LAMPIRAN

Lampiran 1. Hasil izin kode etik hewan

3/19/2021 KEPK-RSDM

HEALTH RESEARCH ETHICS COMITTE
KOMISI ETIK PENELITIAN KESEHATAN

Dr. Moewardi General Hospital
RSUD Dr. Moewardi

ETHICAL CLEARANCE
KELAIKAN ETIK

Nomor : 303 / III / HREC / 2021

The Health Research Ethics Committee Dr. Moewardi
Komisi Etik Penelitian Kesehatan RSUD Dr. Moewardi

after reviewing the proposal design, herewith to certify
setelah menilai rancangan penelitian yang diusulkan, dengan ini menyatakan

That the research proposal with topic :
Bahwa usulan penelitian dengan judul

UJI AKTIVITAS ANTI AGING SEDIAAN EMULGEL MINYAK JINTAN HITAM (Nigella sativa L.) PADA PUNGGUNG KELINCI NEW ZEALAND YANG DIPAPAR SINAR UV-A

Principal investigator : TIA SARAH DEBIANA
Peneliti Utama 23175354A

Location of research : Universitas Setia Budi
Lokasi Tempat Penelitian

Is ethically approved
Dinyatakan layak etik

Issued on : 19 Maret 2021

Chairman
Ketua

Dr. Wahyu Dwi Atmoko., Sp.F.
19770224 201001 1 004

Lampiran 2. Surat keterangan hewan uji

PEMERINTAH KOTA SURAKARTA
DINAS PERTANIAN,
KETAHANAN PANGAN DAN PERIKANAN
JL. Yap Tjwan Bing (Jagalan) No. 26 Telp. (0271) 656816 – Fax. (0271) 656816
Website www.dispertan.surakarta.co.id E-mail pertanian_ska@yahoo.co.id
SURAKARTA
57124

SURAT KETERANGAN KESEHATAN HEWAN

Nomor : 524.3/ 195 /SKKH

Yang bertandatangan di bawah ini **drh. Evy Nurwulandari** Dokter Hewan yang berwenang di wilayah **Kota Surakarta**, menerangkan bahwa pada hari **Senin** tanggal **22** bulan **Februari** tahun **2021** telah memeriksa hewan di bawah ini :

NO	JENIS HEWAN	SUB SPESIES/ TRAH	JUMLAH (ekor)			UMUR (bln)	Tanda / Warna
			Jtn	Btn	Total		
1	Kelinci	New Zealand	6	0	6	3-4	Putih

Menerangkan bahwa hewan-hewan tersebut di atas : sehat, atau saat pemeriksaan tidak menunjukan tanda klinis penyakit hewan menular, khususnya Avian Influenza (30 hari terakhir tidak terjadi wabah Avian Influenza radius 1 km dari tempat asal hewan).

KETERANGAN :

Nama pemilik/pengirim	:	Sdr. Yuliyanto Ratno Saputro
No KTP/SIM pemilik/pengirim	:	3372053007720003
No telp. Pemilik/pengirim	:	082133998945
Alamat pemilik/pengirim	:	Sumber Rt.04 Rw.03 Surakarta.
Daerah asal hewan	:	Pasar Burung Depok, Surakarta.
Daerah tujuan	:	Universitas Setia Budi Surakarta
Nama dan alamat penerima	:	Tia Sarah Debiana
Rencana dikirim	:	Senin, 22 Februari 2021
Kendaraan	:	Mobil.

Setelah sampai di daerah tujuan segera melaporkan ke dinas yang membidangi fungsi peternakan dan kesehatan hewan.

Surakarta, 22 Februari 2021.

a.n. KEPALA DINAS PERTANIAN'
KETAHANAN PANGAN DAN PERIKANAN
KOTA SURAKARTA
Kepala Bidang Keswan Kesmavet

drh. EVY NURWULANDARI
Pembina
NIP. 19700806199803 2 004

Tembusan Yth. :
1. Walikota Surakarta (sebagai laporan);
2. Kepala Dinas Peternakan dan Kesehatan Hewan Provinsi Jawa Tengah;
3. Kepala Balai Karantina Surakarta;
4. Arsip.

Lampiran 3. *Certificate of analysis* minyak jintan hitam

Certificate of Analysis (COA)

PRODUCT IDENTIFICATION	
Name:	Black seed oil
Customer:	PT Darjeeling Sembrani Aroma
Batch no:	1119-122-BLAIND
TEST	
Colour	Dark yellow to brown liquid
Relative density	0.918
Refractive index	1.473
FATTY ACID COMPOSITON (GC of FAME's)	
Margaric acid	10.25%
Stearic acid	2.40%
Oleic acid	20.10%
Linoleic acid	50.10%
cis-11, 14-eicosadienoic acid	7.75%

Important Disclaimeer:

The entire of information contained in this (COA) has been obtained from most current and reliable sources.
The information contained herein, is true to the best of the knowledge of PT Darjeeling Sembrani Aroma.

No information contained herein should be interpreted as a recommendation to infringe exisiting patents or violate any laws or regulations.
The sole responsibility of the suitability of the material lies with the end user(s).
All customers who purchase any products from PT Darjeeling Sembrani Aroma are hereby clearly notified that all such products must be used at the customers' / end users own discretion and only after referencing the full and complete data available herein
and all other relevant product specific technical information.
PT Darjeeling Sembrani Aroma shall not be held responsible for any damages to the property or for an adverse physical effects (including injury or bodily harm) caused due to and by insufficient knowledge and/or the improper use of the products.(s)
The user(s) of any such product(s) will be wholly and solely responsible for compliance with all laws and abiding by the laid down rules and regulations in regards with the use and applicability of the product(s) and this includes the intellectual property rights of third parties as with any manufacturing process.

As the ordinary or otherwise uses of any product is beyond and outside the control of PT Darjeeling Sembrani Aroma there is no representation or warranty, expressed or implied is made as to the effect(s) of such use(s) (including damage or injury), or the results obtained.

Darjeeling

Darjeeling

Lampiran 4. Perhitungan bobot jenis minyak jintan hitam

Bobot jenis $= \frac{m2-m}{m1-m}$

m = massa piknometer kosong

m_1 = massa piknometer berisi air

m_2 = masa piknometer berisi minyak

Perhitungan

m = 33,123 ; m1 = 82,972

Replikasi 1	Replikasi 2	Replikasi 3
$= \frac{79,001-33,123}{82,972-33,123}$	$= \frac{78,842-33,123}{82,972-33,123}$	$= \frac{78,862-33,123}{82,972-33,123}$
$= \frac{45,878}{49,849}$	$= \frac{45,719}{49,849}$	$= \frac{45,739}{49,849}$
= **0,9203**	= **0,9171**	= **0,9175**

Lampiran 5. Gambar penelitian

A. Gambar alat, bahan, dan proses penelitian

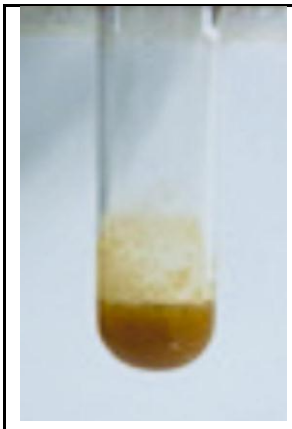
Minyak jintan hitam

Piknometer

Refraktometer

Flavonoid

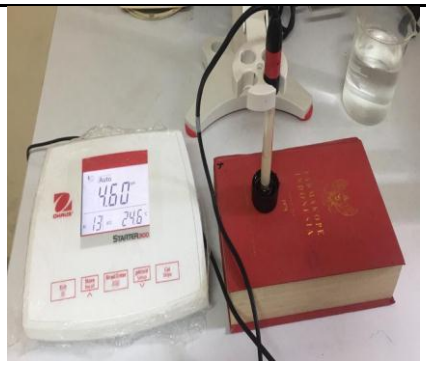
Saponin



Thymouinone

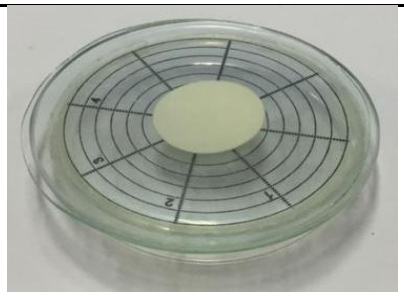
Terpenoid

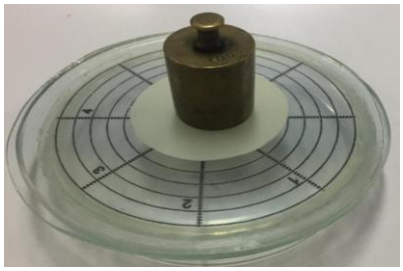
Viskometer



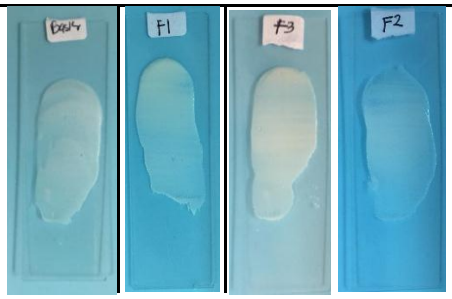
Ph meter

Alat daya lekat





Alat daya sebar

 Kontrol positif *Premium Emulgel With Grape Seed Oil* KSH	 Emulsi sebelum dan sesudah penambahan zat aktif minyak
 Organoleptis emulgel minyak jintan hitam formula 1,2,3, dan 4	 Homogenitas emulgel minyak jintan hitam formula 1,2, 3 dan 4
 *Skin analyzer*	 Proses pencukuran bulu kelinci

  Proses induksi kerut menggunakan sinar UV-A	 Proses pengukuran parameter menggunakan *Skin Analyzer*

B. Gambar Uji Keamanan

Kelinci	Uji Iritasi Primer		
	24	48	72
F1			
F2			

F3			
F4			

Lampiran 6. Hasil uji mutu fisik

1. Organoleptis

Formula	Waktu	Organoleptis		
		Konsistensi	Aroma	Warna
F1	1	Emulgel (kental)	Khas carbopol	Putih
	28	Emulgel (kental)	Khas carbopol	Putih
F2	1	Emulgel (kental)	Khas jintan hitam	Coklat
	28	Emulgel (kental)	Khas minyak jintan hitam	Coklat
F3	1	Emulgel (kental)	Khas minyak jintan hitam	Coklat
	28	Emulgel (kental)	Khas minyak jintan hitam	Coklat
F4	1	Emulgel (kental)	Khas minyak jintan hitam	Coklat
	28	Emulgel (kental)	Khas minyak jintan hitam	Coklat

1. Homogenitas

Formula	Waktu	Hasil uji homogenitas
F1	1	Homogen
	28	Homogen
F2	1	Homogen
	28	Homogen
F3	1	Homogen
	28	Homogen
F4	1	Homogen
	28	Homogen

2. pH

Formula	Hari ke- 1	Hari ke-28
F 1	5,8	5,8
	5,8	5,75
	5,79	5,82
Rata-rata±SD	5,80±0,01	5,79±0,04
F 2	5,54	5,46
	5,53	5,5
	5,54	5,56
Rata-rata±SD	5,54±0,01	5,51±0,05
F 3	5,3	5,24
	5,25	5,22
	5,2	5,23
Rata-rata±SD	5,25±0,05	5,23±0,01
F 4	5,16	5
	5,10	5
	5,1	5,17
Rata-rata±SD	5,12±0,03	5,06±0,10

3. Viskositas

Formula	Hari ke- 1	Hari ke-28
F 1	250	230
	250	230
	230	250
Rata-rata±SD	243,33±11,55	236,67±11,5
F 2	175	160
	175	150
	150	150
Rata-rata±SD	166,67±14,43	153,33±2,89
F 3	170	175
	175	175
	190	180
Rata-rata±SD	17,33±10,41	176,67±8,66
F 4	200	175
	200	175
	180	190
Rata-rata±SD	193,33±11,5	180,00±8,66

4. Daya sebar

Formula	Hari ke-	Beban (gam)	Diameter				SD
			R1	R2	R3	Rata-rata	
		0	3,80	4,00	4,10	3,97	0,15
		50	4,00	4,50	4,40	4,30	0,26
		100	5,80	6,00	5,80	5,87	0,12
	1	150	6,00	6,40	6,10	6,17	0,21
		0	4,10	4,30	4,00	4,13	0,15
		50	4,50	4,30	4,30	4,37	0,12
		100	6,00	5,90	5,90	5,93	0,06
1	28	150	6,30	6,20	6,10	6,20	0,10
		0	4,60	4,80	5,00	4,80	0,20
		50	4,80	4,80	5,50	5,03	0,40
		100	6,50	6,40	6,70	6,53	0,15
	1	150	6,80	6,70	6,80	6,77	0,06
		0	4,50	5,20	4,80	4,83	0,35
		50	5,20	5,30	4,80	5,10	0,26
		100	6,50	6,70	6,80	6,67	0,15
2	28	150	6,70	7,00	6,90	6,87	0,15
		0	4,30	4,50	4,20	4,33	0,15
		50	4,60	4,80	4,70	4,70	0,10
		100	6,30	6,60	6,50	6,47	0,15
	1	150	6,60	6,70	6,50	6,60	0,10
		0	4,50	4,30	4,50	4,43	0,12
		50	4,90	4,90	4,80	4,87	0,06
		100	6,70	6,70	6,50	6,63	0,12
3	28	150	6,80	6,90	6,70	6,80	0,10
		0	4,30	4,20	4,20	4,23	0,06
		50	4,70	4,50	4,60	4,60	0,10
		100	6,10	6,40	6,40	6,30	0,17
	1	150	6,30	6,50	6,50	6,43	0,12
		0	4,40	4,20	4,30	4,30	0,10
		50	4,70	4,50	4,70	4,63	0,12
		100	6,20	6,30	6,50	6,33	0,15
4	28	150	6,40	6,60	6,40	6,47	0,12

5. Daya lekat

Formula	Hari ke- 1	Hari ke- 28
F1	3,10	3,04
	3,02	3,44

	3,09	2,09
Rata-rata±SD	3,07 ± 0,04	2,86 ± 0,69
F2	3,22	3,25
	3,42	3,15
	3,19	3,12
Rata-rata±SD	3,28 ± 0,13	3,17 ± 0,07
F3	3,17	2,91
	3,34	3,38
	3,44	3,45
Rata-rata±SD	3,32 ± 0,14	3,25 ± 0,29
Formula 4	3,66	3,63
	3,85	3,55
	3,40	3,28
Rata-rata±SD	3,64 ± 0,23	3,49 ± 0,18

Lampiran 7. Hasil uji SPSS uji mutu fisik krim

1. Data statistik pH

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
pHharike1	,177	12	,200*	,873	12	,072
pHharike28	,201	12	,194	,916	12	,255

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

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
						Lower Bound	Upper Bound		
pH1	emulgel kontrol negatif	3	5,7967	,00577	,00333	5,7823	5,8110	5,79	5,80
	emulgel MJH 10%	3	5,5367	,00577	,00333	5,5223	5,5510	5,53	5,54
	emulgel MJH 15%	3	5,2500	,05000	,02887	5,1258	5,3742	5,20	5,30
	4	3	5,1200	,03464	,02000	5,0339	5,2061	5,10	5,16
	Total	12	5,4258	,27474	,07931	5,2513	5,6004	5,10	5,80
pH28	emulgel kontrol negatif	3	5,7900	,03606	,02082	5,7004	5,8796	5,75	5,82
	emulgel MJH 10%	3	5,5067	,05033	,02906	5,3816	5,6317	5,46	5,56
	emulgel MJH 15%	3	5,2300	,01000	,00577	5,2052	5,2548	5,22	5,24
	4	3	5,0567	,09815	,05667	4,8128	5,3005	5,00	5,17
	Total	12	5,3958	,29506	,08518	5,2084	5,5833	5,00	5,82

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
pH1	2,773	3	8	,111
pH28	5,091	3	8	,029

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
pH1	Between Groups	,823	3	,274	291,242	,000
	Within Groups	,008	8	,001		
	Total	,830	11			
pH28	Between Groups	,931	3	,310	91,455	,000
	Within Groups	,027	8	,003		
	Total	,958	11			

Tukey HSD[a]

Formula	N	Subset for alpha = 0.05			
		1	2	3	4
4	3	5,1200			
emulgel MJH 15%	3		5,2500		
emulgel MJH 10%	3			5,5367	
emulgel kontrol negatif	3				5,7967
Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 3,000.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pH1	5,4258	12	,27474	,07931
	pH28	5,3958	12	,29506	,08518

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	pH1 & pH28	12	,977	,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	pH1 - pH28	,03000	,06481	,01871	-,01118	,07118	1,604	11	,137

2. Data statistik viskositas

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
viskoharike1	,193	12	,200*	,890	12	,118
viskoharike28	,247	12	,041	,860	12	,049

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

a. Lilliefors Significance Correction

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
						Lower Bound	Upper Bound		
Viskositas 1	emulgel kontrol negatif	3	243,3333	11,54701	6,66667	214,6490	272,0177	230,00	250,00
	emulgel MJH 10%	3	166,6667	14,43376	8,33333	130,8112	202,5221	150,00	175,00
	emulgel MJH 15%	3	178,3333	10,40833	6,00925	152,4776	204,1891	170,00	190,00
	4	3	193,3333	11,54701	6,66667	164,6490	222,0177	180,00	200,00
	Total	12	195,4167	32,22494	9,30254	174,9419	215,8914	150,00	250,00
Viskositas 28	emulgel kontrol negatif	3	236,6667	11,54701	6,66667	207,9823	265,3510	230,00	250,00
	emulgel MJH 10%	3	153,3333	5,77350	3,33333	138,9912	167,6755	150,00	160,00
	emulgel MJH 15%	3	176,6667	2,88675	1,66667	169,4956	183,8378	175,00	180,00
	4	3	180,0000	8,66025	5,00000	158,4867	201,5133	175,00	190,00
	Total	12	186,6667	32,70622	9,44147	165,8861	207,4472	150,00	250,00

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
viskositas1	,333	3	8	,802
viskositas28	3,556	3	8	,067

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.

Viskositas 1	Between Groups	10256,250	3	3418,750	23,443	,000
	Within Groups	1166,667	8	145,833		
	Total	11422,917	11			
Viskositas 28	Between Groups	11266,667	3	3755,556	60,089	,000
	Within Groups	500,000	8	62,500		
	Total	11766,667	11			

Tukey HSD[a]

Formula	N	Subset for alpha = 0.05	
		1	2
emulgel MJH 10%	3	166,6667	
emulgel MJH 15%	3	178,3333	
4	3	193,3333	
emulgel kontrol negatif	3		243,3333
Sig.		,101	1,000

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 3,000.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Viskositas 1	195,4167	12	32,22494	9,30254
	Viskositas 28	186,6667	12	32,70622	9,44147

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	viskositas1 & viskositas28	12	,888	,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	viskositas1 - viskositas28	8,75000	15,39259	4,44346	-1,02998	18,52998	1,969	11	,075

3. Data statistik daya sebar

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
dayasebar1	,139	12	,200*	,967	12	,877
dayasebar28	,127	12	,200*	,971	12	,918

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
						Lower Bound	Upper Bound		
Daya sebar 1	emulgel kontrol negatif	3	5,0767	,16623	,09597	4,6637	5,4896	4,90	5,23
	emulgel MJH 10%	3	5,7867	,18475	,10667	5,3277	6,2456	5,68	6,00
	emulgel MJH 15%	3	5,5267	,10786	,06227	5,2587	5,7946	5,45	5,65
	emulgel MJH 20 %	3	5,3933	,04041	,02333	5,2929	5,4937	5,35	5,43
	Total	12	5,4458	,29159	,08418	5,2606	5,6311	4,90	6,00
Daya sebar 28	emulgel kontrol negatif	3	5,1633	,07638	,04410	4,9736	5,3531	5,08	5,23
	emulgel MJH 10%	3	5,8767	,16166	,09333	5,4751	6,2782	5,73	6,05
	emulgel MJH 15%	3	5,6867	,05132	,02963	5,5592	5,8141	5,63	5,73
	emulgel MJH 20 %	3	5,4367	,04041	,02333	5,3363	5,5371	5,40	5,48
	Total	12	5,5408	,29150	,08415	5,3556	5,7260	5,08	6,05

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
dayasebar	2,326	3	8	,151

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
dayasebar1	Between Groups	,785	3	,262	13,953	,002
	Within Groups	,150	8	,019		
	Total	,935	11			

Tukey HSD[a]

formula	N	Subset for alpha = 0.05		
		1	2	3
emulgel kontrol negatif	3	5,0767		
emulgel MJH 20 %	3	5,3933	5,3933	
emulgel MJH 15%	3		5,5267	5,5267
emulgel MJH 10%	3			5,7867
Sig.		,084	,648	,171

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 3,000.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	dayasebar1	5,4458	12	,29159	,08418
	dayasebar28	5,5408	12	,29150	,08415

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	dayasebar1 & dayasebar28	12	,851	,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	Daya sebar 1 – daya sebar 28	-,09500	,15889	,04587	-,19595	,00595	-2,071	11	,063

4. Daya lekat

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
dayaekat1	,165	12	,200*	,926	12	,337
dayalekat28	,189	12	,200*	,825	12	,018

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
						Lower Bound	Upper Bound		
Daya lekat 1	emulgel kontrol negatif	3	3,0700	,04359	,02517	2,9617	3,1783	3,02	3,10
	emulgel MJH 10%	3	3,2767	,12503	,07219	2,9661	3,5873	3,19	3,42
	emulgel MJH 15%	3	3,3167	,13650	,07881	2,9776	3,6558	3,17	3,44
	emulgel MJH 20 %	3	3,6367	,22591	,13043	3,0755	4,1978	3,40	3,85
	Total	12	3,3250	,24645	,07114	3,1684	3,4816	3,02	3,85
Daya lekat 28	emulgel kontrol negatif	3	2,8567	,69342	,40035	1,1341	4,5792	2,09	3,44
	emulgel MJH 10%	3	3,1733	,06807	,03930	3,0042	3,3424	3,12	3,25
	emulgel MJH 15%	3	3,2467	,29366	,16954	2,5172	3,9761	2,91	3,45
	emulgel MJH 20 %	3	3,4867	,18339	,10588	3,0311	3,9422	3,28	3,63
	Total	12	3,1908	,40659	,11737	2,9325	3,4492	2,09	3,63

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Daya lekat 1	1,537	3	8	,278
Daya lekat 28	4,532	3	8	,039

ANOVA

Sum of Squares	df	Mean Square	F	Sig.
,494	3	,165	7,549	,010
,174	8	,022		
,668	11			

,608	3	,203	1,339	,328
1,211	8	,151		
1,818	11			

Tukey HSD[a]

formula	N	Subset for alpha = 0.05	
		1	2
emulgel kontrol negatif	3	3,0700	
emulgel MJH 10%	3	3,2767	3,2767
emulgel MJH 15%	3	3,3167	3,3167
emulgel MJH 20 %	3		3,6367
Sig.		,249	,068

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 3,000.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	dayalekat1	3,3250	12	,24645	,07114
	dayalekat28	3,1908	12	,40659	,11737

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	dayalekat1 - dayalekat28	,13417	,33266	,09603	-,07720	,34553	1,397	11	,190

Lampiran 8. Hasil uji stabilitas emulgel

1. pH

Formula	Sebelum stabilitas	Sesudah stabilitas
F 1	5,80	5,70
	5,82	5,76
	5,78	5,73
Rata-rata	5,80	5,73
SD	0,02	0,03
F 2	5,57	5,48
	5,50	5,45
	5,54	5,50
Rata-rata	5,54	5,48
SD	0,04	0,03
F 3	5,30	5,00
	5,30	5,27
	5,16	5,29
Rata-rata	5,25	5,19
SD	0,08	0,16
F 4	5,00	5,00
	5,20	4,98
	5,16	5,20
Rata-rata	5,12	5,06
SD	0,11	0,12

2. Viskositas

Formula	Sebelum stabilitas	Sesudah stabilitas
F 1	250	230
	250	230
	230	250
Rata-rata	243,33	236,67
SD	11,547	11,547
F 2	175	150
	175	175
	150	150
Rata-rata	166,67	158,33
SD	14,43	14,43
F 3	170	180
	175	150
	190	175
Rata-rata	178,33	168,33
SD	10,41	16,07
F 4	200	180
	200	190
	180	190
Rata-rata	193,33	186,67
SD	11,55	5,77

Lampiran 9. Hasil uji SPSS stabilitas pH emulgel

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
sebelumstabilitas	,177	12	,200*	,873	12	,072
sesudahstabilitas	,148	12	,200*	,915	12	,249

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pHsebelumstabilitas	5,4258	12	,27474	,07931
	pHsesudahstabilitas	5,3633	12	,28551	,08242

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	pHsebelumstabilitas & pHsesudahstabilitas	12	,926	,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	pHsebelum stabilitas - pHsesudah stabilitas	,06250	,10805	,03119	-,00615	,13115	2,004	11	,070

Lampiran 10. Hasil SPSS uji stabilitas viskositas emulgel

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
sebelumstabilitas	,193	12	,200*	,890	12	,118
sesudahstabilitas	,220	12	,113	,886	12	,106

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	viskositassebelumstabilitas	195,4167	12	32,22494	9,30254
	viskositassesudahstabilitas	187,5000	12	33,26888	9,60390

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	viskositassebelumstabilitas & viskositassesudahstabilitas	12	,889	,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	viskositassebelumstabilitas - viskositassesudahstabilitas	7,91667	15,44173	4,45764	-1,89454	17,72787	1,776	11	,103

Lampiran 11. Hasil uji keamanan berdasar pengujian iritasi primer

Respon setelah pemberian sediaan

		Eritema	Udema	Eritema	Udema	Eritema	Udema
Basis emulgel	1	0	0	0	0	0	0
	2	0	0	0	0	0	0
	3	0	0	0	0	0	0
Total		0	0	0	0	0	0
IIPR		0					
Kesimpulan		Krim sangat sedikit mengiritasi					
Emulgel minyak jintan hitam 10%	1	0	0	0	0	0	0
	2	0	0	0	0	0	0
	3	0	0	0	0	0	0
Total		0	0	0	0	0	0
IIPR		0					
Kesimpulan		Krim sangat sedikit mengiritasi					
Emulgel minyak jintan hitam 15%	1	0	0	0	0	0	0
	2	0	0	0	0	0	0
	3	0	0	0	0	0	0
Total		0	0	0	0	0	0
IIPR		0					
Kesimpulan		Krim sangat sedikit mengiritasi					
Emulgel minyak jintan hitam 20%	1	0	0	0	0	0	0
	2	0	0	0	0	0	0
	3	0	0	0	0	0	0
Total		0	0	0	0	0	0
IIPR		0.3					
Kesimpulan		Krim sangat sedikit mengiritasi					

IIPR

$$= \frac{\text{Jumlah eritema 24/48/72 jam + Jumlah edema 24/48/72 jam}}{\text{Jumlah kelinci}}$$

1) Basis emulgel = 0
2) Emulgel konsntrasi 10% = 0
3) Emulgel konsentrasi 15% = 0
4) Emulgel konsentrasi 20% = 0,3

Lampiran 12. Hasil uji Skin Analyzer hewan uji

1. Data persen kolagen

Kelompok uji	replikasi	Hasil persen kolagen					
		Sebelum induksi UV-A	Setelah induksi UV-A	Hari ke-7	Hari ke-14	Hari ke- 21	Hari ke- 28
-	1	65	47	48	54	61	64
	2	72	54	51	48	62	66
	3	63	55	53	54	63	65
	4	59	47	54	57	59	67
	5	63	48	56	57	62	67
Rata-rata±SD		64,4±4,77	50,2±3,96	52,4±3,05	54,0±3,67	61,4±1,52	65,8±1,30
+	1	71	50	64	68	77	84
	2	67	55	68	71	74	85
	3	65	53	67	72	75	80
	4	56	54	64	68	76	81
	5	65	49	64	70	75	84
Rata-rata±SD		64,8±7,46	52,2±2,59	65,4±1,95	69,8±1,79	75,4±1,14	82,8±2,17
F2	1	75	55	59	66	68	74
	2	62	53	59	68	68	78
	3	62	55	59	69	73	74
	4	64	57	60	68	73	74
	5	63	57	60	64	69	74
Rata-rata±SD		65,2±5,54	55,4±1,67	59,4±0,55	67±2,00	70,2±2,59	74,8±1,79
F3	1	61	52	57	72	76	77
	2	72	57	59	67	74	82
	3	63	58	62	69	74	77
	4	69	57	59	72	75	75
	5	72	57	61	69	74	79
Rata-rata±SD		67,4±5,13	56,2±2,39	59,6±1,95	69,8±2,17	74,6±0,89	78±2,65
F4	1	78	45	63	67	75	79
	2	62	60	64	69	73	78
	3	62	54	62	68	76	85
	4	63	47	65	67	76	83
	5	64	57	65	67	77	84
Rata-rata±SD		65,8±6,87	52,6±6,43	63,8±1,30	67,6±0,89	75,4±1,52	81,8±3,11

2. Data persen elastisitas

Kelompok uji	replikasi	Hasil persen elastisitas					
		Sebelum induksi UV-A	Setelah induksi UV-A	Hari ke-7	Hari ke-14	Hari ke- 21	Hari ke- 28
-	1	60	49	52	54	62	64
	2	63	45	47	52	59	64
	3	58	48	49	50	60	63
	4	61	50	51	51	55	65
	5	59	49	50	53	58	62
Rata-rata±SD		60,2±1,92	48,2±1,92	49,8±1,92	52,0±1,58	58,8±2,59	63,6±1,14
+	1	64	52	58	65	69	70
	2	59	50	59	63	68	71
	3	60	52	62	65	69	71
	4	61	48	61	64	68	71
	5	60	52	57	65	67	72
Rata-rata±SD		60,8±1,92	50,8±1,67	59,4±2,07	64,4±0,89	68,2±0,84	71±0,71
F2	1	60	52	54	57	62	65
	2	63	50	53	62	65	67
	3	58	49	52	58	63	65
	4	61	47	52	59	64	68
	5	59	49	57	62	65	69
Rata-rata±SD		60,2±1,92	49,4±1,82	53,6±2,07	59,6±2,30	63,8±1,30	66,8±1,79
F3	1	60	52	57	62	65	68
	2	58	50	57	59	68	67
	3	58	49	58	61	64	67
	4	61	51	56	60	64	68
	5	62	47	56	59	65	69
Rata-rata±SD		59,8±1,79	49,8±1,67	56,8±0,84	60,2±1,30	65,2±1,64	67,8±0,84
F4	1	60	50	59	64	68	70
	2	61	50	59	61	68	70
	3	60	52	60	63	67	69
	4	63	48	57	62	65	69
	5	63	52	58	63	64	68
Rata-rata±SD		61,4±1,52	50,4±1,92	58,6±1,14	62,6±1,14	66,4±1,82	69,2±0,84

3. Data persen kelembaban

Kelompok uji	replikasi	Hasil persen kelembaban					
		Sebelum induksi UV-A	Setelah induksi UV-A	Hari ke-7	Hari ke-14	Hari ke- 21	Hari ke- 28
-	1	12	4	6	8	11	12
	2	12	4	5	9	11	12
	3	10	3	5	6	6	8
	4	14	5	5	6	8	11
	5	13	5	8	9	12	14
Rata-rata±SD		12,2±1,48	4,2±0,84	5,8±1,30	7,6±1,52	9,6±2,51	11,4±2,19
+	1	11	6	11	12	14	22
	2	8	4	12	14	15	16
	3	11	5	9	11	16	23
	4	12	4	11	14	18	18
	5	11	3	8	13	16	18
Rata-rata±SD		10,6±1,52	4,4±1,14	10,2±1,64	12,8±1,30	15,8±1,48	19,4±2,97
F2	1	12	4	6	9	10	11
	2	9	6	6	11	12	13
	3	11	4	6	11	13	16
	4	11	3	5	9	15	18
	5	10	5	8	10	12	16
Rata-rata±SD		10,6±1,14	4,4±1,14	6,2±1,10	10,0±1,00	12,4±1,82	14,8±2,77
F3	1	12	3	8	11	13	12
	2	11	5	7	9	15	18
	3	12	4	12	13	11	18
	4	14	3	9	11	13	16
	5	11	5	11	14	15	23
Rata-rata±SD		12,0±1,22	4±1,00	9,4±2,07	11,6±1,95	13,4±1,67	17,4±3,97
F4	1	12	4	8	13	16	22
	2	11	4	7	13	16	18
	3	11	5	11	8	15	17
	4	14	5	12	12	13	16
	5	14	6	11	14	14	21
Rata-rata±SD		12,4±1,52	4,8±0,84	9,8±2,17	12,0±2,35	14,8±1,30	18,8±2,59

Lampiran 13. Hasil Statistika Kolagen Hewan Uji dengan *Skin Analyzer*

1. Hasil uji statistik Paired-Sampel T Test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	%kolagensebelumUV	65,5200	25	5,22909	1,04582
	%kolagensesudahUV	53,3200	25	4,13038	,82608

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	%kolagensebelumUV - %kolagensesudahUV	12,20000	6,84957	1,36991	9,37263	15,02737	8,906	24	,000

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	sesudahUV	53,3200	25	4,13038	,82608
	sesudah28hari	76,6400	25	6,58837	1,31767

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	sesudahUV & sesudah28hari	25	,156	,457

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	Sesudah UV – sesudah 28hari	-23,32000	7,20948	1,44190	-26,29593	-20,34407	-16,173	24	,000

2. Hasil uji statistik One Way Anova AUC kolagen

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
AUCkolagen	,245	25	,074	,783	25	,099

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
2,127	4	20	,115

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	427841,040	4	106960,260	141,273	,000
Within Groups	15142,400	20	757,120		
Total	442983,440	24			

Tukey HSD[a]

Kelompokperlakuan	N	Subset for alpha = 0.05		
		1	2	3
kontrol negatif	5	1586,6000		
emulgel MJH 10%	5		1834,8000	
emulgel MHJ 15%	5			1901,6000
emulgel MJH 20%	5			1919,0000
kontrol positif	5			1946,4000
Sig.		1,000	1,000	,114

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 5,000.

Lampiran 14. Hasil Statistika Elastisitas Hewan Uji dengan *Skin Analyzer*

1. Hasil uji statistik Paired-Sampel T Test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	sebelumUV	60,4800	25	1,75879	,35176
	sesudahUV	49,7200	25	1,90438	,38088

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	sebelumUV & sesudahUV	25	-,045	,830

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	sesudahUV - sesudahUV	10,76000	2,65016	,53003	9,66607	11,85393	20,301	24	,000

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	sesudahUV	49,7200	25	1,90438	,38088
	perlakuan28hari	67,6800	25	2,73435	,54687

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	sesudahUV & perlakuan28hari	25	,350	,086

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	sebelumUV - perlakuan28hari	-17,96000	2,73069	,54614	-19,08717	-16,83283	-32,885	24	,000

2. Hasil AUC elastisitas

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
AUCelastisitas	,165	25	,078	,905	25	,053

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
1,628	4	20	,206

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	186191,140	4	46547,785	64,197	,000
Within Groups	14501,600	20	725,080		
Total	200692,740	24			

Tukey HSD[a]

Kelompokperlakuan	N	Subset for alpha = 0.05			
		1	2	3	4
kontrol negatif	5	1520,7000			
emulgel MJH 10%	5		1649,0000		
emulgel MHJ 15%	5		1688,5000	1688,5000	
emulgel MJH 20%	5			1733,2000	1733,2000
kontrol positif	5				1771,0000
Sig.		1,000	,180	,103	,213

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 5,000.

Lampiran 15. Hasil Statistika Kelembaban Hewan Uji dengan *Skin Analyzer*

1. Hasil uji statistik Paired-Sampel T Test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	sebelumUV	11,5600	25	1,50222	,30044
	sesudahUV	4,3600	25	,95219	,19044

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	sebelumUV & sesudahUV	25	,028	,894

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	sebelumUV – sesudahUV	7,20000	1,75594	,35119	6,47518	7,92482	20,502	24	,000

2. Hasil AUC kelembaban

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
AUCkelembaban	,131	25	,200*	,945	25	,192

a. Lilliefors Significance Correction

AUCkelembaban

Levene Statistic	df1	df2	Sig.
1,779	4	20	,173

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	59853,300	4	14963,325	16,112	,000
Within Groups	18574,700	20	928,735		
Total	78428,000	24			

Tukey HSD[a]

Kelompokperlakuan	N	Subset for alpha = 0.05		
		1	2	3
kontrol negatif	5	218,8000		
emulgel MJH 10%	5		278,5000	
emulgel MHJ 15%	5		317,0000	317,0000
emulgel MJH 20%	5			340,1000
kontrol positif	5			355,1000
Sig.		1,000	,303	,312

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 5,000.