

Article

Sustainable processing of floral bio-residues of Saffron (*Crocus sativus* L.) for valuable biorefinery products

Stefania Stelluti ¹, Matteo Caser ^{1,*}, Sonia Demasi ¹ and Valentina Scariot ¹

¹ Department of Agricultural, Forest and Food Sciences, University of Torino. Largo Paolo Braccini 2, 10095, Grugliasco (TO), Italy; stefania.stelluti@unito.it; matteo.caser@unito.it; sonia.demasi@unito.it; valentina.scariot@unito.it

* Correspondence: matteo.caser@unito.it; Tel.: +39-011-670-8935

Supplementary Table S1. Total phenolic content (TPC), total anthocyanin content (TAC), and antioxidant activity measured with the FRAP, ABTS, and DPPH assays, in dried tepal extracts obtained through maceration (M) and ultrasound assisted extraction (UAE) techniques, and the solvents water or methanol at three concentrations (20% - Met20, 50% - Met50, and 80% - Met80). Statistical comparisons between solvents for both extraction techniques separately are provided.

Extraction		TPC (mgGAE 100g ⁻¹ DW)	TAC (mgG3G 100g ⁻¹ DW)	FRAP (mmolFe ²⁺ Kg ⁻¹ DW)	ABTS (μmolTE g ⁻¹ DW)	DPPH (μmolTE g ⁻¹ DW)
M	Water	1142.27 ± 43.52	345.04 ± 132.47	571.54 ± 3.21 a	13.82 ± 0.72	15.56 ± 2.29 b
M	Met20	1123.53 ± 59.86	268.13 ± 26.76	506.73 ± 13.85 b	14.20 ± 0.60	17.83 ± 2.46 b
M	Met50	1106.45 ± 9.17	300.39 ± 15.02	535.83 ± 10.30 ab	14.62 ± 0.29	24.52 ± 2.55 a
M	Met80	1166.96 ± 33.15	249.13 ± 11.97	511.72 ± 22.49 b	14.29 ± 0.32	24.17 ± 1.53 a
<i>p</i>		ns	ns	0.03367 *	ns	0.03446 *
UAE	Water	1150.63 ± 11.23	413.30 ± 137.16 a	556.90 ± 11.91 a	12.76 ± 0.81	23.55 ± 3.60
UAE	Met20	1113.27 ± 46.11	178.39 ± 34.03 c	460.05 ± 35.55 b	13.39 ± 1.46	19.35 ± 4.83
UAE	Met50	1066.89 ± 26.36	277.09 ± 49.06 ab	506.68 ± 21.80 b	15.10 ± 0.38	24.58 ± 1.46
UAE	Met80	1153.49 ± 22.74	231.70 ± 30.19 bc	513.67 ± 21.12 ab	14.34 ± 0.81	21.03 ± 1.81
<i>p</i>		ns	0.03446 *	0.0329 *	ns	ns

Values of mean and standard deviation are reported for each variable. Statistical comparisons were performed using the non-parametric Kruskal-Wallis test. Values with the same letter are not statistically different at $p < 0.05$, according to Dunn's post-hoc test; *, $p < 0.05$; **, $p < 0.01$; ***, $p < 0.001$; ns = not significant.