LAMPIRAN

Lampiran 1. *Lay-out* penelitian

C2M1.1	C1M2. 1	C1M2.3
C2M3.1	C1M3.1	C1M5.1
C1M4.2	C1M5.2	C1M3.2
C1M1. 1	C2M3.3	C2M4.2
C2M5.1	C1M4.1	C2M1.3
C1M3. 3	C1M1.2	C2M5.3
C1M2.2	C2M2.3	C2M2.1
C2M4.1	C2M1.2	C2M3.2
C1M5.3	C2M4.3	C1M1.3
C2M2.1	C2M5.2	C1M4.3

Keterangan :

1. C1M1 = CMC 1 % + minyak atsiri serai dan kayu manis 0%
2. C2M1 = CMC 1,5 % + minyak atsiri serai dan kayu manis 0%
3. C1M2 = CMC 1 % + minyak atsiri serai 0,4 %
4. C2M2 = CMC 1,5 % + minyak atsiri serai 0,4 %
5. C1M3 = CMC 1 % + minyak atsiri serai 0,7 %
6. C2M3 = CMC 1,5 % + minyak atsiri serai 0,7 %
7. C1M4 = CMC 1 % + minyak atsiri kayu manis 0,4 %
8. C2M4 = CMC 1,5 % + minyak atsiri kayu manis 0,4 %
9. C1M5 = CMC 1 % + minyak atsiri kayu manis 0,7 %
10. C2M5 = CMC 1,5 % + minyak atsiri kayu manis 0,7 %

Lampiran 2. Hasil Analisis Sidik Ragam

a. WVTR (*Water Vapor Transmission Rate*)

Sumber	db	Jumlah Kuadrat	Kuadrat Tengah	F hitung	Prob
Model	9	37.84179126	4.20464347	4.26	0.0169s
Perl	9	37.84179126	4.20464347	4.26	0.0169s
A	1	27.44815332	27.44815332	27.78	0.0004s
B	4	1.96753074	0.49188268	0.50	0.7383ns
A*B	4	8.42610720	2.10652680	2.13	0.1512ns
Galat	10	9.88151886	0.98815189		
Total	19	47.72331012			
R2	0.792941		Akar KTG	0.994058	
CV	2.877273		Rata-rata	34.54862	

Keterangan : ns = tidak berbeda nyata (*non-significant*)

s = berbeda nyata

b. Kekuatan Tarik (*Tensile Strenght*)

Sumb r	Db	Jumlah Kuadrat	Kuadrat Te gah	F hitun	Prob
Model	9	0.76446260	0.08494029	6.25	0.0003s
Perl	9	0.76446260	0.08494029	6.25	0.0003s
A	1	0.67807959	0.6780 959	49.86	<.0001s
B	4	0.04509787	0.01127447	0.83	0.5224ns
A*B	4	0.04128513	0.01032128	0.76	0.5641ns
Galat	20	0.27199932	0.01359997		
Total	29	1.03646192			
R2	0.737569		Akar KTG	0.116619	
CV	0.307215		Rata-rata	37.96007	

Keterangan : ns = tidak berbeda nyata (*non-significant*)

s = berbeda nyata

c. Pemanjangan (*Elongation*)

Sumber	db	Jumlah Kuadrat	Kuadrat Tengah	F hitung	Prob
Model	9	130510.2301	14501.1367	3.46	0.0100s
Perl	9	130510.2301	14501.1367	3.46	0.0066s
A	1	2.91982	2.91982	0.00	0.9792ns
B	4	38753.84101	9688.46025	2.31	0.0934ns
A*B	4	91753.46931	22938.36733	5.47	0.0039s
Galat	20	83938.2172	4196.9109		
Total	29	214448.4474			
R2	0.608586		Akar KTG	64.78357	
CV	25.73359		Rata-rata	251.7471	

Keterangan : ns = tidak berbeda nyata (*non-significant*)
s = berbeda nyata

d. Kemampuan Biodegradasi

Sumber	Db	Jumlah Kuadrat	Kuadrat Tengah	F hitung	Prob
Model	9	1297.200000	144.133333	1.32	0.2861ns
Perl	9	1297.200000	144.133333	1.32	0.2861ns
A	1	598.5333333	598.5333333	5.49	0.0295s
B	4	613.8666667	153.4666667	1.41	0.2672ns
A*B	4	84.8000000	21.2000000	0.19	0.9383ns
Galat	20	2178.666667	108.933333		
Total	29	3475.866667			
R2	0.373202		Akar KTG	10.43711	
CV	12.24056		Rata-rata	85.26667	

Keterangan : ns = tidak berbeda nyata (*non-significant*)

s = berbeda nyata

Lampiran 3. Pembuatan *Edible Film* dan *Edible Coating*

1. Bahan yang digunakan

a. CMC

b. Minyak Atsiri

c. Gliserol

d. Apel Manalagi

2. Pembuatan larutan CMC

a. Pemanasan Aquades

b. Pencampuran CMC

c. Pengadukan

d. Penambahan Gliserol

e. Penambahan Minyak Atsiri

3. Pembuatan *edible film* CMC

a. Larutan CMC

b. Pencetakan

c. Pengeringan

4. Pembuatan *edible coating fresh-cut* Apel Manalagi

a. Pencucian Apel

b. Pemotongan Apel

c. Pencelupan pada larutan CMC

d. Apel ditiriskan

e. Pengemasan

f. Penyimpanan

Lampiran 4. *Edible Film* CMC

P1 (C1M1)

P2 (C2M1)

P3 (C1M2)

P4 (C2M2)

P5 (C1M3)

P6 (C2M3)

P7 (C1M4)

P8 (C2M4)

P9 (C1M5)

P10 (C2M5)

Keterangan :

P1 (C1M1) = CMC 1 % + minyak atsiri 0%

P2 (C2M1) = CMC 1,5 % + minyak atsiri 0%

P3 (C1M2) = CMC 1 % + minyak atsiri serai 0,4 %

P4 (C2M2) = CMC 1,5 % + minyak atsiri serai 0,4 %

P5 (C1M3) = CMC 1 % + minyak atsiri serai 0,7 %

P6 (C2M3) = CMC 1,5 % + minyak atsiri serai 0,7 %

P7 (C1M4) = CMC 1 % + minyak atsiri kayu manis 0,4 %

P8 (C2M4) = CMC 1,5 % + minyak atsiri kayu manis 0,4 %

P9 (C1M5) = CMC 1 % + minyak atsiri kayu manis 0,7 %

P10 (C2M5) = CMC 1,5 % + minyak atsiri kayu manis 0,7 %

Lampiran 5. *Edible Coating Frsh-cut* Apel Manalagi

a. *Edible Coating Fresh-cut* Apel pada hari ke-0

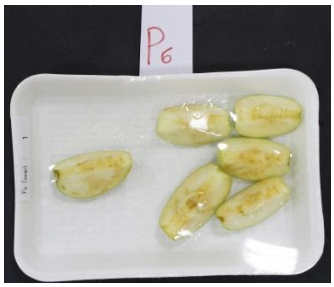
1. P1

2. P2

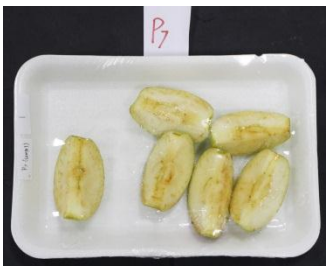
3. P3

4. P4

5. P5



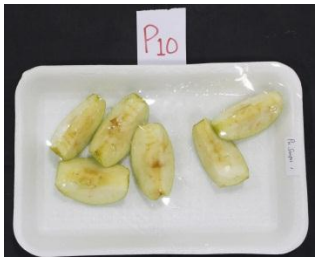
6. P6



7. P7

8. P8

9. P9



10. P10

b. *Edible Coating Fresh-cut* Apel pada hari ke-3

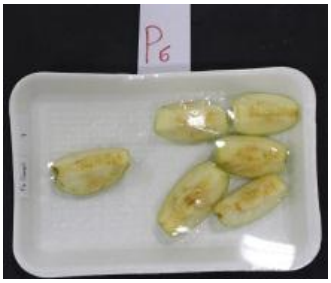
1. P1

2. P2

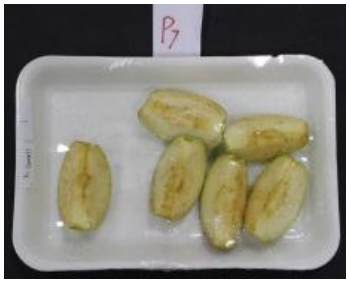
3. P3

4. P4

5. P5



6. P6



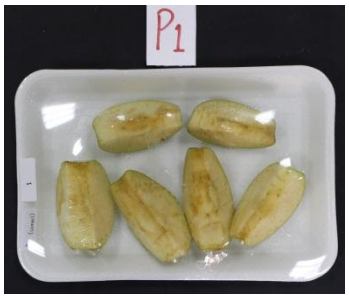
7. P7

8. P8

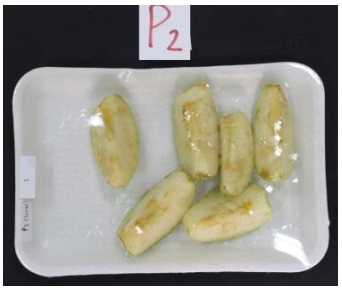
9. P9

10. P10

c. *Edible Coating Fresh-cut* Apel pada hari ke-6



1. P1

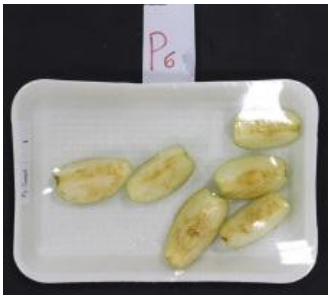


2. P2

3. P3

4. P4

5. P5



6. P6

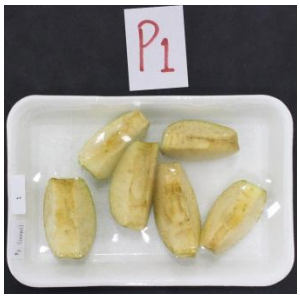
7. P7

8. P8

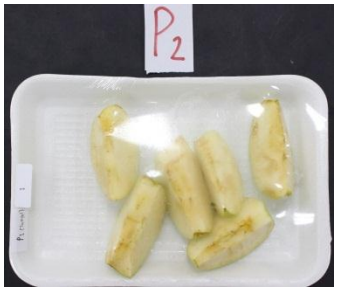
9. P9

10. P10

d. *Edible Coating Fresh-cut* Apel pada hari ke-9



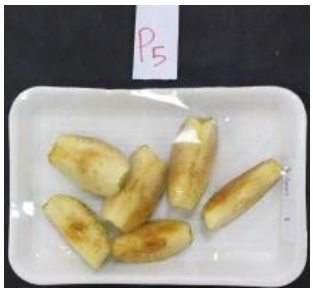
1. P1



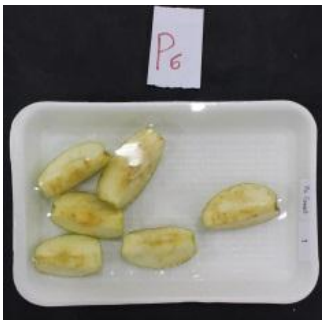
2. P2

3. P3

4. P4



5. P5



6. P6

7. P7

8. P8

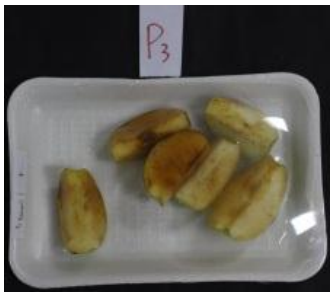
9. P9

10. P10

e. *Edible Coating Fresh-cut* Apel pada hari ke-12

1. P1

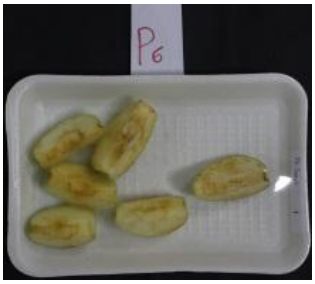
2. P2



3. P3

4. P4

5. P5

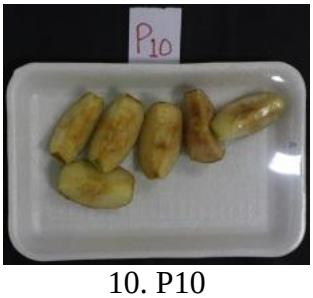


6. P6

7. P7

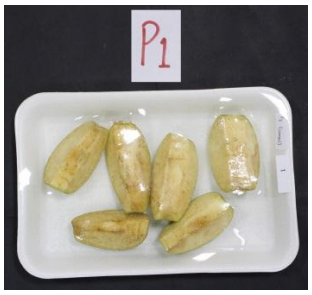
8. P8

9. P9



10. P10

f. *Edible Coating Fresh-cut* Apel pada hari ke-15



1. P1

2. P2

3. P3

4. P4

5. P5

6. P6

7. P7

8. P8

9. P9

10. P10