

Appendix A

Table 3.2: L*a*/b* of *H. polyrhizus* of three different harvest maturities at room temperature

Days after harvest	D 0 (L*a*/b*)	D 1(L*a*/b*)	D 2(L*a*/b*)
1	175.06± 3.00	-30.00± 1.00	-32.85± 10.00
3	213.56± 9.00	-13.47± 4.00	-17.39± 5.00
5	207.40± 7.00	45.78± 5.00	51.06± 2.00
7	206.74± 11.00	86.47± 8.00	93.16± 5.00
9	229.60± 5.00	108.29± 2.00	111.95± 8.00
11	224.29± 2.00	115.99± 4.00	128.97± 4.00
13	120.89± 2.00	126.05± 3.00	130.98± 6.00
14	-	122.05± 8.00	139.16± 3.00

Table 3.3: Pulp firmness of *H. polyrhizus* of three different harvest maturities at room temperature

Days after harvest	D 0(kg f)	D 1(kg f)	D 2(kg f)
1	0.19± 0.02	0.35± 0.02	0.42± 0.01
3	0.15± 0.03	0.34± 0.04	0.33± 0.01
5	0.12± 0.02	0.21± 0.02	0.23± 0.02
7	0.04± 0.02	0.18± 0.01	0.13± 0.02
9	0.01± 0.01	0.14± 0.01	0.10± 0.01
11	0.02± 0.01	0.10± 0.03	0.09± 0.03
13	0.00± 0.00	0.04± 0.01	0.05± 0.00
14	-	0.01± 0.01	0.01± 0.00

Table 3.4: pH of *H. polyrhizus* of three different harvest maturities at room temperature

Days after harvest	D 0	D 1	D 2
1	4.3± 0.01	3.9± 0.23	5.1± 0.14
3	4.7± 0.17	4.1± 0.08	4.0± 0.03
5	5.0± 0.10	4.3± 0.13	4.3± 0.01
7	5.0± 0.14	5.0± 0.03	5.0± 0.27
9	5.4± 0.18	5.1± 0.02	5.3± 0.13
11	5.5± 0.05	5.8± 0.14	5.7± 0.15
13	5.6± 0.04	5.7± 0.01	5.7± 0.11
14	-	5.2± 0.05	5.6± 0.27

Table 3.5: Total soluble solids of *H. polyrhizus* of three different harvest maturities at room temperature

Days after harvest	D 0 (°Brix)	D 1(°Brix)	D 2(°Brix)
1	13.6± 0.4	10.7± 0.1	7.3± 0.6
3	15.4± 0.2	8.9± 0.2	9.4± 0.3
5	14.4± 0.3	11.7± 0.1	10.4± 0.3
7	14.3± 0.2	12.4± 0.1	10.0± 0.2
9	15.0± 0.2	8.5± 0.2	10.5± 0.5
11	14.2± 0.2	10.1± 0.2	8.7± 0.0
13	13.5± 0.1	9.4± 0.1	7.9± 0.1
14	-	8.2± 0.3	8.0± 0.3

Table 3.6: Total sugars of *H. polyrhizus* of three different harvest maturities at room temperature

Days after harvest	D 0 (mg/g FW)	D 1 (mg/g FW)	D 2 (mg/g FW)
1	81.58± 2.00	59.80± 4.00	43.75± 3.00
3	74.90± 4.00	51.33± 1.00	46.37± 2.00
5	80.75± 6.00	40.95± 2.00	58.23± 2.00
7	88.48± 1.00	47.78± 1.00	59.32± 4.00
9	73.73± 2.00	48.40± 2.00	48.16± 3.00
11	68.80± 5.00	50.36± 2.00	43.73± 1.00
13	63.33± 2.00	51.14± 1.00	38.14± 6.00
14	-	42.40± 3.00	28.53± 4.00

Table 3.7: Total reducing sugars of *H. polyrhizus* of three different harvest maturities at room temperature

Days after harvest	D 0 (mg/g FW)	D 1 (mg/g FW)	D 2 (mg/g FW)
1	75.85± 3.00	30.77± 2.00	21.26± 3.00
3	73.10± 2.00	28.38± 3.00	28.39± 2.00
5	69.67± 2.00	22.93± 2.00	42.92± 1.00
7	69.77± 4.00	35.80± 1.00	39.85± 1.00
9	71.03± 2.00	35.54± 2.00	32.33± 3.00
11	61.86± 2.00	31.23± 1.00	25.74± 1.00
13	58.82± 1.00	31.54± 2.00	21.54± 1.00
14	-	31.80± 2.00	21.44± 1.00

Appendix B

Table 4.5: Protein content in *H. polyrhizus* harvested at three different harvest maturities at room temperature

Days of storage	D 0 (mg/g FW)	D 1 (mg/g FW)	D 2 (mg/g FW)
1	41.52± 0.44	27.90± 1.29	34.21± 1.46
3	47.43± 2.13	31.45± 2.07	31.09± 1.45
5	47.47± 0.78	35.92± 0.24	33.40± 0.46
7	50.18± 2.04	31.92± 1.15	37.28± 0.86
9	54.27± 1.06	38.71± 0.58	40.29± 0.69
11	64.27± 1.37	59.02± 2.09	63.71± 1.24
13	65.10± 0.47	71.86± 0.98	64.02± 2.37

Table 4.6: Pectin methylesterase activity in *H. polyrhizus* harvested at three different harvest maturities at room temperature

Days of storage	D 0 Activity/ unit protein	D 1 Activity/unit protein	D 2 Activity/unit protein
1	33.7± 2.9	17.0± 1.2	7.2± 0.4
3	37.6± 1.3	16.3± 1.2	15.5± 2.2
5	31.2± 2.4	24.1± 1.3	25.5± 2.2
7	44.8± 1.7	47.5± 1.3	37.0± 2.4
9	45.8± 1.2	43.2± 3.4	45.2± 2.5
11	15.5± 2.2	54.5± 2.2	47.1± 1.7
13	21.6± 1.8	30.8± 2.4	26.0± 2.9

Table 4.7: Polygalacturonase activity in *H. polyrhizus* harvested at three different harvest maturities at room temperature

Days of storage	D 0 Activity/ unit protein	D 1 Activity/ unit protein	D 2 Activity/ unit protein
1	61.29± 1.26	31.76± 0.06	0.62± 0.28
3	62.25± 0.88	30.25± 4.75	23.13± 0.37
5	73.38± 0.77	15.41± 0.49	34.25± 0.44
7	212.48± 2.84	161.82± 5.18	165.75± 0.78
9	213.08± 0.49	157.15± 3.12	140.34± 0.49
11	202.16± 1.68	162.95± 3.85	147.67± 2.76
13	186.31± 1.23	167.42± 0.41	154.17± 0.36

Table 4.8: Pectate lyase activity in *H. polyrhizus* harvested at three different harvest maturities at room temperature

Days of storage	D 0 Unit/ml	D 1 Unit/ml	D 2 Unit/ml
1	0.141± 0.002	0.181± 0.003	0.192± 0.009
3	0.159± 0.003	0.184± 0.002	0.171± 0.001
5	0.154± 0.008	0.191± 0.003	0.188± 0.003
7	0.167± 0.004	0.183± 0.001	0.209± 0.008
9	0.162± 0.003	0.175± 0.003	0.216± 0.001
11	0.156± 0.004	0.214± 0.006	0.215± 0.001
13	0.152± 0.003	0.193± 0.005	0.185± 0.002

Table 4.9: Cellulase activity in *H. polyrhizus* harvested at three different harvest maturities at room temperature

Days of storage	D0 (μg)	D1 (μg)	D2 (μg)
1	0.24 \pm 0.01	0.25 \pm 0.02	0.21 \pm 0.01
3	0.33 \pm 0.02	0.31 \pm 0.01	0.33 \pm 0.02
5	0.24 \pm 0.01	0.23 \pm 0.01	0.25 \pm 0.02
7	0.34 \pm 0.02	0.29 \pm 0.02	0.24 \pm 0.00
9	0.31 \pm 0.01	0.43 \pm 0.00	0.31 \pm 0.01
11	0.35 \pm 0.01	0.37 \pm 0.02	0.33 \pm 0.00
13	0.39 \pm 0.01	0.35 \pm 0.01	0.34 \pm 0.01

Appendix C

Table 5.1: a) L*a*/b*, b) Pulp firmness, c) pH, d) Total soluble solids, e) Total sugars and f) Total reducing sugars of D 0 fruit kept at three different storage temperatures

a)

D 0 fruit (L*a*/b*)			
	RT°C	16°C	6°C
0	163.9± 6.2	155.0± 6.2	161.9± 10.5
7	199.6± 6.9	165.3± 5.0	154.3± 5.0
14	133.7± 2.8	229.7± 5.7	169.2± 7.4

b)

D 0 fruit (Pulp firmness) (kg f)			
	RT°C	16°C	6°C
0	0.21± 0.02	0.21± 0.02	0.21± 0.02
7	0.03± 0.01	0.04± 0.01	0.08± 0.02
14	0.02± 0.01	0.02± 0.01	0.02± 0.01

c)

D 0 fruit (pH)			
	RT°C	16°C	6°C
0	4.3± 0.1	4.3± 0.1	4.3± 0.1
7	5.3± 0.2	5.1± 0.2	4.8± 0.1
14	5.6± 0.3	5.4± 0.1	4.8± 0.2

d)

D 0 fruit (Total soluble solids) (°Brix)			
	RT°C	16°C	6°C
0	13.5± 0.2	13.5± 0.2	13.5± 0.2
7	13.0± 0.4	12.8± 0.1	14.1± 0.1
14	13.5± 0.1	11.9± 0.3	13.3± 0.1

e)

D 0 fruit (Total sugars) (mg/g FW)			
	RT°C	16°C	6°C
0	87.95±5.14	92.06 ± 3.54	93.46 ± 4.03
7	81.27± 1.74	60.44 ± 2.65	75.39 ± 1.75
14	64.00± 4.03	52.21± 3.23	69.74 ± 1.28

f)

D 0 fruit (Total reducing sugars) (mg/g FW)			
	RT°C	16°C	6°C
0	88.24± 1.2	80.59± 0.8	82.64± 1.6
7	69.14± 0.5	47.02± 0.9	71.05± 2.0
14	63.42± 0.6	34.13± 1.1	56.33± 3.3

Table 5.2 : a) L*a*/b*, b) Pulp firmness, c) pH, d) Total soluble solids, e) Total sugars and f) Total reducing sugars of D 1 fruit kept at three different storage temperatures

a)

D 1 fruit (L*a*/b*)			
	RT°C	16°C	6°C
0	-31.90± 0.32	-31.90± 0.32	-31.90± 0.32
7	90.40± 5.89	15.00± 4.15	-28.63± 2.12
14	127.70± 1.69	67.67± 3.79	-26.92± 2.04

b)

D 1 fruit (Pulp firmness) (kg f)			
	RT°C	16°C	6°C
0	0.37± 0.02	0.37± 0.02	0.37± 0.02
7	0.03± 0.02	0.13± 0.01	0.28± 0.02
14	0.03± 0.01	0.06± 0.02	0.22± 0.02

c)

D1 fruit (pH)			
	RT°C	16°C	6°C
0	4.0± 0.2	4.0± 0.2	4.0± 0.2
7	5.0± 0.1	4.4± 0.2	4.1± 0.3
14	5.0± 0.3	5.0± 0.1	4.1± 0.2

d)

D 1 fruit (Total soluble solids) (°Brix)			
	RT°C	16°C	6°C
0	10.7± 0.1	10.7± 0.1	10.7± 0.1
7	11.0± 0.2	10.0± 0.8	11.6± 0.2
14	8.2± 0.3	8.1± 0.2	10.4± 0.4

e)

D 1 fruit (Total sugars) (mg/g FW)			
	RT°C	16°C	6°C
0	70.04± 0.17	70.04± 0.17	70.04± 0.17
7	58.43± 0.39	45.80± 2.09	56.78± 1.24
14	55.81± 0.95	38.50± 1.21	48.80± 0.55

f)

D 1 fruit (Total reducing sugars) (mg/g FW)			
	RT°C	16°C	6°C
0	53.80± 0.75	53.80± 0.75	53.80± 0.75
7	47.78± 1.18	32.26± 0.86	37.85± 0.39
14	39.07± 0.06	26.51± 0.24	32.77± 1.23

Table 5.3 : a) L*a*/b*, b) Pulp firmness, c) pH, d) Total soluble solids, e) Total sugars and f) Total reducing sugars of D 2 fruit kept at three different storage temperatures

a)

D 2 fruit (L*a*/b*)			
	RT°C	16°C	6°C
0	-31.16± 0.46	-31.16± 0.46	-31.16± 0.46
7	96.04± 2.97	-30.93± 1.36	-24.60± 2.44
14	135.17± 7.07	9.47± 2.83	-30.02± 0.54

b)

D 2 fruit (Pulp firmness)(kg f)			
	RT°C	16°C	6°C
0	0.42± 0.01	0.42± 0.01	0.42± 0.01
7	0.13± 0.03	0.22± 0.04	0.30± 0.02
14	0.03± 0.01	0.17± 0.05	0.25± 0.04

c)

D 2 fruit (pH)			
	RT°C	16°C	6°C
0	5.1± 0.1	5.1± 0.1	5.1± 0.1
7	5.2± 0.1	4.3± 0.2	4.1± 0.1
14	5.6± 0.2	4.8± 0.3	5.6± 0.2

d)

D 2 fruit (Total soluble solids) (°Brix)			
	RT°C	16°C	6°C
0	7.3± 0.1	7.3± 0.1	7.3± 0.1
7	10.4± 0.2	8.9± 0.2	8.8± 0.1
14	8.0± 0.3	8.3± 0.4	8.7± 0.6

e)

D 2 fruit (Total sugars) (mg/g FW)			
	RT°C	16°C	6°C
0	57.64± 0.95	57.64± 0.95	57.64± 0.95
7	50.19± 0.65	44.49± 0.45	45.17± 1.48
14	38.46± 0.17	26.41± 0.23	34.83± 0.98

f)

D 2 fruit (Total reducing sugars) (mg/g FW)			
	RT°C	16°C	6°C
0	44.08± 0.29	44.08± 0.29	44.08± 0.29
7	44.98± 0.38	32.05± 1.66	42.15± 0.67
14	25.20± 0.13	21.69± 0.46	32.20± 0.23