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LAMPIRAN

Lampiran 1. Hasil Pengujian Ketebalan *Edible Film* Sodium Alginate/Gum Arabic dengan Penambahan Minyak Kayu Manis

Perlakuan	Ulangan 1	Ulangan 2	Ulangan 3	Rata-rata
A1P1	0,07	0,06	0,07	0,06
A1P2	0,12	0,10	0,10	0,11
A1P3	0,14	0,10	0,08	0,11
A2P1	0,20	0,17	0,17	0,18
A2P2	0,17	0,23	0,19	0,20
A2P3	0,20	0,18	0,18	0,18
A3P1	0,18	0,16	0,13	0,16
A3P2	0,16	0,11	0,14	0,14
A3P3	0,14	0,14	0,13	0,14

Lampiran 2. Hasil Analisis Sidik Ragam Ketebalan *Edible Film* Sodium Alginat/Gum Arabic dengan Penambahan Minyak Kayu Manis

Tests of Between-Subjects Effects

Dependent Variable: Ketebalan

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.044 ^a	8	.005	13.991	.000
Intercept	.543	1	.543	1383.858	.000
Sodium_Gum	.039	2	.020	49.962	.000
Minyak_Kayu_Manis	.001	2	.000	.972	.397
Sodium_Gum * Minyak_Kayu_Manis	.004	4	.001	2.514	.078
Error	.007	18	.000		
Total	.594	27			
Corrected Total	.051	26			

a. R Squared = .861 (Adjusted R Squared = .800)

Lampiran 3. Hasil Uji Lanjut Metode Duncan Ketebalan *Edible Film* Sodium Alginat/Gum Arabic dengan Penambahan Minyak Kayu Manis

Ketebalan

Duncan^{a,b}

Sodium_Gum	N	Subset		
		1	2	3
3% : 2%	9	.0944		
1.5% : 1.5%	9		.1433	
2% : 3%	9			.1878
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .000.

a. Uses Harmonic Mean Sample Size = 9.000.

b. Alpha = .05.

Lampiran 5. Hasil Analisis Sidik Ragam Laju Transmisi Uap Air (LTUA) Edible Film Sodium Alginat/*Gum Arabic* dengan Penambahan Minyak Kayu Manis

Tests of Between-Subjects Effects

Dependent Variable: LTUA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	82.105 ^a	8	10.263	7.283	.000
Intercept	4441.618	1	4441.618	3151.930	.000
Sodium_Gum	1.742	2	.871	.618	.550
Minyak_Kayu_Manis	68.717	2	34.358	24.382	.000
Sodium_Gum * Minyak_Kayu_Manis	11.646	4	2.912	2.066	.128
Error	25.365	18	1.409		
Total	4549.088	27			
Corrected Total	107.470	26			

a. R Squared = .764 (Adjusted R Squared = .659)

Lampiran 6. Hasil Uji Lanjut Metode Duncan Laju Transmisi Uap Air (LTUA) Edible Film Sodium Alginat/*Gum Arabic* dengan Penambahan Minyak Kayu Manis

LTUA

Duncan^{a,b}

Minyak_Kayu_Manis	N	Subset	
		1	2
36,1 mg/mL	9	11.2378	
15,7 mg/mL	9	12.2322	
Kontrol	9		15.0078
Sig.		.092	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 1.409.

a. Uses Harmonic Mean Sample Size = 9.000.

b. Alpha = .05.

Lampiran 7. Hasil Pengujian Daya Larut Edible Film Sodium Alginat/*Gum Arabic* dengan Penambahan Minyak Kayu Manis

Perlakuan	Ulangan 1	Ulangan 2	Ulangan 3	Rata-rata
A1P1	58,56	62,15	59,70	60,14
A1P2	54,44	57,46	52,55	54,82
A1P3	57,47	59,89	56,90	58,09
A2P1	52,99	55,56	58,98	55,84
A2P2	51,19	50,68	54,69	52,19
A2P3	49,89	45,25	43,64	46,26
A3P1	61,80	62,55	68,23	64,19
A3P2	64,01	66,41	60,41	63,61
A3P3	65,44	69,26	61,80	65,50

Lampiran 8. Hasil Analisis Sidik Ragam Daya Larut Edible Film Sodium Alginat/*Gum Arabic* dengan Penambahan Minyak Kayu Manis

Tests of Between-Subjects Effects

Dependent Variable: Daya Larut

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	950.556 ^a	8	118.820	14.906	.000
Intercept	90353.023	1	90353.023	11334.760	.000
Sodium_Gum	761.402	2	380.701	47.759	.000
Minyak_Kayu_Manis	66.207	2	33.104	4.153	.033
Sodium_Gum *	122.947	4	30.737	3.856	.020
Minyak_Kayu_Manis					
Error	143.484	18	7.971		
Total	91447.063	27			
Corrected Total	1094.040	26			

a. R Squared = .869 (Adjusted R Squared = .811)

Lampiran 9. Hasil Uji Lanjut Metode Duncan Daya Larut Edible Film Sodium Alginat/*Gum Arabic* dengan Penambahan Minyak Kayu Manis

Daya_Larut

Duncan^{a,b}

Sodium_Gum	N	Subset		
		1	2	3
2% : 3%	9	51.4300		
3% : 2%	9		57.6800	
1.5% : 1.5%	9			64.4344
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 7.971.

a. Uses Harmonic Mean Sample Size = 9.000.

b. Alpha = .05.

Daya_Larut

Duncan^{a,b}

Minyak_Kayu_Manis	N	Subset	
		1	2
36,1 mg/mL	9	56.6156	
15,7 mg/mL	9	56.8711	
Kontrol	9		60.0578
Sig.		.850	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 7.971.

a. Uses Harmonic Mean Sample Size = 9.000.

b. Alpha = .05.

Sodium Alginat : <i>Gum Arabic</i>	Minyak Kayu Manis		
	0 mg/mL (P1)	15,7 mg/mL (P2)	36,1 mg/mL (P3)
3% : 2% (A1)	60,14 de	54,82 bc	58,09 cd
2% : 3% (A2)	55,84 cd	52,19 b	46,26 a
1,5% : 1,5% (A3)	64,19 ef	63,61 ef	65,50 f

Lampiran 10. Hasil Pengujian Kuat Tarik Edible Film Sodium Alginat/*Gum Arabic* dengan Penambahan Minyak Kayu Manis

Perlakuan	Ulangan 1	Ulangan 2	Ulangan 3	Rata-rata
A1P1	0,0766	0,0538	0,0555	0,06
A1P2	0,0279	0,0166	0,0091	0,02
A1P3	0,0129	0,0160	0,0180	0,02
A2P1	0,0154	0,0191	0,0189	0,02
A2P2	0,0094	0,0157	0,0202	0,02
A2P3	0,0056	0,0083	0,0071	0,01
A3P1	0,0210	0,0083	0,0149	0,01
A3P2	0,0176	0,0252	0,0170	0,02
A3P3	0,0083	0,0157	0,0135	0,01

Lampiran 11. Hasil Analisis Sidik Ragam Kuat Tarik Edible Film Sodium Alginat/*Gum Arabic* dengan Penambahan Minyak Kayu Manis

Tests of Between-Subjects Effects

Dependent Variable: Kuat Tarik

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.006 ^a	8	.001	18.908	.000
Intercept	.011	1	.011	271.060	.000
Sodium_Gum	.002	2	.001	22.264	.000
Minyak_Kayu_Manis	.002	2	.001	22.660	.000
Sodium_Gum * Minyak_Kayu_Manis	.003	4	.001	15.355	.000
Error	.001	18	4.097E-005		
Total	.018	27			
Corrected Total	.007	26			

a. R Squared = .894 (Adjusted R Squared = .846)

Lampiran 12. Hasil Uji Lanjut Metode Duncan Kuat Tarik Edible Film Sodium Alginat/*Gum Arabic* dengan Penambahan Minyak Kayu Manis

Kuat_Tarik

Duncan^{a,b}

Sodium_Gum	N	Subset	
		1	2
2% : 3%	9	.013300	
1.5% : 1.5%	9	.015722	
3% : 2%	9		.031822
Sig.		.433	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 4.097E-005.

a. Uses Harmonic Mean Sample Size = 9.000.

b. Alpha = .05.

Kuat_TarikDuncan^{a,b}

Minyak_Kayu_Manis	N	Subset	
		1	2
36,1 mg/mL	9	.011711	
15,7 mg/mL	9	.017633	
Kontrol	9		.031500
Sig.		.065	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 4.097E-005.

a. Uses Harmonic Mean Sample Size = 9.000.

b. Alpha = .05.

Sodium Alginat : <i>Gum Arabic</i>	Minyak Kayu Manis		
	0 mg/mL (P1)	15,7 mg/mL (P2)	36,1 mg/mL (P3)
3% : 2% (A1)	0,06 c	0,02 ab	0,02 ab
2% : 3% (A2)	0,02 ab	0,02 ab	0,01 a
1,5% : 1,5% (A3)	0,01 ab	0,02 b	0,01 ab

Lampiran 13. Hasil Pengujian Daya Hambat Mikroba Edible Film Sodium Alginat/*Gum Arabic* dengan Penambahan Minyak Kayu Manis

Edible Film	Zona Hambat Mikroba (mm)	
	E. Coli	S. Aureus
1.5% Sodium Alginat : 1.5% <i>Gum Arabic</i> dan Tanpa Minyak Kayu Manis	0	0
1.5% Sodium Alginat : 1.5% <i>Gum Arabic</i> dan 36,1 mg/mL Minyak Kayu Manis	15,40	16,51

Lampiran 14. Hasil Pengujian *Total Plate Count* Fillet Daging Sapi

Perlakuan	Ulangan	Nilai TPC (Log CFU/mL)				
		H-0	H-2	H-4	H-6	H-8
Kontrol	1	2,0	3,5	5,0	6,2	7,5
Kontrol	2	2,0	3,8	4,8	6,6	7,6
Kontrol	3	2,0	3,7	5,2	6,4	7,0
Daging sapi dilapisi Edible Film	1	2,0	3,0	4,2	5,3	6,1
Daging sapi dilapisi Edible Film	2	2,0	3,1	4,0	5,4	6,3
Daging sapi dilapisi Edible Film	3	2,0	3,0	4,6	5,1	6,0

Lampiran 15. Hasil Uji *Paired Test Total Plate Count* Fillet Daging Sapi**Total Plate Count Hari Ke-2**

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Daging_Tanpa_Edible_Film - Daging_Dilapisi_Edible_Film	.633333	.11547	.06667	.34649	.92018	9.500	2	.011

Total Plate Count Hari Ke-4

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Daging_Tanpa_Edible_Film - Daging_Dilapisi_Edible_Film	1.26667	.80829	.46667	-.74124	3.27457	2.714	2	.113

Total Plate Count Hari Ke-6

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Daging_Tanpa_Edible_Film - Daging_Dilapisi_Edible_Film	1.333333	.45092	.26034	.21317	2.45349	5.121	2	.036

Total Plate Count Hari Ke-8

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Daging_Tanpa_Edible_Film - Daging_Dilapisi_Edible_Film	1.06667	.20817	.12019	.54955	1.58378	8.875	2	.012

Lampiran 16. Hasil Uji *Total Volatile Base Nitrogen (TVBN)* Fillet Daging Sapi

Perlakuan	Ulangan	Nilai TVB (mg N/100g)				
		1	2	4	6	8
Kontrol	1	13,20	18,41	22,01	25,26	29,48
Kontrol	2	14,46	18,62	22,4	25,21	29,13
Kontrol	3	13,52	18,89	22,21	25,06	29,04
Daging dilapisi Edible Film	1	13,43	16,05	20,62	23,89	26,31

Daging dilapisi Edible Film	2	13,95	16,43	20,48	23,74	26,9
Daging dilapisi Edible Film	3	13,15	16,35	20,71	23,65	26,28

Lampiran 17. Hasil Uji Paired Test Total Volatile Base Nitrogen (TVBN) Fillet Daging Sapi

Total Volatile Base Nitrogen (TVBN)

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Daging_Tanpa Edible_Film - Daging_Dilapisi Edible_Film	2.38933	2.87812	.74313	.79548	3.98318	3.215	14	.006

Lampiran 18. Hasil Pengujian Warna Fillet Daging Sapi

Perlakuan	Ulangan	Nilai Koordinat L*				
		H-0	H-2	H-4	H-6	H-8
Kontrol	1	42,51	37,85	33,41	30,10	27,10
Kontrol	2	42,16	37,45	33,23	30,29	27,48
Kontrol	3	42,32	37,28	33,78	30,43	27,32
Daging sapi dilapisi Edible Film	1	43,57	41,85	38,85	35,15	32,85
Daging sapi dilapisi Edible Film	2	43,52	41,51	37,36	35,96	32,29
Daging sapi dilapisi Edible Film	3	43,87	41,27	37,18	35,42	32,02

Perlakuan	Ulangan	Nilai Koordinat a*				
		H-0	H-2	H-4	H-6	H-8
Kontrol	1	17,36	14,04	8,57	5,00	1,44
Kontrol	2	17,80	13,65	9,21	5,71	1,72
Kontrol	3	17,29	13,82	8,79	5,62	1,00
Daging sapi dilapisi Edible Film	1	17,89	15,88	11,22	8,53	4,34
Daging sapi dilapisi Edible Film	2	17,83	15,48	11,29	8,15	4,65
Daging sapi dilapisi Edible Film	3	17,77	15,17	11,16	8,62	3,94

Perlakuan	Ulangan	Nilai Koordinat b*				
		H-0	H-2	H-4	H-6	H-8
Kontrol	1	6,37	5,68	4,76	3,60	2,39
Kontrol	2	6,74	5,82	4,39	3,19	3,41
Kontrol	3	6,81	6,03	5,41	3,73	3,17
Daging sapi dilapisi Edible Film	1	7,05	7,04	6,54	4,15	4,94
Daging sapi dilapisi Edible Film	2	6,98	6,93	6,07	5,57	4,53

Daging sapi dilapisi Edible Film	3	6,88	6,62	6,18	5,21	4,82
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Lampiran 19. Hasil Uji *Paired Tes* Warna Fillet Daging Sapi**Koordinat L***

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Daging_Tanpa_Edible_Film - Daging_Dilapisi_Edible_Film	-3.99733	1.53878	.39731	-4.84948	-3.14518	-10.061	14	.000

Koordinat a*

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Daging_Tanpa_Edible_Film - Daging_Dilapisi_Edible_Film	-3.39533	4.82992	1.24708	-6.07005	-.72061	-2.723	14	.017

Koordinat b*

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Daging_Tanpa_Edible_Film - Daging_Dilapisi_Edible_Film	-1.92667	2.58583	.66766	-3.35865	-.49468	-2.886	14	.012

Lampiran 20. Hasil Pengujian pH Fillet Daging Sapi

Perlakuan	Ulangan	Nilai pH				
		H-0	H-2	H-4	H-6	H-8
Kontrol	1	5,67	5,82	6,02	6,29	7,82
Kontrol	2	5,53	5,92	6,42	6,89	7,58
Kontrol	3	5,48	5,71	6,15	6,93	7,41
Daging sapi dilapisi Edible Film	1	5,39	5,83	5,98	6,22	6,57
Daging sapi dilapisi Edible Film	2	5,45	5,69	5,83	6,24	6,63
Daging sapi dilapisi Edible Film	3	5,51	5,82	6,04	6,48	6,79

Lampiran 21. Hasil Uji *Paired Test* pH Fillet Daging Sapi

Nilai pH

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Daging_Tanpa Edible_Film - Daging_Dilapisi Edible_Film	.34467	.39731	.10259	.12464	.56469	3.360	14	.005

Lampiran 22. Hasil Uji Organoleptik Warna Fillet Daging Sapi

Perlakuan	Ulangan	Nilai Organoleptik Warna				
		H-0	H-2	H-4	H-6	H-8
Kontrol	1	57	42	40	37	23
Kontrol	2	53	43	42	36	26
Kontrol	3	60	45	43	36	23
Daging sapi dilapisi Edible Film	1	67	61	54	41	37
Daging sapi dilapisi Edible Film	2	65	61	52	40	36
Daging sapi dilapisi Edible Film	3	65	63	57	42	36

Lampiran 23. Hasil Uji *Paired Test* Organoleptik Warna

Organoleptik Warna

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Daging_Tanpa Edible_Film - Daging_Dilapisi Edible_Film	-.74250	.38509	.19254	-1.35526	-.12974	-3.856	3	.031

Lampiran 24. Hasil Uji Organoleptik Aroma Fillet Daging Sapi

Perlakuan	Ulangan	Nilai Organoleptik Aroma				
		H-0	H-2	H-4	H-6	H-8
Kontrol	1	60	51	36	28	22
Kontrol	2	61	49	37	29	22
Kontrol	3	62	50	35	30	23
Daging sapi dilapisi Edible Film	1	67	61	54	47	42
Daging sapi dilapisi Edible Film	2	71	60	53	45	41
Daging sapi dilapisi Edible Film	3	70	58	57	48	39

Lampiran 25. Hasil Uji *Paired Test* Organoleptik Aroma

Organoleptik Aroma								
	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Daging_Tanpa_Edible_Film - Daging_Dilapisi_Edible_Film	-.90600	.31230	.13966	-1.29377	-.51823	-6.487	4	.003

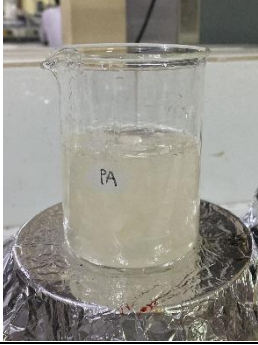







Lampiran 26. Hasil Uji Organoleptik Tekstur Fillet Daging Sapi

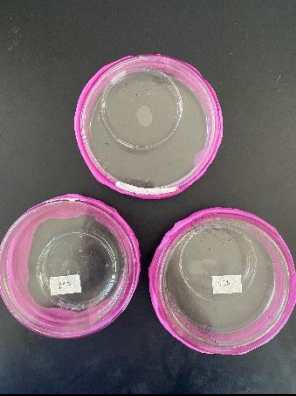
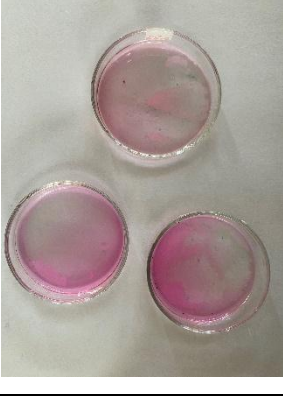

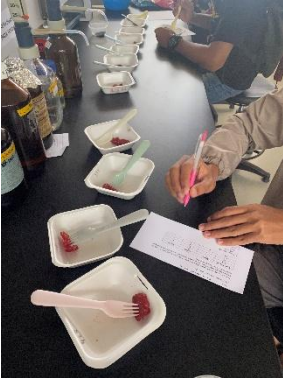


Perlakuan	Ulangan	Nilai Organoleptik Aroma				
		H-0	H-2	H-4	H-6	H-8
Kontrol	1	57	42	40	37	19
Kontrol	2	52	43	42	35	23
Kontrol	3	61	45	43	36	21
Daging sapi dilapisi Edible Film	1	67	59	51	41	37
Daging sapi dilapisi Edible Film	2	66	55	50	40	39
Daging sapi dilapisi Edible Film	3	67	55	50	40	35



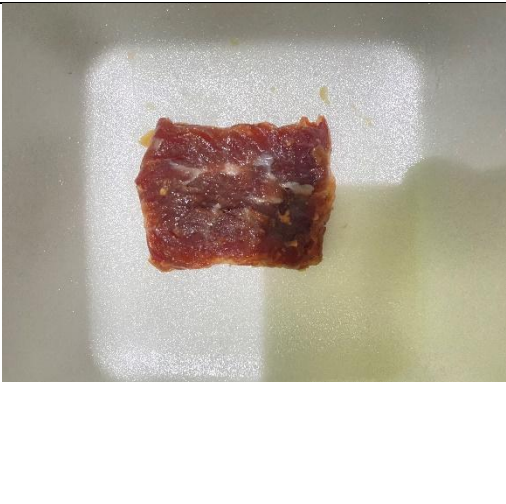



Lampiran 27. Hasil Uji *Paired Test* Organoleptik Tekstur





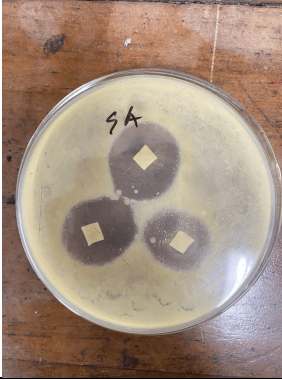

Organoleptik Tekstur								
	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Daging_Tanpa_Edible_Film - Daging_Dilapisi_Edible_Film	-.73800	.38558	.17244	-1.21676	-.25924	-4.280	4	.013

Lampiran 28. Dokumentasi Kegiatan Penelitian

	
Larutan Sodium Alginat- <i>Gum Arabic</i>	Larutan <i>Edible Film</i>
	
Pengujian Laju Transmisi Uap Air	<i>Edible Film</i>
	
Pengujian Daya Larut	Pengujian Daya Larut
	
Pengujian Daya Larut	Pengujian <i>Total Plate Count</i>

	
<p>Pengujian <i>total volatile base nitrogen</i></p>	<p>Pengujian <i>total volatile base nitrogen</i></p>
	
<p>Pengujian <i>total volatile base nitrogen</i></p>	<p>Pengujian organoleptik</p>
	
<p>Daging Sapi yang dilapisi <i>edible film</i> Hari Ke-0</p>	<p>Daging sapi tanpa dilapisi <i>edible film</i> Hari Ke-0</p>

	
<p>Daging Sapi yang dilapisi <i>edible film</i> Hari ke-2</p>	<p>Daging sapi tanpa dilapisi <i>edible film</i> Hari ke-2</p>
	
<p>Daging Sapi yang dilapisi <i>edible film</i> Hari Ke-4</p>	<p>Daging sapi tanpa dilapisi <i>edible film</i> Hari Ke-4</p>
	
<p>Daging Sapi yang dilapisi <i>edible film</i> Hari Ke-6</p>	<p>Daging sapi tanpa dilapisi <i>edible film</i> Hari Ke-6</p>

	
<p>Daging Sapi yang dilapisi <i>edible film</i> Hari Ke-8</p>	<p>Daging sapi tanpa dilapisi <i>edible film</i> Hari Ke-8</p>
	
<p>Pengujian aktivitas antimikroba pada <i>edible Film</i> Tanpa Minyak Kayu Manis</p>	<p>Pengujian aktivitas antimikroba pada <i>edible Film</i> Tanpa Minyak Kayu Manis</p>
	
<p>Pengujian aktivitas antimikroba pada <i>edible film</i> dengan Penambahan Minyak Kayu Manis</p>	<p>Pengujian aktivitas antimikroba pada <i>edible film</i> dengan Penambahan Minyak Kayu Manis</p>