



APPENDIX

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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Table A.1 values of outer longan fruit pericarp surface cv. Daw and Biew Kiew during storage at 5 and 10°C.

Cultivar	Temperature (°C)	Day of storage*							
		0	2	4	6	8	10	12	14
Daw	5	9.55±0.6 ^a	9.03±0.5 ^c	12.40±0.5 ^a	11.38±0.4 ^a	11.82±0.4 ^{ab}	13.79±0.5 ^a	13.72±0.4	11.35±0.5
	10	9.55±0.6 ^a	9.39±0.4 ^{bc}	11.43±0.5 ^{ab}	10.89±0.6 ^a	12.24±0.4 ^a	11.04±0.5 ^b	11.94±0.4	12.61±0.2
Biew Kiew	5	9.08±0.4 ^a	10.80±0.4 ^a	10.10±0.2 ^c	10.93±0.3 ^a	11.11±0.3 ^b	10.95±0.3 ^b		
	10	9.08±0.4 ^a	10.56±0.6 ^{ab}	11.13±0.5 ^{bc}	11.24±0.2 ^a	11.05±0.3 ^b	11.60±0.4 ^b		
LSD _{0.05}		1.30	1.32	1.25	1.12	0.97	1.19		
C.V. (%)		16.86	16.11	13.52	12.28	10.18	12.22		

*Means within the same column followed by different letters are significantly different at 95% ($P \leq 0.05$) level by Least Significant Difference comparison. Data are mean values \pm SE.

Table A.2 b* values of outer longan fruit pericarp surface cv. Daw and Biew Kiew during storage at 5 and 10°C.

Cultivar	Temperature (°C)	Day of storage*							
		0	2	4	6	8	10	12	14
Daw	5	38.98±2.6 ^a	34.62±0.7 ^a	34.98±0.8 ^a	35.24±0.8 ^a	32.51±1.2 ^a	29.76±0.9 ^a	29.62±1.0	27.18±0.8
	10	38.98±2.6 ^a	34.57±0.7 ^a	34.29±0.8 ^a	33.41±1.0 ^a	31.62±0.9 ^a	31.47±1.4 ^a	30.04±1.0	27.63±0.8
Biew Kiew	5	24.04±0.6 ^b	25.20±0.9 ^b	24.30±1.0 ^b	21.66±1.1 ^b	20.82±0.6 ^b	21.13±0.9 ^b		
	10	24.04±0.6 ^b	26.69±0.6 ^b	24.49±1.1 ^b	20.23±1.0 ^b	20.04±0.8 ^b	18.41±0.5 ^c		
LSD _{0.05}		4.92	2.02	2.53	2.76	2.53	2.64		
C.V. (%)		18.97	8.13	10.44	12.14	11.73	12.73		

*Means within the same column followed by different letters are significantly different at 95% ($P \leq 0.05$) level by Least Significant Difference comparison. Data are mean values \pm SE.

Table A.3 C* values of outer longan fruit pericarp surface cv. Daw and Biew Kiew during storage at 5 and 10°C.

Cultivar	Temperature (°C)	Day of storage*							
		0	2	4	6	8	10	12	14
Daw	5	40.26±2.5 ^a	35.82±0.7 ^a	37.17±0.7 ^a	37.07±0.8 ^a	34.63±1.2 ^a	32.26±0.8 ^a	32.68±1.0	29.49±0.8
	10	40.26±2.5 ^a	35.84±0.7 ^a	36.21±0.6 ^a	35.21±0.9 ^a	33.95±0.9 ^a	33.44±1.2 ^a	32.36±1.1	30.39±0.7
Biew Kiew	5	25.76±0.5 ^b	27.48±0.9 ^b	26.34±1.0 ^b	24.35±1.0 ^b	23.65±0.5 ^b	23.86±0.8 ^b		
	10	25.76±0.5 ^b	28.74±0.7 ^b	26.96±1.1 ^b	23.22±0.9 ^b	22.92±0.7 ^b	21.80±0.6 ^b		
LSD _{0.05}		4.62	2.03	2.35	2.42	2.32	2.36		
C.V. (%)		16.97	7.72	9.04	9.81	9.82	10.32		

*Means within the same column followed by different letters are significantly different at 95% ($P \leq 0.05$) level by Least Significant Difference comparison. Data are mean values \pm SE.

Table A.4 Hue angle of outer longan fruit pericarp surface cv. Daw and Biew Kiew during storage at 5 and 10°C.

Cultivar	Temperature (°C)	Day of storage*							
		0	2	4	6	8	10	12	14
Daw	5	75.45±1.4 ^a	75.38±0.9 ^a	71.99±0.9 ^a	70.40±0.9 ^a	68.67±0.9 ^a	65.25±1.1 ^b	65.04±0.7	65.33±0.7
	10	75.45±1.4 ^a	74.80±0.5 ^a	71.43±1.0 ^a	71.77±1.2 ^a	70.24±1.4 ^a	69.83±0.9 ^a	68.34±0.9	67.31±0.9
Biew Kiew	5	69.09±1.3 ^b	66.58±1.1 ^b	65.32±1.2 ^b	62.74±1.5 ^b	62.32±1.2 ^b	61.70±1.2 ^c		
	10	69.09±1.3 ^b	68.45±1.0 ^b	67.16±0.9 ^b	60.46±1.5 ^b	60.89±1.1 ^b	57.77±1.1 ^d		
LSD _{0.05}		3.60	2.44	2.83	3.53	2.84	3.25		
C.V. (%)		6.06	4.17	5.02	6.43	5.29	6.18		

*Means within the same column followed by different letters are significantly different at 95% ($P \leq 0.05$) level by Least Significant Difference comparison. Data are mean values \pm SE.

Table A.5 a* values of inner longan fruit pericarp surface cv. Daw and Biew Kiew during storage at 5 and 10°C.

Cultivar	Temperature (°C)	Day of storage*							
		0	2	4	6	8	10	12	14
Daw	5	0.69±0.2 ^a	1.92±0.4 ^a	1.36±0.2 ^b	2.88±0.4 ^a	3.25±0.4 ^a	5.09±0.3 ^a	5.68±0.2	6.17±0.2
	10	0.69±0.2 ^a	1.52±0.3 ^a	4.70±0.5 ^a	3.10±0.4 ^a	2.89±0.3 ^a	3.32±0.2 ^b	3.90±0.4	5.24±0.3
Biew Kiew	5	-0.51±0.2 ^b	-0.29±0.1 ^b	0.09±0.2 ^c	0.52±0.3 ^b	0.58±0.2 ^b	1.16±0.3 ^c		
	10	-0.51±0.2 ^b	0.03±0.2 ^b	-0.34±0.3 ^c	0.75±0.2 ^b	1.13±0.2 ^b	3.00±0.6 ^b		
LSD _{0.05}		0.59	0.84	0.84	0.88	0.80	1.05		
C.V. (%)		7.12	13.88	7.28	9.17	9.46	4.57		

*Means within the same column followed by different letters are significantly different at 95% ($P \leq 0.05$) level by Least Significant Difference comparison. Data are mean values \pm SE.

Table A.6 b* values of inner longan fruit pericarp surface cv. Daw and Biew Kiew during storage at 5 and 10°C.

Cultivar	Temperature (°C)	Day of storage*							
		0	2	4	6	8	10	12	14
Daw	5	20.89±0.6 ^a	20.18±0.4 ^a	21.42±0.3 ^{ab}	24.02±0.7 ^a	23.93±0.6 ^a	24.86±0.7 ^a	26.31±0.4	27.02±0.5
	10	20.89±0.6 ^a	20.18±0.4 ^a	22.24±0.8 ^a	21.25±0.6 ^b	22.03±0.4 ^b	21.15±0.4 ^c	23.78±0.6	26.77±0.8
Biew Kiew	5	20.39±0.8 ^a	20.04±0.5 ^a	19.99±0.5 ^b	21.52±0.5 ^b	21.33±0.3 ^b	21.78±0.5 ^{bc}		
	10	20.39±0.8 ^a	20.13±0.6 ^a	21.32±0.4 ^{ab}	22.74±0.5 ^{ab}	21.80±0.5 ^b	23.11±0.9 ^b		
LSD _{0.05}		1.92	1.31	1.53	1.65	1.23	1.68		
C.V. (%)		11.32	7.81	8.76	8.94	6.73	9.01		

*Means within the same column followed by different letters are significantly different at 95% ($P \leq 0.05$) level by Least Significant Difference comparison. Data are mean values \pm SE.

Table A.7 C* values of inner longan fruit pericarp surface cv. Daw and Biew Kiew during storage at 5 and 10°C.

Cultivar	Temperature (°C)	Day of storage*							
		0	2	4	6	8	10	12	14
Daw	5	20.91±0.6 ^a	20.30±0.5 ^a	21.48±0.3 ^{ab}	24.21±0.8 ^a	24.18±0.6 ^a	25.39±0.7 ^a	26.93±0.3	27.72±0.5
	10	20.91±0.6 ^a	21.30±0.5 ^a	22.76±0.9 ^a	21.51±0.6 ^b	22.23±0.4 ^b	21.42±0.4 ^c	24.12±0.7	27.28±0.9
Biew Kiew	5	20.41±0.8 ^a	20.05±0.5 ^a	20.00±0.5 ^b	21.55±0.5 ^b	21.35±0.3 ^b	21.84±0. ^{bc}		
	10	20.41±0.8 ^a	21.14±0.6 ^a	21.34±0.4 ^{ab}	22.76±0.6 ^{ab}	21.84±0.5 ^b	23.35±1.0 ^b		
LSD _{0.05}		1.92	1.34	1.58	1.70	1.26	1.77		
C.V. (%)		11.31	7.98	8.97	9.19	6.83	9.38		

*Means within the same column followed by different letters are significantly different at 95% ($P \leq 0.05$) level by Least Significant Difference comparison. Data are mean values \pm SE.

Table A.8 Hue angle of inner longan fruit pericarp surface cv. Daw and Biew Kiew during storage at 5 and 10°C.

Cultivar	Temperature (°C)	Day of storage*							
		0	2	4	6	8	10	12	14
Daw	5	88.14±0.5 ^b	84.69±1.0 ^b	86.38±0.6 ^b	83.33±0.7 ^b	82.29±0.9 ^b	78.45±0.5 ^c	77.78±0.4	77.12±0.5
	10	88.14±0.5 ^b	83.56±0.9 ^b	82.60±0.8 ^c	81.88±0.9 ^b	81.10±0.6 ^b	80.79±0.8 ^b	78.22±1.0	78.15±0.5
Biew Kiew	5	91.60±0.6 ^a	90.85±0.4 ^a	89.79±0.5 ^a	88.75±0.7 ^a	88.44±0.5 ^a	87.07±0.8 ^a		
	10	91.60±0.6 ^a	91.02±0.7 ^a	89.98±0.5 ^a	88.06±0.5 ^a	87.12±0.5 ^a	83.04±1.2 ^b		
LSD _{0.05}		1.58	2.16	1.98	1.97	1.89	2.23		
C.V. (%)		2.14	3.00	2.78	2.80	2.70	3.29		

*Means within the same column followed by different letters are significantly different at 95% ($P \leq 0.05$) level by Least Significant Difference comparison. Data are mean values \pm SE.

PUBLICATIONS

National Presentations

Oral presentations

- Jaitrong, S.,** N. Rattanapanone and D. Boonyakiat. 2005. Anatomical Characteristics of Longan Fruit. Oral presentation in 5th National Horticultural Congress. Welcome Jomtien Beach Pattaya, Thailand, April 26-29.
- Jaitrong, S.,** N. Rattanapanone, J. A. Manthey, E. A. Baldwin and D. Boonyakiat. 2006. Microscopic Anatomy and Biochemical Components of Normal and Chilling Injured of Longan Pericarp. Oral presentation in 4th National Seminar on Postharvest/Post Production Technology. The Empress Hotel and Convention Center, Chiang Mai, Thailand, June 8-9.
- Jaitrong, S.,** N. Rattanapanone, J. A. Manthey and E. A. Baldwin. 2006. Identification of Phenolic Compounds in Normal and Chilling Injured Longan Pericarp cv. Daw. Oral presentation in the 6th National Horticultural Congress. Lotus Hotel Pang Suan Kaew, Chiang Mai, Thailand, November 7-10.

Poster presentations

- Jaitrong, S.,** N. Rattanapanone, D. Boonyakiat and E. Baldwin. 2005. Ultrastructure of Normal and Chilling Injury Longan Fruit Pericarps. Poster presentation in RGJ-Ph.D. Congress VI. Jomtien Palm Beach Hotel & Resort, Pattaya, Thailand, April 20-30.
- Jaitrong, S.,** N. Rattanapanone and D. Boonyakiat. 2005. The Relationship Between Polyphenol Oxidase, Phenolic Compounds and Electrolyte Leakage During Chilling Injury of Longan Fruit. Poster presentation in the 3rd National Technical Seminar on Postharvest/Post Production Technology. Golden Sands Hotel, Petchaburi, Thailand, October 10-11.
- Jaitrong, S.,** N. Rattanapanone, D. Boonyakiat and E. A. Baldwin. 2007. Total Dietary Fiber, Pectin and Lignin Contents During Chilling Injury in Longan Pericarps. Poster presentation in the 5th National Conference on Postharvest Technology. Miracle Grand Convention, Bangkok, Thailand, June 28-29.

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Oral presentation

Jaitrong, S., N. Rattanapanone, J. A. Manthey and E. A. Baldwin. 2006. HPLC-MS Analysis of Phenols in Longan (*Dimocarpus longan* Lour.) Peel. Oral presentation in *Annual Meeting of Florida State Horticulture Society and Soil and Crop Science Society of Florida*. Concurrent Session-C, Marriott Tampa Westshore Hotel, Florida, USA, June 4-6.

Poster presentation

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