

**Table S1.** The effect of the type of packaging on physical properties

Packaging	MC (%)	$a_w$	$L^*$	$a^*$	$b^*$
Control	7.49±0.07 <sup>a</sup>	0.53±0.01 <sup>a</sup>	52.38±0.07 <sup>b</sup>	0.34±0.08 <sup>b</sup>	10.01±0.07 <sup>b</sup>
PW	6.02±0.55 <sup>d</sup>	0.48±0.02 <sup>c</sup>	53.64±1.42 <sup>a</sup>	0.98±0.27 <sup>a</sup>	10.70±0.41 <sup>a</sup>
LDPE	6.45±0.46 <sup>c</sup>	0.49±0.02 <sup>b</sup>	53.62±1.30 <sup>a</sup>	0.93±0.28 <sup>a</sup>	10.47±0.47 <sup>a</sup>
GP	6.85±0.32 <sup>b</sup>	0.50±0.02 <sup>b</sup>	53.26±1.15 <sup>a</sup>	0.89±0.30 <sup>a</sup>	10.43±0.43 <sup>ab</sup>

**Note** Data are presented as mean ± SD. Means with different letters in the same column indicate significant differences at  $p<0.05$ . PW, plastic woven; LDPE, low-density polyethylene; GP, GrainPro®; MC moisture content,  $a_w$ , water activity;  $L^*$ , lightness;  $a^*$ , redness, and  $b^*$ , yellowness

**Table S2.** The effect of the type of packaging on oxidation reaction

Packaging	Lipid	AV	FFA	PV	PAV	TOTOX	TBARS
Control	9.92±0.38 <sup>b</sup>	1.49±0.32 <sup>b</sup>	3.82±0.83 <sup>b</sup>	0.86±0.12 <sup>c</sup>	0.99±0.03 <sup>b</sup>	2.87±0.24 <sup>c</sup>	6.76±2.28 <sup>d</sup>
PW	10.26±1.28 <sup>ab</sup>	3.01±0.58 <sup>a</sup>	7.70±1.48 <sup>a</sup>	1.91±0.69 <sup>a</sup>	1.40±0.19 <sup>a</sup>	5.21±1.45 <sup>a</sup>	19.70±8.09 <sup>a</sup>
LDPE	11.05±1.64 <sup>a</sup>	2.90±0.55 <sup>a</sup>	7.43±1.45 <sup>a</sup>	1.59±0.63 <sup>b</sup>	1.35±0.14 <sup>a</sup>	4.50±1.29 <sup>b</sup>	17.70±6.33 <sup>b</sup>
GP	10.90±1.61 <sup>a</sup>	2.77±0.64 <sup>a</sup>	7.10±1.42 <sup>a</sup>	1.46±0.47 <sup>b</sup>	1.34±0.20 <sup>a</sup>	4.20±1.00 <sup>b</sup>	15.86±6.00 <sup>c</sup>

**Note** Data are presented as mean ± SD. Means with different letters in the same column indicate significant differences at  $p<0.05$ . PW, plastic woven; LDPE, low-density polyethylene; GP, GrainPro®; AV, acid value; FFA, free fatty acid; PV, peroxide value; PAV, p-anisidine value; TOTOX, total oxidation value; and TBARS thiobarbituric acid reactive substances

**Table S3.** The effect of the type of packaging on fatty acids

Packaging	C16:0	C18:2	C18:1	C18:0	C20:0 ns	SFA	USFA	TFA
Control	35.65±0.06 <sup>c</sup>	41.61±0.60 <sup>a</sup>	10.00±0.14 <sup>a</sup>	7.25±0.04 <sup>b</sup>	3.13±0.02	46.03±0.12 <sup>b</sup>	51.61±0.74 <sup>a</sup>	97.63±0.85 <sup>a</sup>
PW	36.34±1.01 <sup>ab</sup>	40.74±0.54 <sup>b</sup>	9.45±0.50 <sup>b</sup>	7.49±0.63 <sup>a</sup>	3.25±0.48	47.14±0.57 <sup>a</sup>	50.20±0.55 <sup>b</sup>	97.24±0.81 <sup>ab</sup>
LDPE	36.13±0.90 <sup>b</sup>	40.83±0.41 <sup>b</sup>	9.31±0.39 <sup>b</sup>	7.40±0.62 <sup>ab</sup>	3.27±0.51	46.80±0.73 <sup>a</sup>	50.14±0.50 <sup>b</sup>	96.94±0.69 <sup>b</sup>
GP	36.46±0.94 <sup>a</sup>	40.83±0.43 <sup>b</sup>	9.44±0.48 <sup>b</sup>	7.30±0.66 <sup>b</sup>	3.23±0.49	46.99±0.47 <sup>a</sup>	50.27±0.32 <sup>b</sup>	97.26±0.44 <sup>ab</sup>

**Note** Data are presented as mean ± SD. Means with different letters in the same column indicate significant differences at  $p<0.05$ . PW, plastic woven; LDPE, low-density polyethylene; GP, GrainPro®; RH, relative humidity; C16:0, palmitic acid; C18:0, stearic acid; C18:1, oleic acid; C18:2, linoleic acid; C20:0, arachidic acid; SFA, saturated fatty acids; USFA, unsaturated fatty acids, TFA, total fatty acids, and ns, no significant