 ± 0.00 ^{ef}	1.18 ± 0.02 ^d	0.38 ± 0.04 ^c	n.d.	0.15 ± 0.01 ^b
Quinoa	7.04 ± 0.03 ^a	0.45 ± 0.00 ^a	0.14 ± 0.00 ^a	5.86 ± 0.13 ^a	1.17 ± 0.05 ^a	0.43 ± 0.00 ^a	n.d.
Amaranth	5.18 ± 0.03 ^b	n.d.	0.05 ± 0.00 ^d	4.61 ± 0.20 ^b	0.44 ± 0.03 ^c	n.d.	n.d.
Buckwheat	2.28 ± 0.05 ^d	0.14 ± 0.00 ^d	0.07 ± 0.00 ^b	2.32 ± 0.11 ^c	n.d.	n.d.	n.d.
Faba bean	1.19 ± 0.02 ^f	n.d.	0.04 ± 0.00 ^{ef}	1.16 ± 0.05 ^d	n.d.	n.d.	n.d.
Lentil	0.95 ± 0.02 ^g	0.05 ± 0.00 ^g	0.04 ± 0.00 ^{ef}	0.82 ± 0.09 ^e	0.20 ± 0.03 ^d	n.d.	n.d.

Means ± standard deviation with different letters in the same column were significantly different ($p < 0.05$).

n.d. – not detected or levels below 0.01 %DM (SP column) or 0.15 %DM (HPC column).