

Supplementary Materials: Effects of Modified Atmosphere Packaging, Storage Temperature, and Absorbent Pads on the Quality of Fresh Cape Hake Fish Fillets

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Table S1. Effect of packaging with/without absorbent pads, temperature (0, 4, and 8 °C) and storage time on firmness (work of shear (N/s)) of Cape hake fillet.

STORAGE DAYS	TEMP. (°C)	MAP – PAD	MAP + PAD	PMAP – PAD	PMAP + PAD
0	–	838.9 ± 3.79 ^a	838.9 ± 3.79 ^a	838.9 ± 3.79 ^a	838.9 ± 3.79 ^a
3	0	814.0 ± 0.06 ^b	819.4 ± 1.22 ^{ab}	649.7 ± 2.30 ^f	675.3 ± 2.54 ^e
	4	807.7 ± 2.31 ^c	812.1 ± 0.06 ^c	517.1 ± 0.52 ^l	563.4 ± 1.16 ^h
	8	741.2 ± 0.06 ^d	749.2 ± 1.97 ^d	512.7 ± 0.71 ^m	539.3 ± 0.94 ^j
6	0	809.7 ± 0.45 ^c	814.4 ± 1.29 ^{bc}	524.0 ± 0.37 ^k	538.3 ± 0.26 ^j
	4	799.4 ± 4.62 ^c	809.0 ± 1.28 ^c	nd	nd
9	0	665.9 ± 2.02 ^e	673.0 ± 0.02 ^e	nd	nd
	4	635.8 ± 1.32 ^g	648.5 ± 2.77 ^f	nd	nd
12	0	527.2 ± 1.85 ^j	543.3 ± 2.39 ⁱ	nd	nd
	4	506.4 ± 0.72 ⁿ	523.8 ± 0.54 ^k	nd	nd

nd = Not determined due to sensory rejection; All values rounded off to one significant figure; Different letters indicate significant difference in pH values ($p < 0.05$); MAP – PAD: active-MA without absorbent pad; MAP + PAD: active-MA with absorbent pad, PMAP – PAD: passive-MA without absorbent pad and PMAP + PAD: passive-MA with absorbent pad.

Sampling was stopped on days when sensory spoilage was observed thus, sampling for fillets stored under MAP at 8°C was stopped on day 3, similarly, sampling for fillets stored under PMAP at 4 and 8°C were stopped on day 3 as well. Also, sampling for fillets stored under PMAP at 0°C was stopped on day 6.

Table S2. Effects of packaging with/without absorbent pads (MAP + PAD, MAP – PAD, PMAP + PAD, and PMAP – PAD), temperature (0, 4, and 8 °C), and storage time (3–12 days) on total color difference of Cape hake fillet.

STORAGE DAYS	TEMP. (°C)	MAP – PAD	MAP + PAD	PMAP – PAD	PMAP + PAD
3	0	1.0 ± 0.06 ⁿ	0.9 ± 0.07 ⁿ	1.9 ± 0.044 ^l	1.8 ± 0.044 ^m
	4	2.6 ± 0.15 ^k	2.6 ± 0.16 ^j	5.1 ± 0.49 ^g	2.9 ± 0.18 ⁱ
	8	5.7 ± 0.21 ^f	3.6 ± 0.37 ^h	5.8 ± 0.72 ^e	5.8 ± 0.25 ^e
6	0	4.8 ± 0.14 ^g	2.8 ± 0.09 ⁱ	8.3 ± 0.46 ^b	5.9 ± 0.41 ^f
	4	8.9 ± 0.48 ^d	5.5 ± 0.20 ^e	nd	nd
9	0	5.8 ± 0.35 ^e	3.1 ± 0.25 ⁱ	nd	nd
	4	9.3 ± 0.32 ^b	5.6 ± 0.42 ^f	nd	nd
12	0	5.9 ± 0.17 ^{ef}	3.1 ± 0.05 ⁱ	nd	nd
	4	9.9 ± 0.42 ^a	5.7 ± 0.42 ^e	nd	nd

nd = Not determined due to sensory rejection; All values rounded off to one significant figure; Different letters indicate significant difference in pH values ($p < 0.05$); MAP – PAD: active-MA without pad; MAP + PAD: active-MA with pad, PMAP – PAD: passive-MA without pad and PMAP + PAD: passive-MA with pad. Sampling was stopped on days when sensory spoilage was observed thus, sampling for fillets stored under MAP at 8 °C was stopped on day 3, similarly, sampling for fillets stored under PMAP at 4 and 8 °C were stopped on day 3 as well. Also, sampling for fillets stored under PMAP at 0 °C was stopped on day 6.

Table S3. Effects of packaging with/without absorbent pads, temperature (0, 4, and 8 °C), and storage time (days) on bacterial growth of Cape hake fillet.

STORAGE DAYS	TEMP. (°C)	MAP – PAD	MAP + PAD	PMAP – PAD	PMAP + PAD
0 (Harvest)	-	1.2 ± 0.13 ^j	1.2 ± 0.13 ^j	1.2 ± 0.13 ^j	1.2 ± 0.13 ^j
3	0	3.6 ± 0.07 ⁱ	3.5 ± 0.05 ⁱ	3.9 ± 0.05 ^g	3.7 ± 0.09 ^h
	4	3.8 ± 0.04 ^h	3.6 ± 0.01 ^h	6.2 ± 0.09 ^c	6.2 ± 0.03 ^c
	8	6.2 ± 0.07 ^c	6.2 ± 0.02 ^c	6.5 ± 0.01 ^b	6.5 ± 0.01 ^b
6	0	4.5 ± 0.04 ^f	4.5 ± 0.04 ^f	7.1 ± 0.1 ^a	6.9 ± 0.03 ^a
	4	4.8 ± 0.03 ^e	4.8 ± 0.03 ^e	nd	nd
9	0	5.0 ± 0.03 ^e	4.9 ± 0.03 ^e	nd	nd
	4	6.0 ± 0.03 ^d	5.9 ± 0.03 ^d	nd	nd
12	0	5.2 ± 0.03 ^e	5.1 ± 0.03 ^e	nd	nd
	4	7.2 ± 0.03 ^a	7.2 ± 0.03 ^a	nd	nd

nd = Not determined due to sensory rejection; All values rounded off to one significant figure; Different letters indicate significant difference in pH values ($p < 0.05$); MAP – PAD: active-MA without absorbent pad; MAP + PAD: active-MA with absorbent pad, PMAP – PAD: passive-MA without absorbent pad and PMAP + PAD: passive-MA with absorbent pad. Sampling was stopped on days when sensory spoilage was observed thus, sampling for fillets stored under MAP at 8 °C was stopped on day 3, similarly, sampling for fillets stored under PMAP at 4 and 8 °C were stopped on day 3 as well, furthermore, sampling for fillets stored under PMAP at 0 °C was stopped on day 6.