SUPPLEMENTARY DATA

Table S1: Experimental layout of the independent variables and their responses for Samtawk as given by CCFC model

Run	Temperature °C	Time min	Moisture Content %	Total Phenolic Content mg GAE/g	DRSA %
1	60	360	7.98±0.02[a]	21.71±0.51[a]	91.79±0.88[a]
2	60	450	5.58±0.11[be]	26.03±0.62[b]	94.89±1.01[b]
3	80	540	1.94±0.02[c]	39.68±1.10[c]	97.32±1.10[c]
4	80	450	3.68±0.14[d]	35.19±0.06[d]	95.12±0.87[b]
5	60	450	6.02±0.17[e]	27.12±0.82[e]	93.72±0.30[bd]
6	60	450	5.97±0.44[be]	26.39±0.44[be]	94.16±0.81[bd]
7	60	450	5.73±0.19[be]	26.37±0.40[be]	93.92±1.02[bd]
8	80	360	5.01±0.04[b]	31.49±0.29[f]	92.37±0.33[e]
9	40	540	7.21±0.04[a]	29.61±0.11[g]	92.69±0.44[e]
10	40	360	13.68±0.12[e]	21.78±0.06[a]	89.38±0.52[f]
11	40	450	10.93±0.06[f]	24.89±0.09[h]	90.21±0.60[g]
12	60	540	3.67±0.04[d]	30.11±0.77[g]	95.62±1.22[b]
13	60	450	5.79±0.07[be]	26.83±0.44[be]	93.69±0.60[d]
		R^2	0.9973	0.9938	0.9703
		Adjusted R^2	0.9954	0.9894	0.9491
		Predicted R^2	0.9848	0.9694	0.8633

Table S2: Analysis of variance showing the quadratic interaction and the lack of fit of the response variables for Samtawk

Source of variation	df	Moisture content		Total Phenolic Content		DRSA	
		Sum of squares	F value	Sum of squares	F value	Sum of squares	F value
Regression	5	114.86	516.72*	303.86	224.44*	55.27	45.77*
Residual error	7	0.3112		1.90		1.69	
Lack of fit	3	0.1821	1.88^{ns}	1.16	2.12^{ns}	0.7211	0.9915^{ns}
Pure error	4	0.1291		0.7317		0.9697	
Cor total	12	115.17		305.75		56.97	

* Significant at $p \leq 0.05$; ^{ns} not significant

Table S3: Experimental layout of the independent variables and their responses for Tawkpui as given by CCFC model

Run	Temperature	Time	Moisture Content	Total Phenolic Content	DRSA
	°C	min	%	mg GAE/g	%
1	60	360	7.56 ± 0.22^{a}	22.68 ± 0.81^{a}	74.73 ± 0.50^{a}
2	60	450	5.08 ± 0.19^{b}	27.93 ± 0.59^{b}	78.32 ± 0.22^{b}
3	80	540	1.74 ± 0.12^{c}	41.08 ± 0.61^{c}	82.32 ± 0.82^{c}
4	80	450	2.18 ± 0.14^{d}	37.89 ± 0.44^{d}	80.62 ± 0.59^{d}
5	60	450	5.81 ± 0.08^{b}	29.65 ± 0.22^{e}	78.89 ± 0.40^{e}
6	60	450	5.69 ± 0.12^{b}	29.98 ± 0.08^{e}	78.05 ± 0.29^{e}
7	60	450	5.73 ± 0.11^{b}	29.76 ± 1.11^{e}	78.99 ± 0.62^{e}
8	80	360	4.89 ± 0.06^{b}	35.29 ± 0.06^{f}	76.08 ± 1.02^{f}
9	40	540	7.02 ± 0.61^{a}	30.23 ± 0.22^{g}	76.82 ± 0.81^{f}
10	40	360	12.88 ± 0.14^{e}	22.98 ± 0.29^{a}	72.53 ± 0.89^{g}
11	40	450	9.87 ± 0.04^{f}	25.89 ± 0.51^{h}	74.01 ± 0.44^{a}
12	60	540	2.87 ± 0.07^{g}	31.07 ± 0.62^{i}	80.09 ± 0.44^{d}
13	60	450	5.43 ± 0.06^{b}	27.82 ± 1.14^{b}	78.09 ± 0.20^{b}
		R²	**0.9878**	**0.9691**	**0.9699**
		Ajusted R²	**0.9792**	**0.9470**	**0.9484**
		Predicted R²	**0.9227**	**0.8476**	**0.7902**

Table S4: Analysis of variance showing the quadratic interaction and the lack of fit of the response variables for Tawkpui

Source of variation	df	Moisture content		Total Phenolic Content		DRSA	
		Sum of squares	F value	Sum of squares	F value	Sum of squares	F value
Regression	5	109.46	113.74*	332.19	43.91*	90.83	45.03*
Residual error	7	1.35		10.59		2.82	
Lack of fit	3	0.9924	3.73^{ns}	6.10	1.81^{ns}	1.99	3.18^{ns}
Pure error	4	0.3549		4.49		0.8341	
Cor total	12	110.81		342.78		93.65	

* Significant at $p \leq 0.05$; ^{ns} not significant

Table S5: Experimental layout of the independent variables and their responses for Tawkte as given by CCFC model

Run	Temperature	Time	Moisture Content	Total Phenolic Content	DRSA
	°C	min	%	mg GAE/g	%
1	60	360	5.93±0.03^a	41.29±0.40^a	93.58±0.77^a
2	60	450	3.46±0.45^b	48.35±0.81^b	95.09±1.01^b
3	80	540	1.02±0.07^c	63.26±0.62^c	98.63±1.02^c
4	80	450	1.69±0.02^c	50.21±0.29^d	96.43±0.77^{de}
5	60	450	3.78±0.12^b	46.29±0.86^e	95.15±0.29^e
6	60	450	3.91±0.03^b	47.91±0.60^f	95.01±0.22^e
7	60	450	3.67±0.02^b	46.98±0.40^{ef}	95.11±0.50^e
8	80	360	3.12±0.05^b	42.17±0.47^g	92.84±0.33^a
9	40	540	5.69±0.22^a	42.37±0.20^g	93.78±0.63^a
10	40	360	11.88±0.43^d	34.29±0.40^h	90.12±0.70^f
11	40	450	9.67±0.07^e	37.63±0.59^i	91.77±0.45^g
12	60	540	2.96±0.83^b	51.97±0.55^j	97.19±1.02^d
13	60	450	5.13±0.62^a	47.26±0.62^{ef}	95.75±0.62^e
		R^2	**0.9723**	**0.9891**	**0.9813**
		Adjusted R^2	**0.9526**	**0.9813**	**0.9679**
		Predicted R^2	**0.8650**	**0.9379**	**0.8670**

Table S6: Analysis of variance showing the quadratic interaction and the lack of fit of the response variables for Tawkte

Source of variation	df	Moisture content		Total Phenolic Content		DRSA	
		Sum of	F value	Sum of	F value	Sum of	F value

		squares		squares		squares	
Regression	5	108.00	49.22*	513.67	126.90*	60.30	78.38*
Residual error	7	3.07		5.67		1.15	
Lack of fit	3	1.34	1.03^{ns}	3.35	1.93^{ns}	0.7916	2.94^{ns}
Pure error	4	1.73		2.32		0.3589	
Cor total	12	111.08		519.34		61.45	

* Significant at $p \leq 0.05$; ^{ns} not significant

Table S7: Experimental layout of the independent variables and their responses for Japan Zawngtah as given by CCFC model

Run	Temperature	Time	Moisture Content	Total Phenolic Content	DRSA
	°C	min	%	mg GAE/g	%
1	60	360	5.22±0.06^a	20.10±0.70^a	81.89±1.02^a
2	60	450	4.34±0.06^b	24.56±1.04^b	86.09±0.92^b
3	80	540	1.04±0.04^c	39.87±1.11^c	96.19±1.45^c
4	80	450	2.08±0.07^d	34.19±0.92^d	91.12±1.03^d
5	60	450	4.12±0.10^b	26.12±0.63^{ef}	87.02±0.70^b
6	60	450	4.23±0.04^b	26.89±1.14^e	86.59±1.10^b
7	60	450	4.76±0.12^b	25.76±1.10^f	87.04±0.78^b
8	80	360	2.67±0.07^d	29.58±0.82^g	84.23±0.75^e
9	40	540	5.21±0.02^a	23.03±0.70^h	85.22±0.63^e
10	40	360	7.23±0.14^e	18.43±0.60^i	79.42±1.11^f
11	40	450	6.73±0.11^e	21.23±0.44^j	83.10±1.23^g
12	60	540	3.01±0.08^d	30.11±1.13^g	89.62±0.88^h
13	60	450	3.51±0.04^d	27.03±0.92^k	87.69±0.63^b
		R^2	**0.9741**	**0.9825**	**0.9912**
		Adjusted R^2	**0.9556**	**0.9700**	**0.9849**
		Predicted R^2	**0.9355**	**0.9116**	**0.9678**

Table S8: Analysis of variance showing the quadratic interaction and the lack of fit of the response variables for Japan Zawngtah

Source of variation	df	Response variable		
		Moisture content	Total Phenolic Content	DRSA

		Sum of squares	F value	Sum of squares	F value	Sum of squares	F value
Regression	5	35.75	52.60*	403.56	78.57	214.91	157.34*
Residual error	7	0.9510		7.19		1.91	
Lack of fit	3	0.1347	0.2200^{ns}	3.22	1.08^{ns}	0.5029^{ns}	0.4758^{ns}
Pure error	4	0.8163		3.97		1.41	
Cor total	12	36.68		410.76		216.82	

* Significant at $p \leq 0.05$; ^{ns} not significant

Regression equations for impact of independent variables on the responses of each vegetable

SAMTAWK

Moisture content

$$Y = 5.87 - 3.53\,X_1 - 2.31X_2 + 1.32\,X_1^2 - 0.1629\,X_2^2 + 0.8500\,X_1X_2 \qquad \text{E1}$$

Total phenolic content

$$Y = 26.38 + 5.01\,X_1 + 4.07\,X_2 - 4.01\,X_1^2 - 0.0403\,X_2^2 + 0.090\,X_1X_2 \qquad \text{E2}$$

DRSA

$$Y = 93.99 + 2.09\,X_1 + 2.01\,X_2 - 1.10\,X_1^2 - 0.0591X_2^2 + 0.4100\,X_1X_2 \qquad \text{E3}$$

TAWKPUI

Moisture content

$$Y = 5.42 - 3.49\,X_1 - 2.28\,X_2 + 0.9310\,X_1^2 + 0.1210\,X_2^2 + 0.6775\,X_1X_2 \qquad \text{E4}$$

Total phenolic content

$$Y = 28.66 + 5.86\,X_1 + 3.57\,X_2 - 4.15\,X_1^2 - 0.8698\,X_2^2 - 0.3650\,X_1X_2 \qquad \text{E5}$$

DRSA

$$Y = 78.55 + 2.61\,X_1 + 2.65\,X_2 - 0.927\,X_1^2 - 0.8329\,X_2^2 + 0.4875\,X_1X_2 \qquad \text{E6}$$

TAWKTE

Moisture content

$$Y = 4.09 - 3.57\,X_1 - 1.88\,X_2 + 1.35\,X_1^2 + 0.1134\,X_2^2 - 1.02\,X_1X_2 \qquad \text{E7}$$

Total phenolic content

$$Y = 47.13 + 6.36\,X_1 + 6.11\,X_2 - 2.69\,X_1^2 + 0.0233\,X_2^2 + 2.45\,X_1X_2 \qquad \text{E8}$$

DRSA

$$Y = 95.28 + 2.04\,X_1 + 2.18\,X_2 - 1.32\,X_1^2 - 0.400\,X_2^2 + 0.5325\,X_1X_2 \qquad \text{E9}$$

JAPAN ZAWNGTAH

Moisture

$$Y = 4.23 - 2.23\,X_1 - 0.9767\,X_2 + 0.728\,X_1^2 - 0.2172X_2^2 + 0.0975\,X_1X_2 \qquad \text{E10}$$

Total phenolic content

$$Y = 25.94 + 6.82\,X_1 + 4.15\,X_2 + 2.11\,X_1^2 - 0.4917\,X_2^2 + 1.42\,X_1X_2 \qquad \text{E11}$$

DRSA

$$Y = 86.85 + 3.97\,X_1 + 4.25\,X_2 - 0.3621\,X_1^2 - 0.9929\,X_2^2 + 1.54\,X_1X_2 \qquad \text{E12}$$

Table S9: Pearsons's coefficient (two tailed) showing correlation between independent variables and their responses for each vegetable

	Moisture content				TPC				DRSA			
	ST	**TP**	**TT**	**JZ**	**ST**	**TP**	**TT**	**JZ**	**ST**	**TP**	**TT**	**JZ**
Drying temperature	-0.806**	-0.813**	-0.829**	-0.902**	0.702**	0.775**	0.678*	0.825**	0.678*	0.667*	0.683*	0.660*
Drying time	-0.527	-0.531	-0.436	-0.395	0.569*	0.473	0.653*	0.502	0.654*	0.677*	0.627*	0.707**

**Correlation significant at the 0.01 level
 *Correlation significant at the 0.05 level

Table S10: Estimated optimal conditions of the independent variables for each vegetable

Factors	Low level	High Level	Optimal level
Drying temperature ((°C)	40	80	80
Drying Time (min)	360	540	540

Table S11: The predicted and experimental values of the responses for each vegetable

Vegetables	Responses	Predicted value	Experimental value
Samtawk	Moisture content (% w.b)	2.0369	1.8962
	Total Phenolic Content (mg GAE/g)	39.5999	39.1870
	DRSA (%)	97.3420	96.7025
Tawkpui	Moisture content (% w.b)	1.3712	1.45067
	Total Phenolic Content (mg GAE/g)	41.0034	39.6175
	DRSA (%)	82.5703	81.0006
Tawkte	Moisture content (% w.b)	1.12698	1.1825
	Total Phenolic Content (mg GAE/g)	59.3819	59.0333
	DRSA (%)	98.6625	97.6464
Japan Zawngtah	Moisture content (% w.b)	0.9784	0.9954
	Total Phenolic Content (mg GAE/g)	39.9553	39.0622
	DRSA (%)	95.9707	96.0467

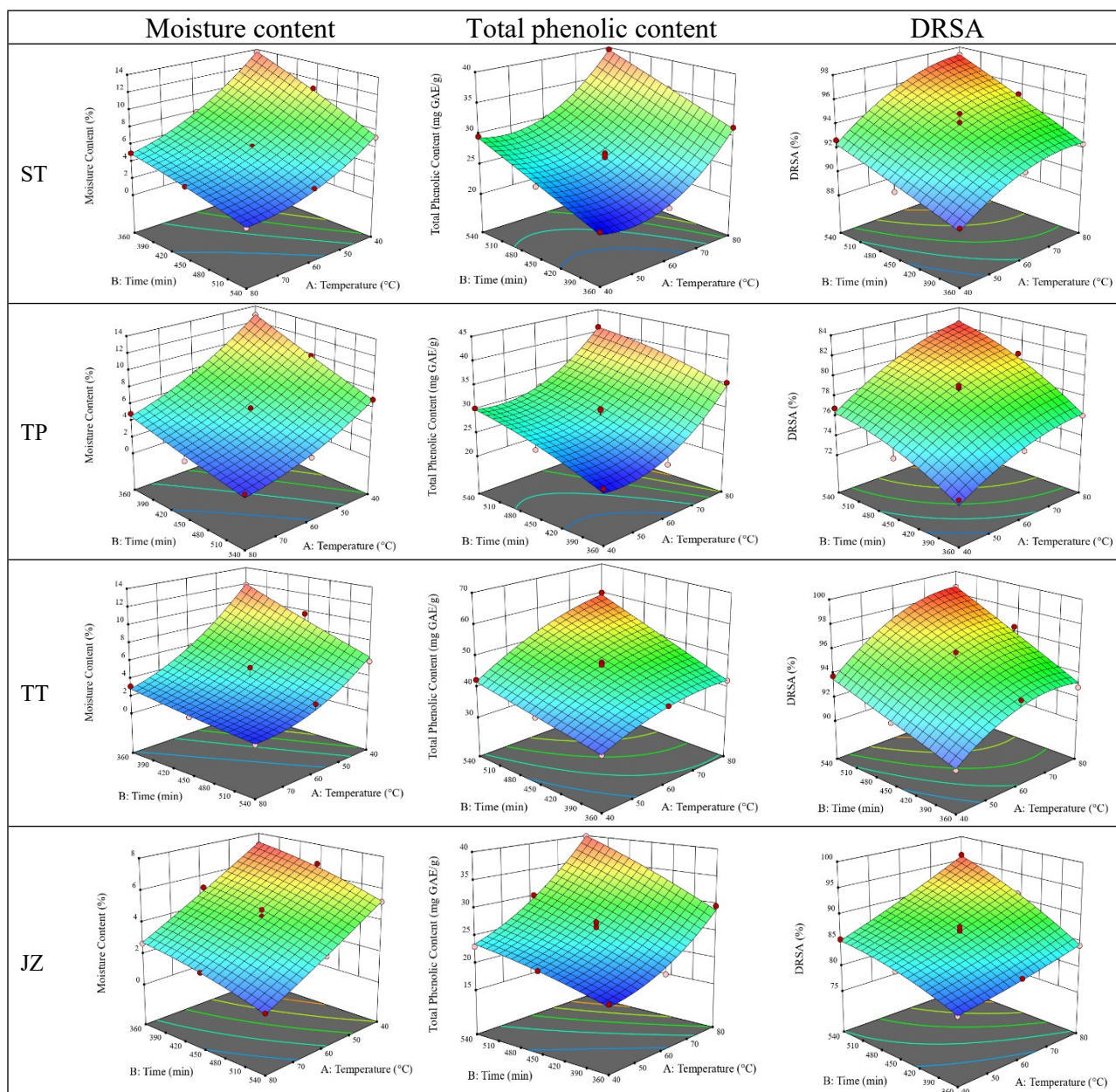|	Moisture content	Total phenolic content	DRSA
ST			
TP			
TT			
JZ			

Fig S1. Variation of responses (moisture content, Total phenolic content and DRSA) due to the interaction between the independent variables (drying time and drying temperature on each vegetable); ST: Samtawk, TP: Tawkpui, TT: Tawkte, JZ: Japan Zawngtah
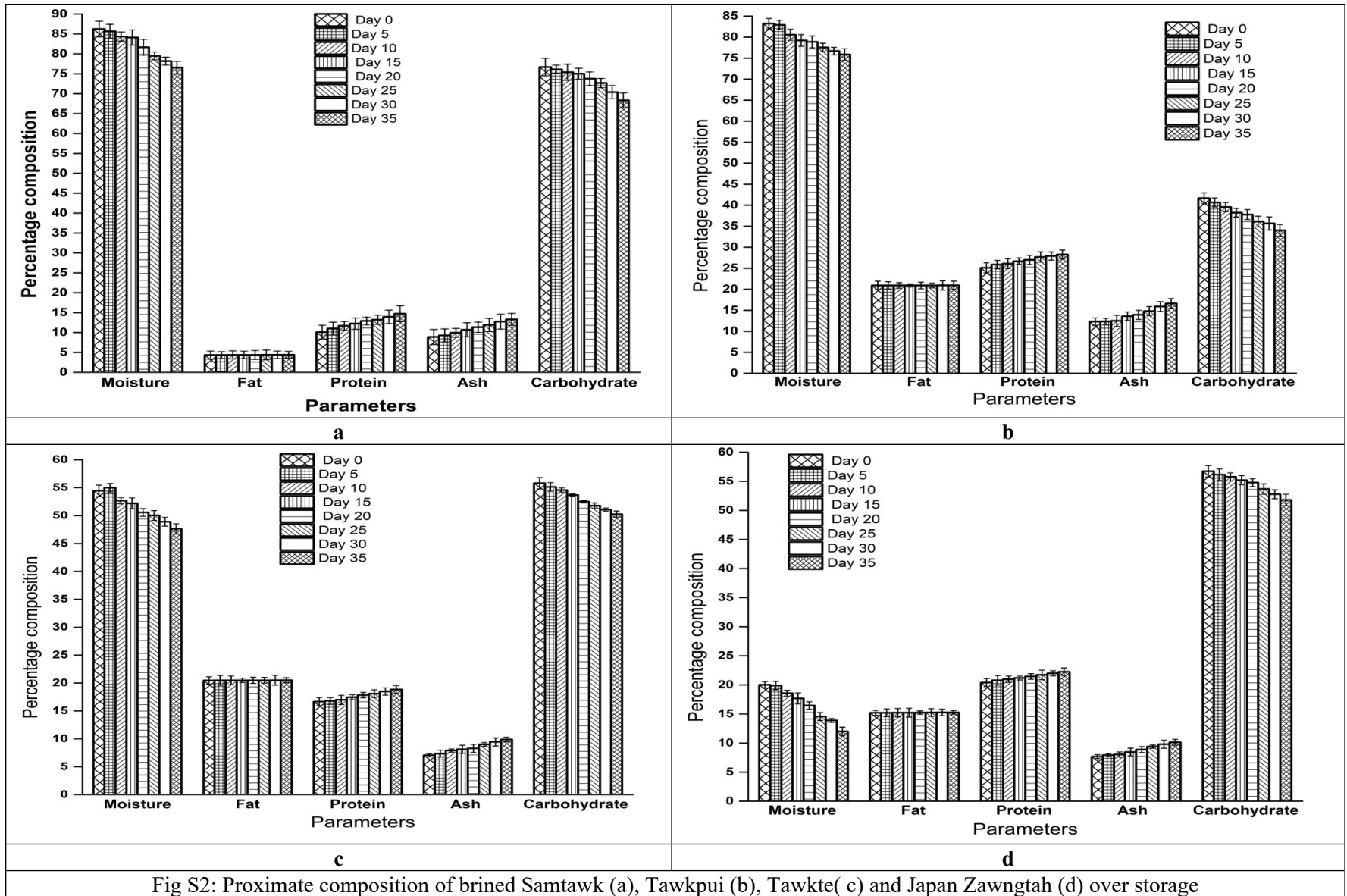
Fig S2: Proximate composition of brined Samtawk (a), Tawkpui (b), Tawkte(c) and Japan Zawngtah (d) over storage
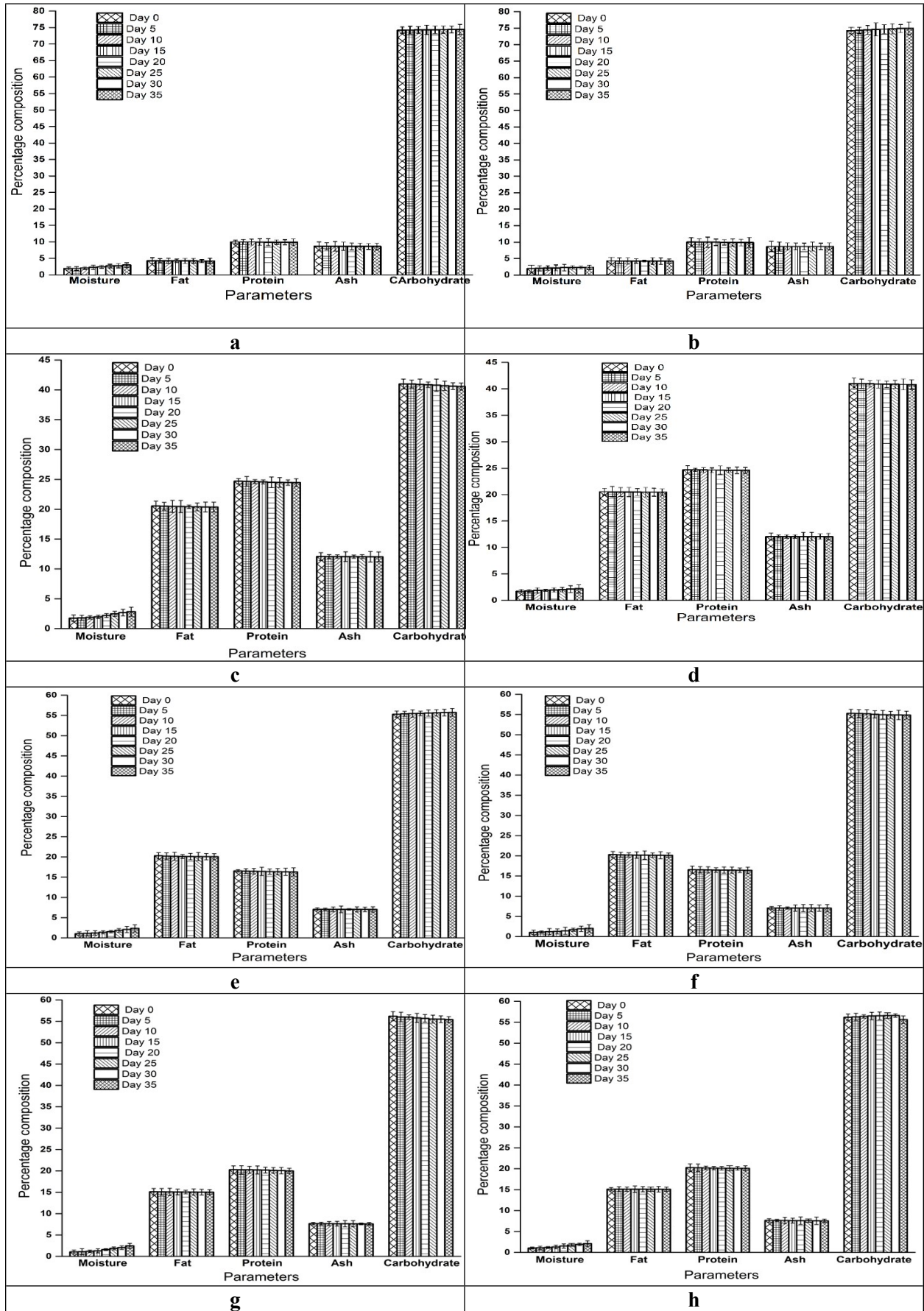
Fig S3: Proximate composition of dried Samtawk RT (a) and RF (b), Tawkpui RT (c) and RF (d), Tawkte RT (e) and RF (f) and Japan Zawngtah RT (g) and RF (h) over time