

# SUPPLEMENTAL DATA

**Table S1.** Proximate composition and gross energy of the potato-wheat steamed and baked breads (g/100 g DW)

Cultivars	Crude protein	Crude fiber	Crude fat	Carbohydrate	Ash	Gross energy <sup>*</sup>
Atlantic	7.14±0.09d	1.31±0.01d	0.60±0.08b	86.67±0.42a	4.68±0.19a	375.84±0.49d
Shepody	8.95±0.06c	1.76±0.01b	0.85±0.07a	84.18±0.08b	4.94±0.01a	379.47±0.14c
Blue Congo	9.67±0.02b	1.82±0.03a	0.50±0.01b	83.52±0.26c	4.85±0.21a	381.46±0.53b
Hongmei	12.84±0.13a	1.59±0.04c	0.15±0.02c	80.95±0.11d	4.30±0.06b	386.57±1.87a

Note: \*Gross energy was expressed in kcal/100 g DW

**Table S2.** Computed result of steamed and baked breads obtained using different potato cultivars with dimensionless method.

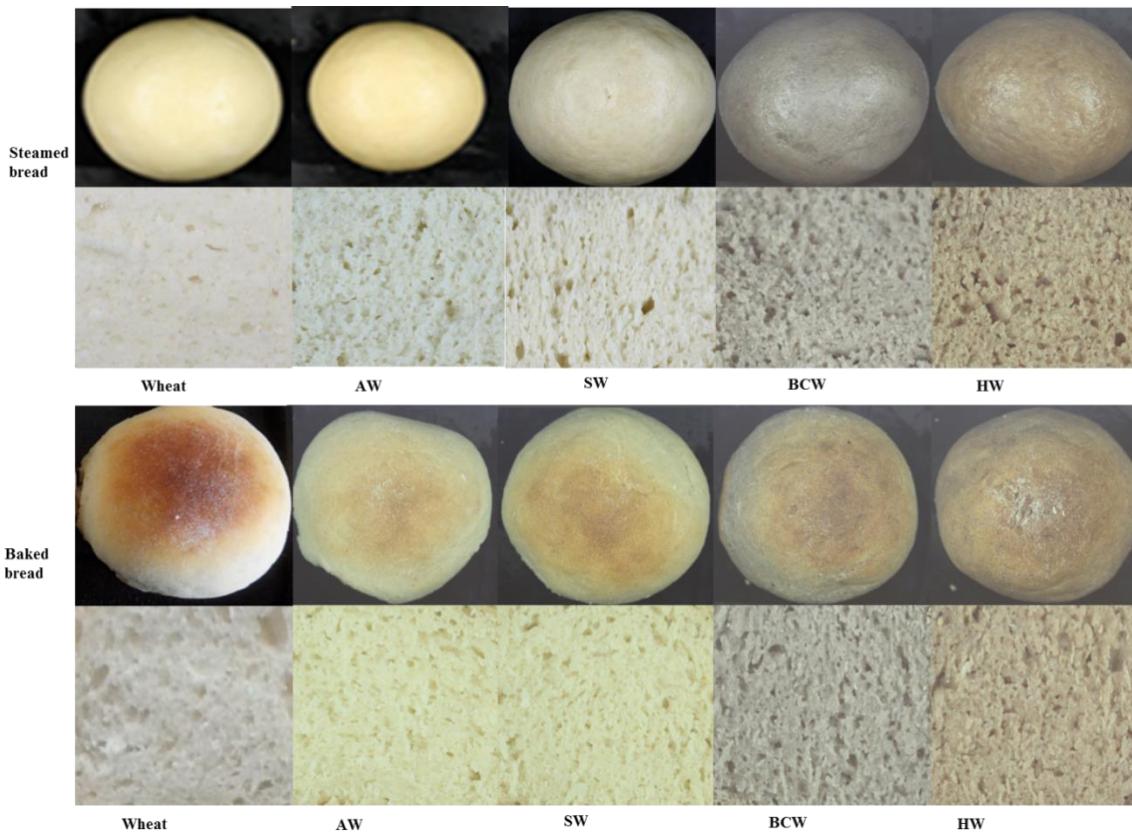
	Steamed bread					Baked bread					
	Standard	Wheat	AW	SW	BCW	HW	Wheat	AW	SW	BCW	HW
Crude protein	1.0000	0.8343	0.7761	0.8064	0.8163	0.9326	0.8330	0.8132	0.8497	0.8757	0.9524
Crude fat	1.0000	0.4238	0.5198	0.5350	0.8887	0.5402	0.4238	0.5455	0.5566	0.9500	0.5510
Crude fiber	1.0000	0.3663	0.7326	0.9158	0.7082	0.6349	0.3419	0.7326	0.8669	0.9524	0.7570
Ash	1.0000	0.1990	0.4751	0.4975	0.4776	0.4428	0.5448	0.9055	0.9527	0.8980	0.8756
Dietary fiber	1.0000	0.3756	0.6448	0.5471	0.8971	0.7341	0.3387	0.4450	0.3515	0.9524	0.7696
Carbohydrate	1.0000	0.8975	0.8999	0.9075	0.9021	0.9251	0.9121	0.9251	0.9351	0.9334	0.9500
Gross energy	1.0000	0.9104	0.9262	0.9288	0.9312	0.9247	0.9230	0.9433	0.9464	0.9500	0.9424
Na	1.0000	0.9500	0.4736	0.6732	0.7072	0.6880	0.9488	0.4979	0.6709	0.6591	0.7059
Ca	1.0000	0.4823	0.7568	0.8690	0.8149	0.9162	0.3741	0.7330	0.7235	0.7529	0.9524
K	1.0000	0.2838	0.7342	0.7919	0.8250	0.9524	0.3051	0.7919	0.6104	0.7943	0.8212
P	1.0000	0.6530	0.8769	0.8956	0.9393	0.9524	0.5639	0.8214	0.9176	0.9456	0.8967
Fe	1.0000	0.3432	0.6757	0.5720	0.9524	0.7050	0.6331	0.5932	0.6331	0.8300	0.8593
Zn	1.0000	0.8011	0.8990	0.8723	0.9524	0.8278	0.6053	0.8367	0.6053	0.8189	0.8990
Cu	1.0000	0.6723	0.6162	0.9524	0.8964	0.7843	0.5042	0.5042	0.7843	0.7283	0.7843
Mn	1.0000	0.6500	0.7861	0.7861	0.9524	0.9221	0.8314	0.7407	0.5896	0.8617	0.9373
Mg	1.0000	0.5070	0.7497	0.8762	0.8149	0.9273	0.3812	0.7390	0.7253	0.7572	0.9524
Vitamin B <sub>1</sub>	1.0000	0.7692	0.7692	0.9524	0.6227	0.6227	0.8059	0.7692	0.8425	0.6593	0.6593
Vitamin B2	1.0000	0.2857	0.3492	0.3810	0.9524	0.6032	0.3492	0.4762	0.5397	0.8254	0.8889
Vitamin B <sub>3</sub>	1.0000	0.3571	0.4547	0.6399	0.7457	0.9524	0.2530	0.4812	0.6366	0.8945	0.6944
Vitamin C	1.0000	0.0197	0.1750	0.3850	0.7808	0.9090	0.0190	0.2029	0.2487	0.8313	0.9524
Lysine	1.0000	0.7656	0.9150	0.8964	0.9524	0.9337	0.6723	0.9150	0.9337	0.8217	0.8217
AAS	1.0000	0.8769	0.8940	0.9524	0.9143	0.9375	0.8304	0.8675	0.8337	0.7863	0.7918
eGI	1.0000	0.8280	0.8631	0.8845	0.9411	0.8897	0.8233	0.9091	0.9050	0.9212	0.9500
TPC	1.0000	0.3016	0.3512	0.3684	0.6947	0.9333	0.3455	0.3932	0.4447	0.8302	0.9524
Antioxidant	1.0000	0.6159	0.7007	0.6892	0.8641	0.8598	0.7356	0.6957	0.7601	0.8302	0.9524

Note: AW, Atlantic potato flour –wheat flour; SW, Shepody potato flour -wheat flour; BCW, Blue Congo potato flour -wheat flour; HW, Hongmei potato flour –wheat flour; CP, Crude protein; CF, Crude fat; CH, Carbohydrate; DF, Dietary fiber; AAS, Amino acids score; eGI, estimated glycemic index; TPC, total polyphenols contents.

**Table S3.**Grey relational degree and order of different potato-wheat steamed and baked breads.

	Samples	Grey relational degree	Order
Steamed bread	Wheat	0.6483 <sup>h</sup>	9
	AW	0.7278 <sup>g</sup>	7
	SW	0.7846 <sup>e</sup>	5
	BCW	0.8585 <sup>b</sup>	2
	HW	0.8625 <sup>a</sup>	1
Baked bread	Wheat	0.6301 <sup>i</sup>	10
	AW	0.7251 <sup>g</sup>	8
	SW	0.7433 <sup>f</sup>	6
	BCW	0.8412 <sup>d</sup>	4
	HW	0.8465 <sup>c</sup>	3

Note: AW, Atlantic potato flour –wheat flour; SW, Shepody potato flour-wheat flour; BCW, Blue Congo potato flour -wheat flour; HW, Hongmei potato flour –wheat flour



**Figure S1.** Appearance and macroscopic structure of steamed and baked breads obtained using different potato cultivars.

Note: AW, Atlantic potato flour -wheat flour; SW, Shepody potato flour-wheat flour; BCW, Blue Congo potato flour -wheat flour; HW, Hongmei potato flour -wheat flour