

Table S1. The color characteristics (L*, a*, b*, ΔE) of the CC samples.

Storage Time (day)					
	Initial sample*	7	14	21	28
L* value					
MAP1	94,340±0,276 ^{Aa}	92,581±2,763 ^{Aa}	91,776±1,222 ^{Aa}	93,184±0,388 ^{Aa}	91,508±2,656 ^{Aab}
MAP2	94,340±0,276 ^{Aa}	92,694±1,953 ^{Aa}	93,023±0,648 ^{Aa}	94,251±0,692 ^{Aa}	93,793±0,854 ^{Aa}
Control	94,340±0,276 ^{Aa}	93,468±1,784 ^{ABa}	90,815±0,502 ^{ABCa}	89,322±1,431 ^{BCb}	87,380±0,255 ^{Cb}
a* value					
MAP1	-2,978±0,025 ^{Aa}	-3,262±0,295 ^{Aa}	-3,209±0,254 ^{Aa}	-3,164±0,265 ^{Aa}	-3,110±0,229 ^{Ab}
MAP2	-2,978±0,025 ^{Aa}	-3,244±0,136 ^{Aa}	-3,258±0,111 ^{Aa}	-3,180±0,137 ^{Aa}	-3,062±0,061 ^{Ab}
Control	-2,978±0,025 ^{Aa}	-3,462±0,021 ^{Aa}	-2,218±1,299 ^{Aa}	-1,587±0,825 ^{Aa}	0,168±1,586 ^{Aa}
b* value					
MAP1	5,58±0,33 ^{Ba}	6,22±0,57 ^{Bb}	8,57±0,39 ^{Ab}	8,66±0,43 ^{Ab}	9,15±0,14 ^{Ab}
MAP2	5,58±0,33 ^{Ca}	7,48±0,06 ^{Ba}	8,48±0,30 ^{ABb}	8,22±0,34 ^{ABb}	9,05±0,42 ^{Ab}
Control	5,58±0,33 ^{Ca}	7,68±0,16 ^{Ca}	15,96±0,88 ^{Ba}	21,98±1,00 ^{Aa}	25,16±0,14 ^{Aa}
ΔE value					
MAP1	0	2,322±1,283 ^{Ba}	3,999±0,559 ^{Bb}	3,184±0,230 ^{Db}	4,717±1,807 ^{Ab}
MAP2	0	2,911±0,074 ^{Ca}	3,092±0,565 ^{Ba}	2,487±0,251 ^{DEb}	3,389±0,211 ^{ABb}
Control	0	2,725±0,896 ^{Ca}	11,099±0,767 ^{Ca}	17,075±1,474 ^{Ba}	20,704±1,880 ^{Aa}

* The initial sample was analyzed before any application.

^{A-B} For each application, different superscript uppercase letters show differences between the samples (P < 0.05).

^{a-b} Different superscript lowercase letters show differences between the storage times (P < 0.05).

Table S2. Fatty acid compositions (%) of CC samples (mean \pm standard deviations, n = 2).

Initial sample*		28 th day**	
C4	4,129 \pm 0,161	MAP1	3,924 \pm 0,010 ^A
		MAP2	3,916 \pm 0,026 ^A
		Control	3,829 \pm 0,014 ^B
C6	2,083 \pm 0,079	MAP1	1,991 \pm 0,005 ^A
		MAP2	1,998 \pm 0,010 ^A
		Control	1,968 \pm 0,017 ^A
C8	1,094 \pm 0,041	MAP1	1,052 \pm 0,004 ^A
		MAP2	1,059 \pm 0,002 ^A
		Control	1,035 \pm 0,005 ^B
C10	2,021 \pm 0,063	MAP1	1,962 \pm 0,001 ^{AB}
		MAP2	1,978 \pm 0,009 ^A
		Control	1,944 \pm 0,007 ^B
C12	2,617 \pm 0,069	MAP1	2,573 \pm 0,006 ^A
		MAP2	2,569 \pm 0,017 ^A
		Control	2,573 \pm 0,021 ^A
C14	12,304 \pm 0,234	MAP1	12,354 \pm 0,098 ^A
		MAP2	12,447 \pm 0,022 ^A
		Control	12,500 \pm 0,006 ^A
C14.1	0,890 \pm 0,014	MAP1	0,892 \pm 0,006 ^A
		MAP2	0,892 \pm 0,004 ^A
		Control	0,860 \pm 0,004 ^B
C15	1,544 \pm 0,006 ^b	MAP1	1,568 \pm 0,001 ^{Aa}
		MAP2	1,573 \pm 0,008 ^{Aa}
		Control	1,573 \pm 0,003 ^{Aa}
C16	35,233 \pm 0,187 ^b	MAP1	35,594 \pm 0,233 ^A
		MAP2	35,357 \pm 0,497 ^A
		Control	36,115 \pm 0,122 ^{Aa}
C16.1	2,962 \pm 0,020	MAP1	2,930 \pm 0,001 ^B
		MAP2	2,976 \pm 0,013 ^A
		Control	2,918 \pm 0,008 ^B
C17	0,852 \pm 0,002	MAP1	0 \pm 0
		MAP2	0 \pm 0
		Control	0 \pm 0
C17.1	0,375 \pm 0,001	MAP1	0,372 \pm 0,001 ^B
		MAP2	0,379 \pm 0,001 ^A
		Control	0,371 \pm 0,001 ^B
C18	8,272 \pm 0,077 ^b	MAP1	8,528 \pm 0,074 ^A
		MAP2	8,590 \pm 0,048 ^{Aa}
		Control	8,698 \pm 0,034 ^{Aa}
C18.1 T	1,205 \pm 0,010	MAP1	1,256 \pm 0,021 ^A
		MAP2	1,343 \pm 0,154 ^A
		Control	1,338 \pm 0,145 ^A
C18.1 C	17,949 \pm 0,112	MAP1	17,938 \pm 0,014 ^B
		MAP2	18,213 \pm 0,004 ^A
		Control	17,778 \pm 0,062 ^C
C18.2 T	0,144 \pm 0,000 ^a	MAP1	0,144 \pm 0,001 ^A
		MAP2	0,141 \pm 0,003 ^A

		Control	0,138±0,001 ^{Ab}
C18.2 C	1,068±0,007 ^a	MAP1	1,054±0,011 ^A
		MAP2	1,077±0,021 ^A
		Control	1,034±0,006 ^{Ab}
C18.3	0,210±0,004 ^b	MAP1	0,221±0,003 ^{Ba}
		MAP2	0,221±0,000 ^{Ba}
		Control	0,232±0,002 ^{Aa}
C18.3 N6	0±0	MAP1	0,123±0,001 ^A
		MAP2	0,120±0,001 ^B
		Control	0,117±0,000 ^C
C20.1	0,411±0,002 ^a	MAP1	0,403±0,001 ^{Ab}
		MAP2	0,408±0,001 ^A
		Control	0,390±0,004 ^{Bb}
C20.3 N3	0,116±0,00	MAP1	0,127±0,002 ^A
		MAP2	0,125±0,002 ^A
		Control	0,142±0,014 ^A
C20.4	0,175±0,037 ^a	MAP1	0,111±0,004 ^A
		MAP2	0,071±0,008 ^{Bb}
		Control	0,077±0,002 ^{Bb}
C20.5	0,007±0,009	MAP1	0,014±0,000 ^A
		MAP2	0,019±0,001 ^A
		Control	0,017±0,003 ^A
C24	0,059±0,001 ^a	MAP1	0,059±0,001 ^A
		MAP2	0,059±0,001 ^A
		Control	0,056±0,000 ^{Bb}
SFA	70,205±0,763	MAP1	69,603±0,394 ^A
		MAP2	69,543±0,354 ^A
		Control	70,290±0,187 ^A
UFA	25,511±0,084	MAP1	25,581±0,037 ^A
		MAP2	25,981±0,169 ^A
		Control	25,410±0,237 ^A
MUFA	23,792±0,115	MAP1	23,789±0,027 ^A
		MAP2	24,209±0,139 ^A
		Control	23,654±0,225 ^A
PUFA	1,719±0,031	MAP1	1,792±0,010 ^A
		MAP2	1,772±0,030 ^A
		Control	1,756±0,012 ^A

* The initial sample was analyzed before any application. ** FA analysis values of MAP1, MAP2, and Control samples at the end of storage.

^{A-B} For each application, different superscript uppercase letters show differences between the samples (P < 0.05).

^{a-b} Different superscript lowercase letters show differences between the storage times (P < 0.05).

If there was no statistical difference, lowercase and uppercase superscript were not used.

SFA: Saturated fatty acids, MUFA: Mono-unsaturated fatty acids, PUFA: Poly-unsaturated fatty acids.

Table S3. Free fatty acid concentrations (mg/kg) of CC samples (mean \pm standard deviations, n = 2).

Initial sample*		28 th day**	
C:4	0 ^b	MAP1	3,00 \pm 1,57 ^{Ba}
		MAP2	0 ^B
		Control	70,31 \pm 14,40 ^{Aa}
C:6	0 ^b	MAP1	3,40 \pm 0,27 ^{Ba}
		MAP2	0 ^B
		Control	19,16 \pm 2,80 ^{Aa}
C:8	0 ^b	MAP1	6,85 \pm 0,60 ^B
		MAP2	0 ^B
		Control	27,30 \pm 6,80 ^{Aa}
C:10	0,94 \pm 0,04 ^b	MAP1	32,75 \pm 4,60 ^{Ba}
		MAP2	20,29 \pm 4,06 ^{Ba}
		Control	294,87 \pm 5,44 ^{Aa}
C:12	26,73 \pm 7,50 ^b	MAP1	39,29 \pm 5,71 ^B
		MAP2	25,91 \pm 2,44 ^B
		Control	359,62 \pm 2,72 ^{Aa}
C:14	88,61 \pm 21,38 ^b	MAP1	110,67 \pm 9,42 ^B
		MAP2	63,09 \pm 3,30 ^C
		Control	1041,03 \pm 9,07 ^{Aa}
C:15	0 ^b	MAP1	0 ^B
		MAP2	0 ^B
		Control	97,44 \pm 10,88 ^{Aa}
C:16	459,72 \pm 39,34 ^b	MAP1	513,40 \pm 15,00 ^B
		MAP2	347,93 \pm 9,08 ^B
		Control	2203,85 \pm 81,59 ^{Aa}
C:16.1	0 ^b	MAP1	57,13 \pm 9,71 ^{Ba}
		MAP2	17,52 \pm 9,58 ^C
		Control	722,44 \pm 2,72 ^{Aa}
C:18	193,50 \pm 10,34 ^b	MAP1	233,62 \pm 3,55 ^{Ba}
		MAP2	139,28 \pm 0,10 ^{Cc}
		Control	639,10 \pm 24,48 ^{Aa}
C:18.1	172,49 \pm 43,03 ^b	MAP1	490,79 \pm 82,48 ^{Ba}
		MAP2	146,07 \pm 16,19 ^B
		Control	5892,31 \pm 137,80 ^{Aa}
C:18.2	0 ^b	MAP1	24,69 \pm 5,31 ^{Ba}
		MAP2	0 ^C
		Control	241,03 \pm 3,63 ^{Aa}
SFFA	791,09 \pm 79,88 ^b	MAP1	942,75 \pm 33,38 ^B
		MAP2	596,50 \pm 13,90 ^C
		Control	4752,67 \pm 64,84 ^{Aa}
MUFFA	172,49 \pm 43,03 ^b	MAP1	547,92 \pm 92,20 ^{Ba}
		MAP2	163,59 \pm 25,76 ^B
		Control	6614,74 \pm 140,52 ^{Aa}
PUFFA	0 ^b	MAP1	24,69 \pm 5,31 ^{Ba}
		MAP2	0 ^C
		Control	241,03 \pm 3,63 ^{Aa}

* The initial sample was analyzed before any application. ** FFA analysis values of MAP1, MAP2, and Control samples at the end of storage.

^{A-B} For each application, different superscript uppercase letters show differences between the samples (P < 0.05).

^{a-b} Different superscript lowercase letters show differences between the storage times ($P < 0.05$).

If there was no statistical difference, lowercase and uppercase superscript were not used.

SFFA: Saturated free fatty acids, MUFFA: Mono-unsaturated free fatty acids, PUFFA: Poly-unsaturated free fatty acids.