



SUPPLEMENTARY DATA

Food Chemistry, Engineering, Processing and Packaging

Impact of Dehulling on the Nutritional Composition, Bioactive Compounds, and Antioxidant Potential of Moroccan Faba Bean (*Vicia faba* L.) Cultivars

Ahmed Mahmoudi^{1,2} Nadia Benbounou^{1,3} Majda El Amri⁴ Mariam Djimet Borgoto^{1,3}
 Mohammed Rachid Kabbour² Fatima Gaboun⁴ Mohammed El Mzibri⁵ Rachid Mentag⁴
 Aouatif Benali² Said Gmouh¹

¹ LIMAT Laboratory, Faculty of Sciences Ben M'Sik, Hassan II University of Casablanca, Casablanca, Morocco. ahmed.mahmoudi-etu@etu.univh2c.ma / said.gmouh@gmail.com

² Research Unit of Food Technology, National Institute for Agronomic Research, Rabat, Morocco. morkabour@gmail.com / benali@inra.ma

³ Le Multi Laboratoire LC2A, Mohammedia, Morocco. Benbounoun@gmail.com / mdjimetborgoto@gmail.com

⁴ Research Unit of Biotechnology, National Institute of Agricultural Research, Rabat, Morocco. elamrimaj@gmail.com / fatima.gaboun@inra.ma / rachidmentag@yahoo.com

⁵ Life Sciences Division. National Centre of Energy, Nuclear Sciences and Techniques. Rabat, Morocco. mzibri@yahoo.com

Table S1. Analysis of Variance of Dehulling Process, Variety and their Interaction on Composition of Faba Bean

	Process	Mean squares Variety	Variety × Process
Proximate Composition			
Moisture	2.450***	0.266***	1.512***
Ash	-	0.236***	0.064***
Crude fat	0.148***	0.304***	-
Protein	182.637***	17.362***	2.481***
Carbohydrate	240.413***	22.874***	2.558***
Fatty acids			
▪ Palmitic Acid	27.957***	7.325***	-
▪ Stearic Acid	1.691**	0.673***	-
▪ Oleic Acid	-	36.004***	-
▪ Linoleic Acid	91.682***	34.891***	6.153*
▪ Linolenic Acid	1.578**	2.639***	2.929***
▪ DPA ^a	15.283***	2.021***	-
▪ TSFA ^b	27.543***	8.136***	-
▪ TUFA ^c	34.138***	7.072***	-
Minerals			
▪ Sodium (Na)	640.14***	1147.25***	157.18***
▪ Potassium (K)	49818.17***	33417.54***	5060.85***
▪ Calcium (Ca)	31253.78***	1476.02***	437.02***
▪ Magnesium (Mg)	1926.25***	938.41***	89.93***
▪ Phosphorus (P)	69638.65***	26723.30***	956.57***
▪ Sulfur (S)	4946.20***	1746.04***	48.71***
▪ Iron (Fe)	4.097***	2.821***	0.716***
▪ Manganese (Mn)	0.095***	0.169***	0.017***
▪ Zinc (Zn)	0.663*	7.777***	1.972***
▪ Copper (Cu)	0.201***	0.201***	0.025***
▪ Boron (B)	1.137***	0.688***	0.023***
Polyphenolic composition			
▪ TPC ^d	7.128***	1.397***	0.150***
▪ CT ^e	7.159***	0.320***	0.108***
▪ TFC ^f	-	0.028*	-
Antioxidant Activities			
▪ DPPH• ^g	30.991***	1.464***	0.417***
▪ ABTS•+ ^h	4.875***	0.3693***	0.234***
▪ FRAP ⁱ	6.874***	0.353***	0.103***

Note: a: Docosapentaenoic acid; b: Total saturated fatty acids; c: Total unsaturated fatty acids; d: total phenolic content; e: condensed tannins; f: total flavonoids content; g: 2,2-diphenyl-1-picrylhydrazyl; h: 2,2'-azino-bis(3-ethylbenzothiazoline-6-sulfonic acid); i: Ferric Reducing Antioxidant Power Assay; Asterisks indicate significance at * $p \leq 0.05$, ** $p \leq 0.01$, or *** $p \leq 0.001$ -no significance