LAMPIRAN

Lampiran 1. Surat keterangan hasil determinasi

KEMENTERIAN KESEHATAN REPUBLIK INDONESIA
DIREKTORAT JENDERAL PELAYANAN KESEHATAN
RUMAH SAKIT UMUM PUSAT Dr. SARDJITO
LABORATORIUM PENGUJIAN - UPF PELAYANAN KESEHATAN TRADISIONAL TAWANGMANGU
Jl. Raya Lawu No. 11 Tawangmangu, Karanganyar Jawa Tengah 57792
Telepon (0271) 697010 Faksimili (0271) 697451

Kepada
Riska Rahayu Fatikasari
Prodi S1 Farmasi, Fakultas Farmasi, Universitas Setia Budi
Jalan Letjen Sutoyo, Mojosongo, Surakarta 57127

LAPORAN HASIL UJI

Nomor	: TL.02.04/D.XI.5/16536.037/2023
Nomor permohonan	: PE/VIII/2023/53
Tanggal terbit	: 16 Agustus 2023
Halaman	: 1 dari 2

IDENTITAS SAMPEL

Nama sampel	: Sawi Hijau
Merek	: -
Bentuk sampel	: Tanaman Segar
Keterangan sampel	: -

Tanggal Penerimaan	: 14 Agustus 2023
Tanggal Pelaksanaan	: 16 Agustus 2023
Jenis Pengujian	: Fisika
Hasil Pengujian	: Terlampir

Laporan Hasil Uji ini hanya berlaku untuk sampel tersebut di atas. Laporan Hasil Uji terdiri dari 2 halaman dan merupakan bagian yang tidak dapat dipisahkan.

HASIL PENGUJIAN

Nomor : TL.02.04/D.XI.5/16536.037/2023
Nomor pengujian : PE/VIII/2023/53
Halaman : 2 dari 2

Parameter	Satuan	Hasil	Metode Uji / Teknik
Determinasi Tanaman			Organoleptik
Famili	-	Brassicaceae	
Spesies	-	*Brassica juncea* (L.) Czern.	
Sinonim	-	*Brassica arvensis* var. *juncea* (L.) Kuntze	

Kepala Instalasi Penunjang,
Penelitian, dan Penyediaan Produk,

Santoso, S.Farm.
NIP 198204092006041003

Laporan Hasil Uji ini hanya berlaku untuk sampel tersebut di atas. Laporan Hasil Uji terdiri dari 2 halaman dan merupakan bagian yang tidak dapat dipisahkan.

Lampiran 2. Hasil pembuatan serbuk daun sawi hijau

Sawi hijau segar

Penimbangan sawi hijau

Perajangan daun sawi hijau

Pencucian daun sawi hijau

Penimbangan serbuk daun sawi hijau

Perhitungan rendemen serbuk

$$\text{Rendemen} = \frac{berat\ serbuk\ kering\ (gram)}{berat\ serbuk\ basah\ (gram)}\ x\ 100\%$$

$$= \frac{700}{15.000}\ x\ 100\%$$

$$= 4{,}67\%$$

Lampiran 3. Hasil uji susut pengeringan serbuk

Uji susut pengeringan serbuk menggunakan *moisture balance*

Uji susut pengeringan serbuk menggunakan *moisture balance*

Uji susut pengeringan serbuk menggunakan *moisture balance*

$$\text{Rata-rata} = \frac{6{,}5+7{,}9+9{,}6}{3}$$

$$= \frac{24}{3} = 8\%$$

Lampiran 4. Hasil uji identifikasi serbuk

Uji identifikasi kandungan kimia serbuk daun sawi hijau

Uji identifikasi kandungan kimia serbuk daun sawi hijau

No.	Senyawa	Hasil Uji	Hasil Pemeriksaan	Pustaka
1	Flavonoid	Terbentuk larutan berwarna merah, jingga atau kuning	Positif (+)	Sulistyoningdyah *et al.,* 2017
2	Alkaloid	Terbentuknya endapan jingga	Positif (+)	Sapri *et al.,* 2014
3	Saponin	Terbentuk buih yang stabil selama 10 menit dengan tinggi 1cm sampai 10cm dan penambahan HCl 2N 1 ml buih tidak hilang.	Positif (+)	Sulistyoningdyah *et al.,* 2017
4	Tanin	Terbentuknya warna biru tua, biru kehitaman, atau hitam kehijauan	Positif (+)	Sulistyoningdyah *et al.,* 2017

Lampiran 5. Hasil pembuatan ekstrak etanol daun sawi hijau

Penyaringan dengan kain flanel

Menggunakan kertas saring

Ekstrak etanol daun sawi hijau

Perhitungan rendemen ekstrak

Rendemen $= \frac{berat\ ekstrak(gram)}{berat\ serbuk\ (gram)}\ x\ 100\%$

$= \frac{101}{600}\ x\ 100\%$

$= 16{,}83\%$

Lampiran 6. Hasil uji kadar air ekstrak

UESBE
Laboratorium

SERTIFIKAT HASIL UJI
No. 534/SHU/ULAB-SL/X/2023

I. DESKRIPSI PELANGGAN DAN SAMPEL

DATA PELANGGAN		DATA SAMPEL	
Nama Pelanggan	Riska Rahayu F	No. FPP	534/FPP/ULAB-SL/ X/2023
Alamat	Wonorejo, Sepat, Masaran, Sragen	Nama Sampel	Estrak sawi
		Jenis Sampel	Padat
		Tgl. Penerimaan	13 Oktober 2023
No. Telepon	081 475 508 727	Tgl. Selesai Uji	14 Oktober 2023
No. Fax		Keterangan	
Nama PIC			
No. Telepon			

II. DESKRIPSI HASIL UJI

NO	SAMPEL	PARAMETER	METODE	SYARAT MUTU	HASIL UJI	SATUAN
1.	Ekstrak sawi	Kadar air	Thermogravimetri	-	3,07	%

Keterangan:
1. Sertifikat Hasil Uji hanya berlaku untuk sampel yang di uji
2. Sertifikat Hasil Uji hanya terbit satu kali, dan **tidak dapat digandakan.**
3. Pengaduan pelanggan atas hasil uji dilayani selama 1 minggu setelah penerbitan Sertifikat Hasil Uji.

Solo, 18 Oktober 2023

Penanggung Jawab Pengujian

Laboratorium

Dr. Apt. Gunawan Pamudji., M.Si.
Manajer Puncak

Jl. Letjend. Sutoyo Mojosongo – Solo 57127, Telp 0271 -852518 ext. 154 Fax. 0271 – 853275

PENGUJIAN KADAR AIR / SUSUT PENGERINGAN

1	Kode sampel	:	10/534/23/PT
2	Bentuk sampel	:	padat
3	Metode uji	:	THERMOGRAVIMETRI
4	Diterima tanggal	:	13-Oct-23
5	Diuji tanggal	:	14-Oct-23
6	Selesai tanggal	:	14-Oct-23
7	Hasil pengujian	:	

MOISTURE METER KERN 50-3N

No	KODE SAMPEL	berat sampel (gram)	hasil (%)	rata-rata (%)
1	10/534/23/PT	2,134	3,326	3,070
		2,133	2,814	

Nuryana, S. K

Hasil ekstrak setelah diuji

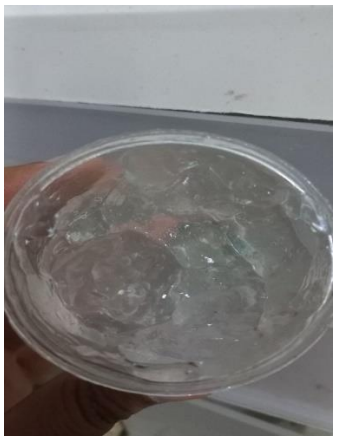
Lampiran 7. Hasil uji identifikasi ekstrak etanol daun sawi hijau

Hasil uji identifikasi kandungan kimia ekstrak etanol daun sawi hijau

No.	Senyawa	Hasil Uji	Hasil Pemeriksaan	Pustaka
1	Flavonoid	Terbentuk larutan berwarna merah, jingga atau kuning	Positif (+)	Sulistyoningdyah *et al.,* 2017
2	Alkaloid	Terbentuknya endapan jingga	Positif (+)	Sapri *et al.,* 2014
3	Saponin	Terbentuk buih yang stabil selama 10 menit dengan tinggi 1cm sampai 10cm dan penambahan HCl 2N 1 ml buih tidak hilang.	Positif (+)	Sulistyoningdyah *et al.,* 2017
4	Tanin	Terbentuknya warna biru tua, biru kehitaman, atau hitam kehijauan	Positif (+)	Sulistyoningdyah *et al.,* 2017

Lampiran 8. Hasil pembuatan sediaan gel

Lampiran 9. Hasil uji organoleptis

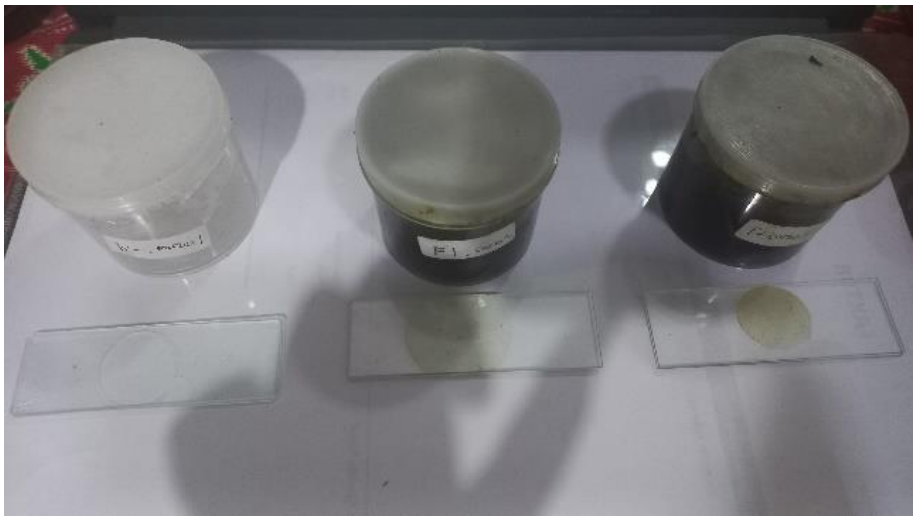


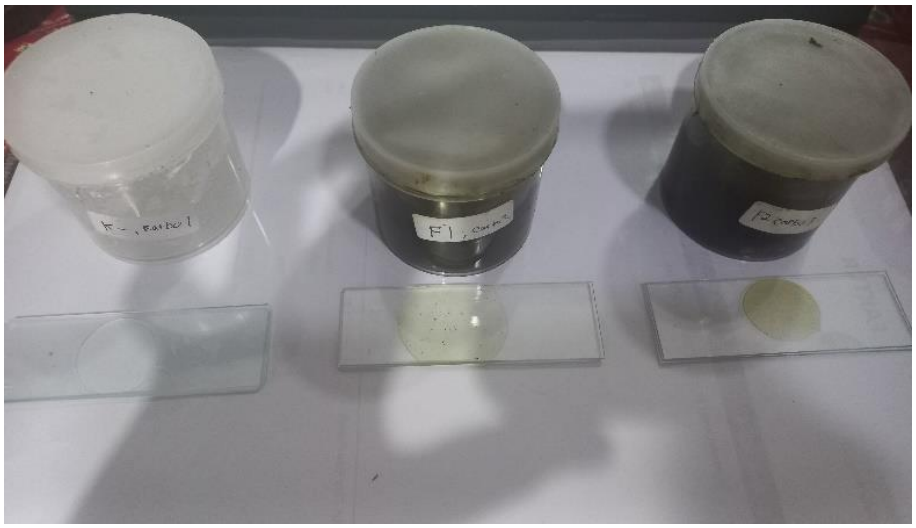
Kontrol -

Formula 1

Formula 2

Lampiran 10. Hasil uji homogenitas





Lampiran 11. Hasil uji Ph

Uji pH kontrol -

Uji pH formula 1

Uji pH formula 2

Sebelum *cycling*

	replikasi I	replikasi II	replikasi III	SD	rata-rata
K-	5.86	5.83	5.85	0.012472191	5.846666667
FI	4.96	4.84	5.03	0.455146497	4.943333333
FII	4.78	4.8	4.84	0.08976822	4.806666667

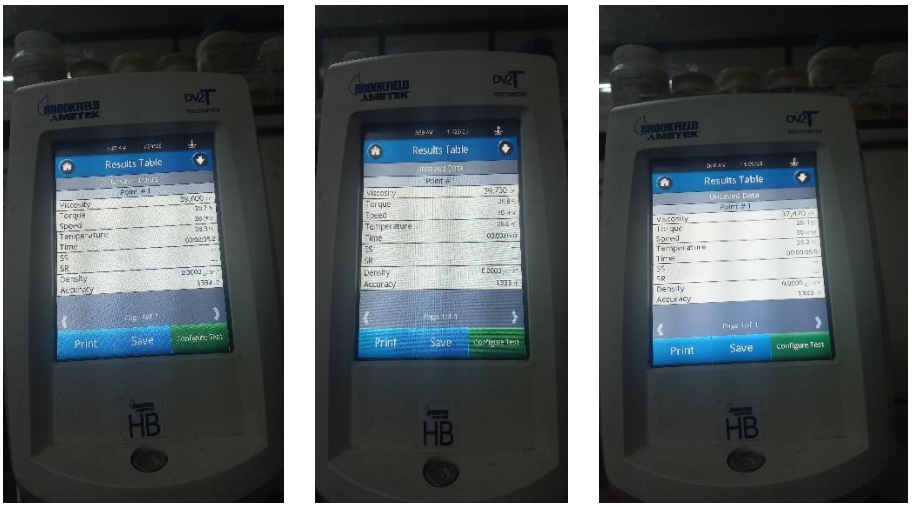
Sesudah cycling

	replikasi I	replikasi II	replikasi III	SD	Rata-rata
K-	4.57	4.53	4.51	0.024944383	4.536666667
FI	4.72	4.71	4.77	0.101612007	4.733333333
FII	4.52	4.56	4.54	0.099107125	4.54

Lampiran 12. Hasil uji viskositas

sebelum cycling viskositas					
	replikasi I	**replikasi II**	**replikasi III**	**SD**	**rata-rata**
K-	39600	37470	39730	1036.093089	38933.33333
FI	10833	9378	1098	4287.522595	7103
FII	12567	10677	13345	1120.297976	12196.33333

setelah cycling viskositas					
	replikasi I	**replikasi II**	**replikasi III**	**SD**	**rata-rata**
K-	30053	27037	30998	1689.14186	29362.66667
FI	10607	8354	10234	985.9872661	9731.666667
FII	11987	10455	12097	749.4655874	11513



Uji viskositas *brookfield*

Lampiran 13. Hasil uji daya sebar

sebelum *cycling*						
Beban	**Formulasi**	**Replikasi I**	**Replikasi II**	**Replikasi III**	**SD**	**Rata-rata**
	K-	3.5	3.8	3.5	0.141421356	3.6
	FI	5	5.5	5	0.23570226	5.166666667
0 gram	**FII**	4.5	5	4.3	0.294392029	4.6
	K-	3.7	4	3.5	0.205480467	3.733333333
	FI	5.4	5.6	5.5	0.081649658	5.5
50 gram	**FII**	5	5.3	5.5	0.205480467	5.266666667
	K-	4.5	4.6	5	0.21602469	4.7
100	**FI**	5.6	6	5.9	0.169967317	5.833333333
gram	**FII**	5.5	5.8	5.6	0.124721913	5.633333333

Daya sebar setelah *cycling*						
Bobot	**Formulasi**	**Replikasi I**	**Replikasi II**	**Replikasi III**	**SD**	**Rata-rata**
	K-	3	3.7	3.5	0.294392029	3.4
	FI	4.5	4.7	4	0.294392029	4.4
0 Gram	FII	4.5	4.3	4.2	0.124721913	4.333333333
	K-	3.7	3.8	3.9	0.081649658	3.8
50	FI	5	5.4	5.2	0.163299316	5.2
gram	FII	4.8	4.6	4.5	0.124721913	4.633333333
	K-	4.3	4.5	4	0.205480467	4.266666667
100	FI	5.2	5	4.9	0.124721913	5.033333333
gram	FII	5.3	5.1	5	0.124721913	5.133333333

Uji daya sebar

Uji daya sebar

Uji daya sebar

Lampiran 14. Surat ec dan iritasi kelinci

UNIVERSITAS MUHAMMADIYAH PURWOKERTO

KOMITE ETIK PENELITIAN KESEHATAN

بِسْمِ اللَّهِ الرَّحْمَٰنِ الرَّحِيمِ

Kampus Ahmad Dahlan
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Telp. 0281- 636751, 630463
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Jl. Letjen Soepardjo Roestam
PO. Box 229 Purwokerto 53181
Telp. 0281- 6844252, 6844253
Fax. 0281- 6844253

IZIN ETIK PENELITIAN

Nomor Registrasi: KEPK/UMP/05/XII/2023

Judul Penelitian	:	FORMULASI GEL EKSTRAK ETANOL DAUN SAWI HIJAU DENGAN KONSENTRASI CARBOPOL TERHADAP MUTU FISIK DAN PELEMBAB KULIT
Dokumen Penerimaan	:	1. Study Protocol 2. Informasi Subyek (Hewan)
Peneliti Utama	:	RISKA RAHAYU FATIKASARI
Pembimbing/ Supervisor	:	1. Dr. apt. Gunawan Pamudji Widodo, M.Si. 2. apt. Jena Hayu Widyasti, M.Farm.
Tanggal Penerimaan	:	4 Desember 2023
Lokasi Penelitian	:	FAKULTAS FARMASI UNIVERSITAS SETIA BUDI SURAKARTA

Komite Etik Penelitian Kesehatan Universitas Muhammadiyah Purwokerto (KEPK-UMP) telah memeriksa rancangan penelitian terkait berdasarkan prinsip-prinsip *ethical research*, oleh karena itu dapat diakui kebenarannya.

Komite Etik Penelitian Kesehatan Universitas Muhammadiyah Purwokerto (KEPK-UMP) berhak melakukan monitoring terhadap aktifitas penelitian kapan saja diperlukan.

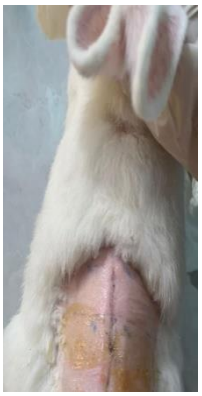
Keputusan investigasi:

☑ Final Complete

Ketua

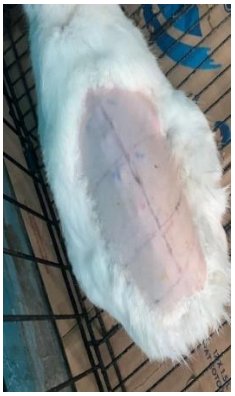
Assoc. Prof. Dr. Ns. Umi Solikhah
NIDN. 0622087401

uji iritasi kelinci 1



uji iritasi kelinci 2

uji iritasi kelinci 3



Uji iritasi kelinci 4

Formula	Kelinci	Iritasi		
		24 jam	48 jam	72 jam
K-	1	0	0	0
	2	0	0	0
	3	0	0	0
	4	0	0	0
FI	1	0	0	0
	2	0	0	0
	3	0	0	0
	4	0	0	0
FII	1	0	0	0
	2	0	0	0
	3	0	0	0
	4	0	0	0
Rata-rata			**0**	
Kesimpulan			**Tidak iritasi**	

Lampiran 15. Surat ec dan kelembaban kulit

UNIVERSITAS MUHAMMADIYAH PURWOKERTO
KOMITE ETIK PENELITIAN KESEHATAN

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بِسْمِ اللَّهِ الرَّحْمَٰنِ الرَّحِيمِ

IZIN ETIK PENELITIAN

Nomor Registrasi: KEPK/UMP/16/XII/2023

Judul Penelitian	:	FORMULASI GEL EKSTRAK ETANOL DAUN SAWI HIJAU DENGAN KONSENTRASI CARBOPOL TERHADAP MUTU FISIK DAN PELEMBAB KULIT
Dokumen Penerimaan	:	1. Study Protocol 2. Informasi Subyek 3. Informed Consent
Peneliti Utama	:	RISKA RAHAYU FATIKASARI
Pembimbing/ Supervisor	:	1. Dr. apt. Gunawan Pamudji Widodo, M.Si. 2. apt. Jena Hayu Widyasti, M.Farm.
Tanggal Penerimaan	:	4 Desember 2023
Lokasi Penelitian	:	FAKULTAS FARMASI UNIVERSITAS SETIA BUDI SURAKARTA

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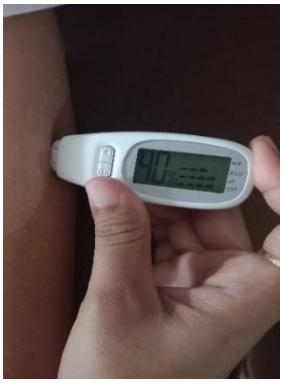
Komite Etik Penelitian Kesehatan Universitas Muhammadiyah Purwokerto (KEPK-UMP) berhak melakukan monitoring terhadap aktifitas penelitian kapan saja diperlukan.

Keputusan investigasi:

☑ Final Complete

Ketua

Assoc. Prof. Dr. Ns. Umi Solikhah
NIDN. 0622087401



Uji kelembaban kulit

Uji kelembaban kulit

Uji kelembaban kulit

Uji kelembaban kulit

Uji kelembaban kulit

Uji kelembaban kulit

Hasil % kelembaban kulit

Formula	Relawan	sebelum Pemakaian (%)	Hari (%)						
			1	2	3	4	5	6	7
K-	1	32	41	40	37	39	36	34	38
	2	31	39	38	36	40	37	36	39
	3	33	39	39	36	38	38	39	39
	4	33	36	41	39	39	39	40	40
	SD	**0.829**	**1.785**	**1.118**	**1.224**	**0.707**	**1.118**	**2.384**	**0.707**
Rata-rata		**32.25**	**38.75**	**39.5**	**37**	**39**	**37.5**	**37.25**	**39**
FI	1	36	39	40	40	40	43	44	44
	2	32	40	41	43	43	42	41	45
	3	36	40	42	45	45	44	45	48
	4	32	44	42	47	49	45	48	50
	SD	**2**	**1.920**	**0.829**	**2.586**	**3.269**	**1.118**	**2.5**	**2.384**
Rata-rata		**34**	**40.75**	**41.25**	**43.75**	**44.25**	**43.5**	**44.5**	**46.75**
FII	1	36	41	43	40	44	40	41	45
	2	35	43	44	41	43	41	45	44
	3	31	43	41	42	42	42	45	50
	4	34	48	45	43	47	46	49	55
	SD	**1.870**	**2.586**	**1.479**	**1.118**	**1.870**	**2.277**	**2.828**	**4.387**
Rata-rata		**34**	**43.75**	**43.25**	**41.5**	**44**	**42.25**	**45**	**48.5**

Lampiran 16. Hasil uji SPSS

1. Uji pH

Uji normalitas mutu fisik pH sebelum cycling test

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Formula	Statistic	df	Sig.	Statistic	df	Sig.
Uji pH	Kontrol negatif	,253	3	.	,964	3	,637
	Formula I	,236	3	.	,977	3	,712
	Formula II	,253	3	.	,964	3	,637

a. Lilliefors Significance Correction

Uji homogenitas

Oneway

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Uji pH	Based on Mean	3,591	2	6	,094
	Based on Median	1,750	2	6	,252
	Based on Median and with adjusted df	1,750	2	2,555	,332
	Based on trimmed mean	3,451	2	6	,101

ANOVA

Uji pH

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1,916	2	,958	276,388	,000
Within Groups	,021	6	,003		
Total	1,937	8			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: Uji pH

Tukey HSD

		Mean Difference (I-J)			95% Confidence Interval	
(I) Formula	(J) Formula		Std. Error	Sig.	Lower Bound	Upper Bound
Kontrol negatif	Formula I	,90333*	,04807	,000	,7558	1,0508
	Formula II	1,04000*	,04807	,000	,8925	1,1875
Formula I	Kontrol negatif	-,90333*	,04807	,000	-1,0508	-,7558
	Formula II	,13667	,04807	,066	-,0108	,2842
Formula II	Kontrol negatif	-1,04000*	,04807	,000	-1,1875	-,8925
	Formula I	-,13667	,04807	,066	-,2842	,0108

*. The mean difference is significant at the 0.05 level.

Homogeneous Subsets

Uji pH

Tukey HSD[a]

Formula	N	Subset for alpha = 0.05	
		1	2
Formula II	3	4,8067	
Formula I	3	4,9433	
Kontrol negatif	3		5,8467
Sig.		,066	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

Uji normalitas mutu fisik pH setelah cycling test

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Formula	Statistic	df	Sig.	Statistic	df	Sig.
Uji pH sebelum cycling test	Kontrol negatif	,253	3	.	,964	3	,637
	Formula I	,236	3	.	,977	3	,712
	Formula II	,253	3	.	,964	3	,637
Uji pH setelah cyling test	Kontrol negatif	,253	3	.	,964	3	,637
	Formula I	,328	3	.	,871	3	,298
	Formula II	,175	3	.	1,000	3	1,000

a. Lilliefors Significance Correction

Uji homogenitas

Oneway

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Uji pH sebelum cycling test	Based on Mean	3,591	2	6	,094
	Based on Median	1,750	2	6	,252
	Based on Median and with adjusted df	1,750	2	2,555	,332
	Based on trimmed mean	3,451	2	6	,101
Uji pH setelah cyling test	Based on Mean	,672	2	6	,545
	Based on Median	,108	2	6	,899
	Based on Median and with adjusted df	,108	2	4,556	,900
	Based on trimmed mean	,610	2	6	,574

Uji one way anova

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Uji pH sebelum cycling test	Between Groups	1,916	2	,958	276,388	,000
	Within Groups	,021	6	,003		
	Total	1,937	8			
Uji pH setelah cyling test	Between Groups	,076	2	,038	48,211	,000
	Within Groups	,005	6	,001		
	Total	,081	8			

Uji pos hoc tukey

Post Hoc Tests

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Uji pH sebelum cycling test	Kontrol negatif	Formula I	,90333*	,04807	,000	,7558	1,0508
		Formula II	1,04000*	,04807	,000	,8925	1,1875
	Formula I	Kontrol negatif	-,90333*	,04807	,000	-1,0508	-,7558
		Formula II	,13667	,04807	,066	-,0108	,2842
	Formula II	Kontrol negatif	-1,04000*	,04807	,000	-1,1875	-,8925
		Formula I	-,13667	,04807	,066	-,2842	,0108
Uji pH setelah cyling test	Kontrol negatif	Formula I	-,19667*	,02293	,000	-,2670	-,1263
		Formula II	-,00333	,02293	,988	-,0737	,0670
	Formula I	Kontrol negatif	,19667*	,02293	,000	,1263	,2670
		Formula II	,19333*	,02293	,000	,1230	,2637
	Formula II	Kontrol negatif	,00333	,02293	,988	-,0670	,0737
		Formula I	-,19333*	,02293	,000	-,2637	-,1230

*. The mean difference is significant at the 0.05 level.

Homogeneous Subsets

Uji pH sebelum cycling test

Tukey HSD[a]

Formula	N	Subset for alpha = 0.05	
		1	2
Formula II	3	4,8067	
Formula I	3	4,9433	
Kontrol negatif	3		5,8467
Sig.		,066	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

Uji pH setelah cyling test

Tukey HSD[a]

Formula	N	Subset for alpha = 0.05	
		1	2
Kontrol negatif	3	4,5367	
Formula II	3	4,5400	
Formula I	3		4,7333
Sig.		,988	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

Uji paired t-test

T-Test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Uji pH sebelum cycling test	5,1989	9	,49207	,16402
	Uji pH setelah cyling test	4,6033	9	,10050	,03350

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Uji pH sebelum cycling test & Uji pH setelah cyling test	9	-,375	,320

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Uji pH sebelum cycling test - Uji pH setelah cyling test	,59556	,53792	,17931	,18208	1,00903	3,321	8	,011

2. Uji viskositas

Uji normalitas viskositas sebelum dan sesudah cyclingtest

Tests of Normality

	Formula	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Uji viskositas sebelum cyclingtest	Kontrol negatif	,367	3	.	,793	3	,098
	Formula I	,355	3	.	,818	3	,159
	Formula II	,273	3	.	,945	3	,549
Uji viskositas setelah cyclingtest	Kontrol negatif	,297	3	.	,916	3	,440
	Formula I	,328	3	.	,870	3	,296
	Formula II	,364	3	.	,800	3	,115

a. Lilliefors Significance Correction

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Uji viskositas sebelum cyclingtest	Between Groups	1532,427	2	766,214	537,441	,000
	Within Groups	8,554	6	1,426		
	Total	1540,981	8			
Uji viskositas setelah cyclingtest	Between Groups	707,160	2	353,580	161,192	,000
	Within Groups	13,161	6	2,194		
	Total	720,321	8			

Uji homogen dan anova

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Uji viskositas sebelum cyclingtest	Based on Mean	,486	2	6	,637
	Based on Median	,097	2	6	,909
	Based on Median and with adjusted df	,097	2	5,413	,909
	Based on trimmed mean	,430	2	6	,669
Uji viskositas setelah cyclingtest	Based on Mean	1,805	2	6	,243
	Based on Median	,352	2	6	,717
	Based on Median and with adjusted df	,352	2	4,685	,720
	Based on trimmed mean	1,608	2	6	,276

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Uji viskositas sebelum cyclingtest	Kontrol negatif	Formula I	28,53633*	,97491	,000	25,5450	31,5276
		Formula II	26,73700*	,97491	,000	23,7457	29,7283
	Formula I	Kontrol negatif	-28,53633*	,97491	,000	-31,5276	-25,5450
		Formula II	-1,79933	,97491	,234	-4,7906	1,1920
	Formula II	Kontrol negatif	-26,73700*	,97491	,000	-29,7283	-23,7457
		Formula I	1,79933	,97491	,234	-1,1920	4,7906
Uji viskositas setelah cyclingtest	Kontrol negatif	Formula I	19,63100*	1,20928	,000	15,9206	23,3414
		Formula II	17,84967*	1,20928	,000	14,1393	21,5601
	Formula I	Kontrol negatif	-19,63100*	1,20928	,000	-23,3414	-15,9206
		Formula II	-1,78133	1,20928	,367	-5,4917	1,9291
	Formula II	Kontrol negatif	-17,84967*	1,20928	,000	-21,5601	-14,1393
		Formula I	1,78133	1,20928	,367	-1,9291	5,4917

*. The mean difference is significant at the 0.05 level.

Uji Pos hoc tukey

Uji viskositas sebelum cyclingtest

Tukey HSD[a]

Formula	N	Subset for alpha = 0.05	
		1	2
Formula I	3	10,3970	
Formula II	3	12,1963	
Kontrol negatif	3		38,9333
Sig.		,234	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

Uji viskositas setelah cyclingtest

Tukey HSD[a]

Formula	N	Subset for alpha = 0.05	
		1	2
Formula I	3	9,7317	
Formula II	3	11,5130	
Kontrol negatif	3		29,3627
Sig.		,367	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

Paired T test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Uji viskositas sebelum cyclingtest	20,5089	9	13,87886	4,62629
	Uji viskositas setelah cyclingtest	16,8691	9	9,48895	3,16298

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Uji viskositas sebelum cyclingtest & Uji viskositas setelah cyclingtest	9	,997	,000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Uji viskositas sebelum cyclingtest - Uji viskositas setelah cyclingtest	3,63978	4,48063	1,49354	,19566	7,08389	2,437	8	,041

3. Uji daya sebar

Uji normalitas mutu fisik daya sebar sebelum cycling test

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Formula	Statistic	df	Sig.	Statistic	df	Sig.
Uji daya sebar	Kontrol negatif	,314	3	.	,893	3	,363
	Formula I	,292	3	.	,923	3	,463
	Formula II	,253	3	.	,964	3	,637

a. Lilliefors Significance Correction

Uji one way anova dan homogenitas

ANOVA

Uji daya sebar

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2,196	2	1,098	24,098	,001
Within Groups	,273	6	,046		
Total	2,469	8			

Oneway

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Uji daya sebar	Based on Mean	,814	2	6	,487
	Based on Median	,130	2	6	,880
	Based on Median and with adjusted df	,130	2	4,661	,881
	Based on trimmed mean	,726	2	6	,522

Uji pos hoc tukey

Post Hoc Tests

Multiple Comparisons

Dependent Variable: Uji daya sebar

Tukey HSD

		Mean Difference (I-J)			95% Confidence Interval	
(I) Formula	(J) Formula		Std. Error	Sig.	Lower Bound	Upper Bound
Kontrol negatif	Formula I	-1,13333*	,17427	,002	-1,6680	-,5986
	Formula II	-,93333*	,17427	,004	-1,4680	-,3986
Formula I	Kontrol negatif	1,13333*	,17427	,002	,5986	1,6680
	Formula II	,20000	,17427	,523	-,3347	,7347
Formula II	Kontrol negatif	,93333*	,17427	,004	,3986	1,4680
	Formula I	-,20000	,17427	,523	-,7347	,3347

*. The mean difference is significant at the 0.05 level.

Homogeneous Subsets

Uji daya sebar

Tukey HSD[a]

Formula	N	Subset for alpha = 0.05	
		1	2
Kontrol negatif	3	4,7000	
Formula II	3		5,6333
Formula I	3		5,8333
Sig.		1,000	,523

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

Uji normalitas daya sebar setelah cycling test

Tests of Normality

	Formula	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Uji daya sebar sebelum cycling test	Kontrol negatif	,314	3	.	,893	3	,363
	Formula I	,292	3	.	,923	3	,463
	Formula II	,253	3	.	,964	3	,637
Uji daya sebar setelah cycling test	Kontrol negatif	,219	3	.	,987	3	,780
	Formula I	,253	3	.	,964	3	,637
	Formula II	,253	3	.	,964	3	,637

a. Lilliefors Significance Correction

Uji homogenitas

Oneway

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Uji daya sebar sebelum cycling test	Based on Mean	,814	2	6	,487
	Based on Median	,130	2	6	,880
	Based on Median and with adjusted df	,130	2	4,661	,881
	Based on trimmed mean	,726	2	6	,522
Uji daya sebar setelah cycling test	Based on Mean	,704	2	6	,531
	Based on Median	,318	2	6	,739
	Based on Median and with adjusted df	,318	2	4,792	,742
	Based on trimmed mean	,673	2	6	,545

Uji one way anova

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Uji daya sebar sebelum cycling test	Between Groups	2,196	2	1,098	24,098	,001
	Within Groups	,273	6	,046		
	Total	2,469	8			
Uji daya sebar setelah cycling test	Between Groups	,909	2	,454	7,574	,023
	Within Groups	,360	6	,060		
	Total	1,269	8			

Uji pos hoc test

Post Hoc Tests

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Uji daya sebar sebelum cycling test	Kontrol negatif	Formula I	-1,13333*	,17427	,002	-1,6680	-,5986
		Formula II	-,93333*	,17427	,004	-1,4680	-,3986
	Formula I	Kontrol negatif	1,13333*	,17427	,002	,5986	1,6680
		Formula II	,20000	,17427	,523	-,3347	,7347
	Formula II	Kontrol negatif	,93333*	,17427	,004	,3986	1,4680
		Formula I	-,20000	,17427	,523	-,7347	,3347
Uji daya sebar setelah cycling test	Kontrol negatif	Formula I	-,76667*	,20000	,020	-1,3803	-,1530
		Formula II	-,50000	,20000	,102	-1,1137	,1137
	Formula I	Kontrol negatif	,76667*	,20000	,020	,1530	1,3803
		Formula II	,26667	,20000	,429	-,3470	,8803
	Formula II	Kontrol negatif	,50000	,20000	,102	-,1137	1,1137
		Formula I	-,26667	,20000	,429	-,8803	,3470

*. The mean difference is significant at the 0.05 level.

Homogeneous Subsets

Uji daya sebar sebelum cycling test

Tukey HSD[a]

Formula	N	Subset for alpha = 0.05	
		1	2
Kontrol negatif	3	4,7000	
Formula II	3		5,6333
Formula I	3		5,8333
Sig.		1,000	,523

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

Uji daya sebar setelah cycling test

Tukey HSD[a]

Formula	N	Subset for alpha = 0.05	
		1	2
Kontrol negatif	3	4,2667	
Formula II	3	4,7667	4,7667
Formula I	3		5,0333
Sig.		,102	,429

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

Uji paired t test

T-Test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Uji daya sebar sebelum cycling test	5,3889	9	,55553	,18518
	Uji daya sebar setelah cycling test	4,6889	9	,39826	,13275

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Uji daya sebar sebelum cycling test & Uji daya sebar setelah cycling test	9	,666	,050

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Uji daya sebar sebelum cycling test - Uji daya sebar setelah cycling test	,70000	,41533	,13844	,38075	1,01925	5,056	8	,001

4. Uji kelembaban

Uji normalitas kelembapan

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Formula	Statistic	df	Sig.	Statistic	df	Sig.
Kelembapan	Kontrol negatif	,249	7	,200*	,874	7	,200
	Formula I	,207	7	,200*	,940	7	,641
	Formula II	,221	7	,200*	,901	7	,339

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Uji homogenitas dan anova

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Kelembapan	Based on Mean	,657	2	18	,530
	Based on Median	,590	2	18	,565
	Based on Median and with adjusted df	,590	2	13,851	,568
	Based on trimmed mean	,615	2	18	,552

ANOVA

Kelembapan

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	142,042	2	71,021	20,607	,000
Within Groups	62,036	18	3,446		
Total	204,077	20			

Pos hoc T

Multiple Comparisons

Dependent Variable: Kelembapan

Tukey HSD

(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Kontrol negatif	Formula I	-5,25000*	,99232	,000	-7,7826	-2,7174
	Formula II	-5,75000*	,99232	,000	-8,2826	-3,2174
Formula I	Kontrol negatif	5,25000*	,99232	,000	2,7174	7,7826
	Formula II	-,50000	,99232	,870	-3,0326	2,0326
Formula II	Kontrol negatif	5,75000*	,99232	,000	3,2174	8,2826
	Formula I	,50000	,99232	,870	-2,0326	3,0326

*. The mean difference is significant at the 0.05 level.

Kelembapan

Tukey HSD[a]

Formula	N	Subset for alpha = 0.05	
		1	2
Kontrol negatif	7	38,2857	
Formula I	7		43,5357
Formula II	7		44,0357
Sig.		1,000	,870

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 7,000.