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LAMPIRAN




Lampiran 1. Identifikasi Lebah Kelulut



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Email: proteksi@ulm.ac.id, Website: www.protektan.ulm.ac.id

HASIL IDENTIFIKASI SERANGGA (Sample Kode Jun1.)

35 karakter morfologi sebagai dasar identifikasi berdasarkan Dollin et al. (1997), Samsudin et al. (2018), Sakagami (1978), Sakagami & Inoue (1987), Sakagami et al. (1990), Smith (2012), Trianto & Marisa (2020), Trianto & Purwanto (2020a) and Suprianto et al. (2020).

	Kepala: Panjangnya hampir dua kali lipat dan ditutupi bulu pendek. Clypeus dan fron dipisahkan oleh sulkus episomal. Mata majemuknya besar dan berwarna hitam, dan oselusnya berwarna hitam. Panjang kepala 1.18-2.15 mm lebar kepala 1.743-2.557 mm. panjang tubuh seluruhnya 4.86-7.82 mm
	Antena genikulatum, flagela beruas 11, ditutupi seragam dengan setae tegak pendek, batang panjang, tangkai panjang, dan seluruh flagel dua kali panjang batang. Mandibula lebih lebar di bagian pangkal, lebih sempit di bagian puncak, dan mempunyai satu gigi.
	Thorax: Mesoscutum berwarna hitam dan kasar, ditutupi setae panjang di anterior, tepi anterior lebih lebar dibandingkan posterior. Tegulae berwarna hitam, bulat, sangat sklerotisasi, dan tampak jelas. Venasi sayap lemah, dan sayap ditutupi bulu halus dan pendek. Total tujuh hamuli di sayap belakang. lebar dada 1.81-2.33 mm.



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Abdomen: Tergit gastral pertama hingga ketiga halus, tergite keempat lebih kasar, tergite kelima hingga keenam lebih kasar dan ditutupi setae halus. Sternite seluruhnya ditutupi dengan setae halus





Sayap. Panjang sayap depan 3.557 - 6.640 mm, Lebar sayap depan 1.362 - 2.494



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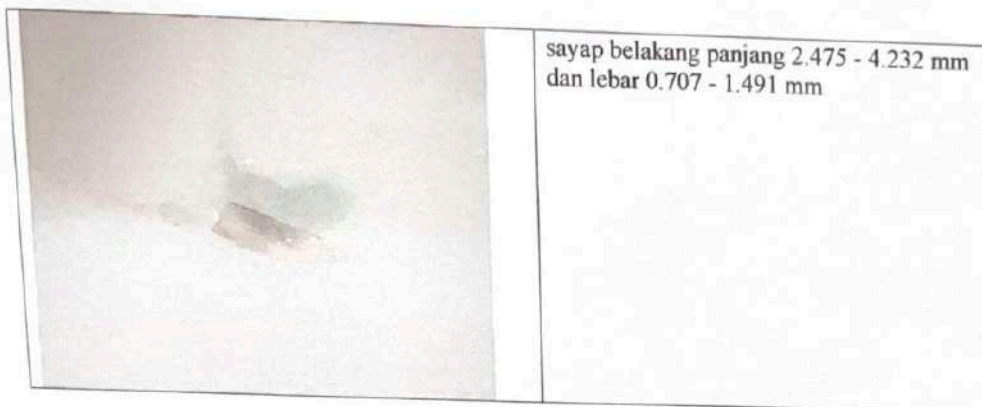
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	<p>Kaki.Tibiae belakang panjang, bentuk buah pir corbicula dan jelas, jarang ditutupi dengan setae panjang di puncak dan setae pendek di pangkal. Hind basitarsi panjang, panjang tibia hampir dua kali lipat dari basitarsus dan jarang ditutupi dengan setae pendek.</p>
<p>penjaga</p>	<p>Tibiae belakang panjang</p>
	<p>pekerja</p>



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sayap belakang panjang 2.475 - 4.232 mm
dan lebar 0.707 - 1.491 mm

Kingdom : Animalia
Phylum : Arthropoda
Class : Insecta
Ordo : Hymenoptera
Familia : Apidae; Meliponini
Sub Familia : Heterotrigona
Genus : Heterotrigona
Spesies : Heterotrigona itama

Daftar Pustaka

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NIP.-196209141988032001

Mengetahui
Koordinator Prodi Proteksi Tanaman
Jurusan hama dan Penyakit Tumbuhan

Dr. Ir. Yusriadi Marsuni, M.Si
NIP. 196509131993031002

Lampiran 2. *Ethical Clearance* penelitian



KOMISI ETIK PENELITIAN
UNIVERSITAS SARI MULIA
BANJARMASIN

Jln. Pramuka No.02 Banjarmasin
Telp/Fax. (0511) 3268105 / (0511) 3270134

ETHICAL CLEARANCE

No. 067/KEP-UNISM/V/2024

Komisi Etik Penelitian Universitas Sari Mulia Banjarmasin, setelah membaca dan menelaah Usulan Penelitian dengan judul :

FORMULASI DAN EVALUASI SEDIAAN LIP BALM MADU KELULUT (*Meliponini Honey*)

Peneliti : Priia Rahmatika

Pembimbing 1 : apt. Dyera Forestryana, M.Si

Pembimbing 2 : apt. Rahmi Muthia, M.Si

Setuju untuk dilaksanakan, dengan memperhatikan prinsip-prinsip yang dinyatakan dalam Deklarasi Helsinki 1975, yang diamandemen di Seoul 2008 dan Pedoman Nasional Etik Penelitian Kesehatan (PNEPK) Departemen Kesehatan RI 2011.

Peneliti diwajibkan menyerahkan laporan ke KEP UNISM jika penelitian sudah selesai & dilampiri dengan Abstrak Hasil Penelitian.

Banjarmasin, 02 Mei 2024

Komisi Etik Penelitian UNISM

Ketua L PPM,



Putri Vidasari Darsono, S.Si., M.Pd

NIK 1166012018116

Lampiran 3. Perhitungan Formulasi

Formulasi 1

$$\text{Oleum Mint} = \frac{8\%}{100\%} \times 5 \text{ gram} = 0,4 \text{ gram}$$

$$\text{BHT} = \frac{0,1\%}{100\%} \times 5 \text{ gram} = 0,005 \text{ gram}$$

$$\text{Metil Paraben} = \frac{0,18\%}{100\%} \times 5 \text{ gram} = 0,009 \text{ gram}$$

$$\text{Propil Paraben} = \frac{0,2\%}{100\%} \times 5 \text{ gram} = 0,25 \text{ gram}$$

$$\text{Propilenglikol} = \frac{10\%}{100\%} \times 5 \text{ gram} = 0,5 \text{ gram}$$

$$\text{Tween 80} = \frac{5\%}{100\%} \times 5 \text{ gram} = 0,25 \text{ gram}$$

$$\text{Span 80} = \frac{5\%}{100\%} \times 5 \text{ gram} = 0,25 \text{ gram}$$

$$\text{Oleum Cacao} = \frac{15\%}{100\%} \times 5 \text{ gram} = 0,75 \text{ gram}$$

$$\text{Cera Alba} = \frac{7\%}{100\%} \times 5 \text{ gram} = 0,35 \text{ gram}$$

$$\text{Shea Butter} = 5 \text{ gram} - 2,764 \text{ gram} = 2,236 \text{ gram}$$

Formulasi 2

$$\text{Madu Kelulut} = \frac{5\%}{100\%} \times 5 \text{ gram} = 0,25 \text{ gram}$$

$$\text{Oleum Mint} = \frac{8\%}{100\%} \times 5 \text{ gram} = 0,4 \text{ gram}$$

$$\text{BHT} = \frac{0,1\%}{100\%} \times 5 \text{ gram} = 0,005 \text{ gram}$$

$$\text{Metil Paraben} = \frac{0,18\%}{100\%} \times 5 \text{ gram} = 0,009 \text{ gram}$$

$$\text{Propil Paraben} = \frac{0,2\%}{100\%} \times 5 \text{ gram} = 0,25 \text{ gram}$$

$$\text{Propilenglikol} = \frac{10\%}{100\%} \times 5 \text{ gram} = 0,5 \text{ gram}$$

$$\text{Tween 80} = \frac{5\%}{100\%} \times 5 \text{ gram} = 0,25 \text{ gram}$$

$$\text{Span 80} = \frac{5\%}{100\%} \times 5 \text{ gram} = 0,25 \text{ gram}$$

$$\text{Oleum Cacao} = \frac{15\%}{100\%} \times 5 \text{ gram} = 0,75 \text{ gram}$$

$$\text{Cera Alba} = \frac{7\%}{100\%} \times 5 \text{ gram} = 0,35 \text{ gram}$$

$$\text{Shea Butter} = 5 \text{ gram} - 3,014 \text{ gram} = 1,986 \text{ gram}$$

Formulasi 3

$$\text{Madu Kelulut} = \frac{10\%}{100\%} \times 5 \text{ gram} = 0,5 \text{ gram}$$

$$\text{Oleum Mint} = \frac{8\%}{100\%} \times 5 \text{ gram} = 0,4 \text{ gram}$$

$$\text{BHT} = \frac{0,1\%}{100\%} \times 5 \text{ gram} = 0,005 \text{ gram}$$

$$\text{Metil Paraben} = \frac{0,18\%}{100\%} \times 5 \text{ gram} = 0,009 \text{ gram}$$

$$\text{Propil Paraben} = \frac{0,2\%}{100\%} \times 5 \text{ gram} = 0,25 \text{ gram}$$

$$\text{Propilenglikol} = \frac{10\%}{100\%} \times 5 \text{ gram} = 0,5 \text{ gram}$$

$$\text{Tween 80} = \frac{5\%}{100\%} \times 5 \text{ gram} = 0,25 \text{ gram}$$

$$\text{Span 80} = \frac{5\%}{100\%} \times 5 \text{ gram} = 0,25 \text{ gram}$$

$$\text{Oleum Cacao} = \frac{15\%}{100\%} \times 5 \text{ gram} = 0,75 \text{ gram}$$

$$\text{Cera Alba} = \frac{7\%}{100\%} \times 5 \text{ gram} = 0,35 \text{ gram}$$

$$\text{Shea Butter} = 5 \text{ gram} - 3,265 \text{ gram} = 1,736 \text{ gram}$$

Formulasi 4

$$\text{Madu Kelulut} = \frac{15\%}{100\%} \times 5 \text{ gram} = 0,25 \text{ gram}$$

$$\text{Oleum Mint} = \frac{8\%}{100\%} \times 5 \text{ gram} = 0,4 \text{ gram}$$

$$\text{BHT} = \frac{0,1\%}{100\%} \times 5 \text{ gram} = 0,005 \text{ gram}$$

$$\text{Metil Paraben} = \frac{0,18\%}{100\%} \times 5 \text{ gram} = 0,009 \text{ gram}$$

$$\text{Propil Paraben} = \frac{0,2\%}{100\%} \times 5 \text{ gram} = 0,25 \text{ gram}$$

$$\text{Propilenglikol} = \frac{10\%}{100\%} \times 5 \text{ gram} = 0,01 \text{ gram}$$

$$\text{Tween 80} = \frac{5\%}{100\%} \times 5 \text{ gram} = 0,25 \text{ gram}$$

$$\text{Span 80} = \frac{5\%}{100\%} \times 5 \text{ gram} = 0,25 \text{ gram}$$

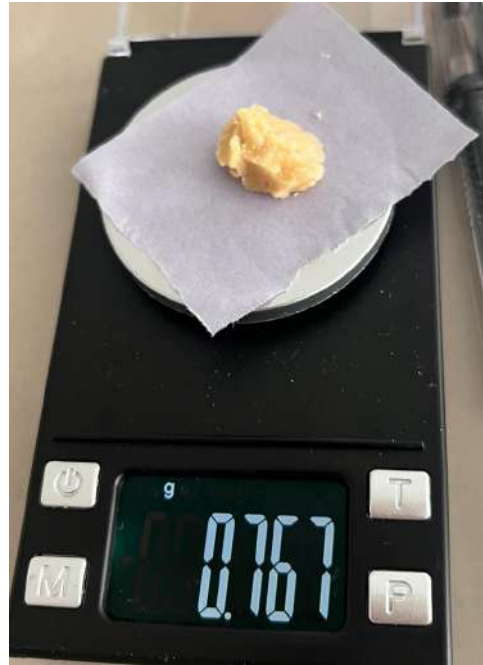
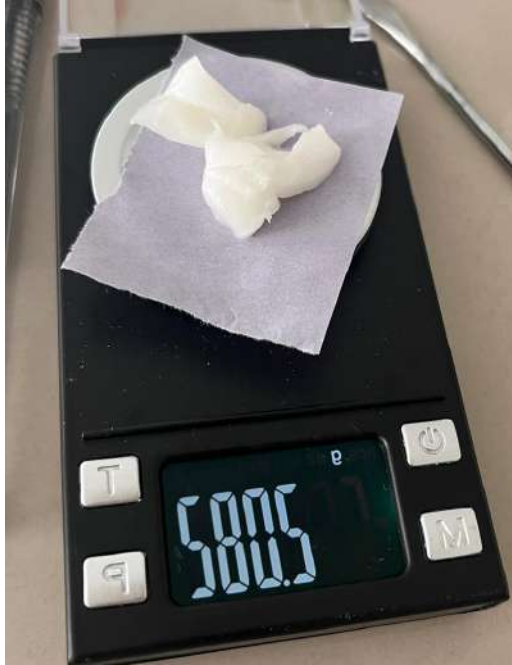
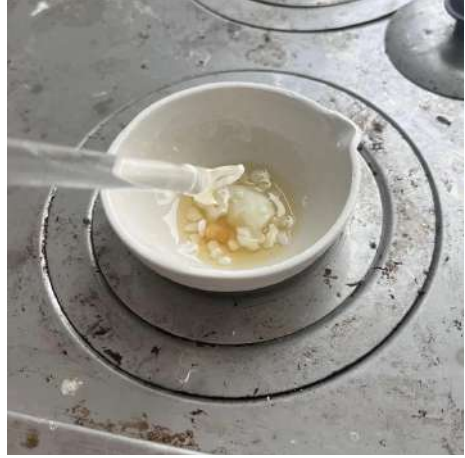
$$\text{Oleum Cacao} = \frac{15\%}{100\%} \times 5 \text{ gram} = 0,75 \text{ gram}$$

$$\text{Cera Alba} = \frac{7\%}{100\%} \times 5 \text{ gram} = 0,35 \text{ gram}$$

$$\text{Shea Butter} = 5 \text{ gram} - 3,514 \text{ gram} = 1,486 \text{ gram}$$

Lampiran 4. Pembuatan sediaan *lip balm*

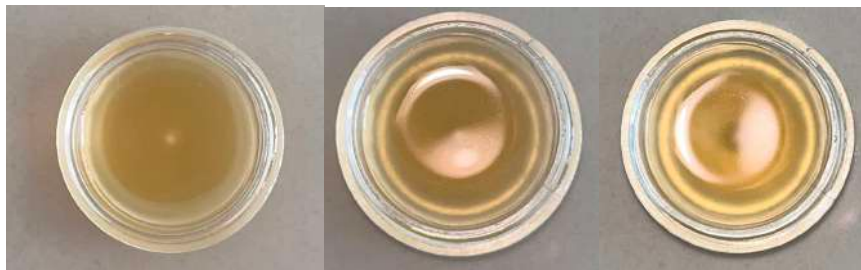




Lampiran 5. Uji Organoleptis



Gambar 5. Sediaan *lip balm* formulasi 1



Gambar 6. Sediaan *lip balm* formulasi 2



Gambar 7. Sediaan *lip balm* formulasi 3



Gambar 8. Sediaan *lip balm* formulasi 4

Lampiran 6. Uji Homogenitas



Lampiran 7. Pengujian pH

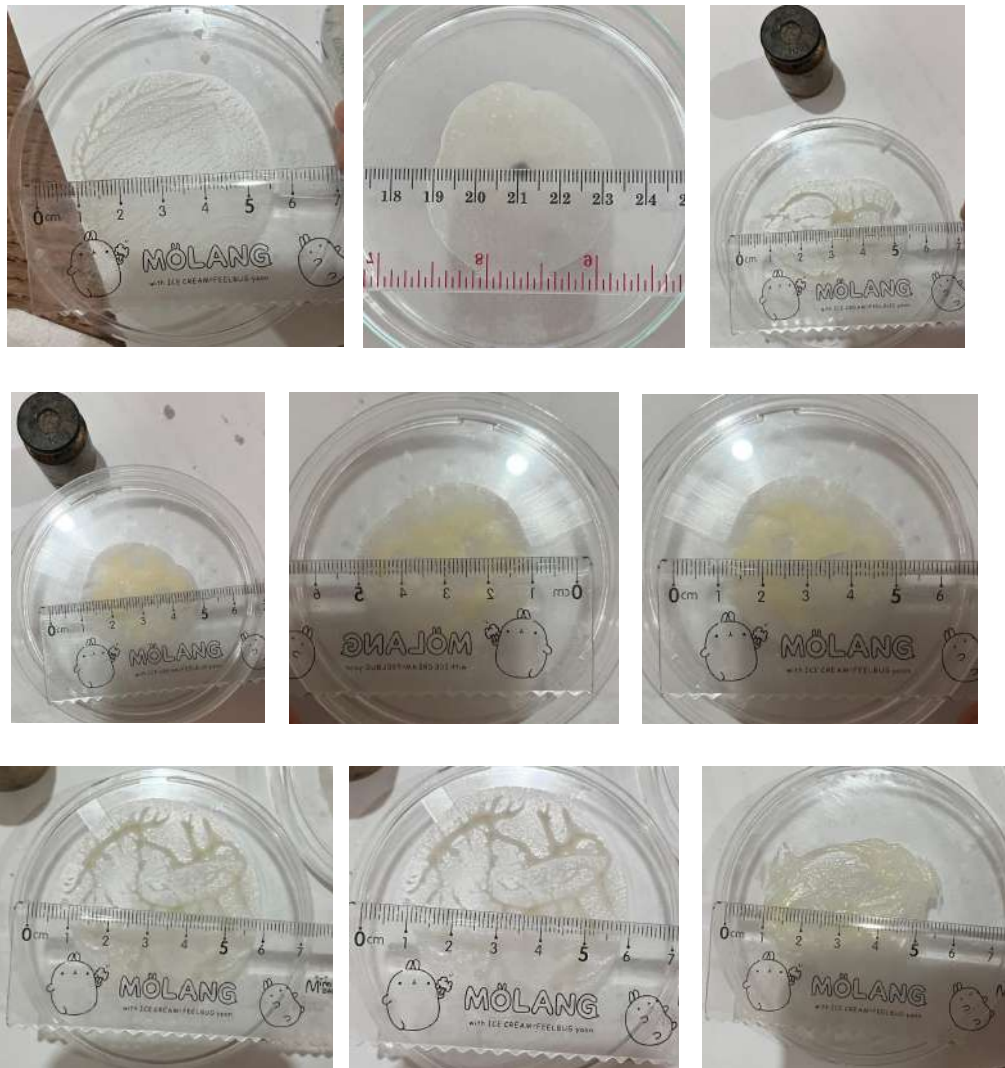


Gambar 9. Pengujian pH sediaan *lip balm*

Tabel 7. Hasil pengujian pH sediaan *lip balm* rata rata standar deviasi

Replikasi	Formula				Standar pH
	F1	F2	F3	F4	
Replikasi 1	6	6	5	5	
Replikasi 2	6	6	5	5	4,5-6,5
Replikasi 3	6	6	5	5	
Rata Rata \pm SD	6 \pm 0	6 \pm 0	5 \pm 0	5 \pm 0	

Lampiran 8. Uji daya Sebar



Gambar 10. Uji daya sebar sediaan lip balm madu kelulut (*Meliponini Honey*)

Tabel 8. Hasil pengujian daya sebar sediaan *lip balm* madu kelulut

Formulasi	Replikasi	Tanpa Beban	Beban 50 g	Beban 100 g	Beban 200 g
F1	Replikasi 1	5.0	5.0	5.4	5.8
	Replikasi 2	5.2	5.2	5.5	5.9
	Replikasi 3	5.0	5.3	5.7	5.7
Rata rata \pm SD		0.115470054	0.152752523	0.152752523	0.1
F2	Replikasi 1	5.0	5.2	5.5	5.9
	Replikasi 2	5.2	5.3	5.7	6.0
	Replikasi 3	5.3	5.3	5.8	6.0
Rata rata \pm SD		0.152752523	0.057735027	0.152752523	0.057735027
F3	Replikasi 1	5.2	5.3	5.6	6.4
	Replikasi 2	5.3	5.5	5.4	6.0
	Replikasi 3	5.3	5.3	5.5	6.2
Rata rata \pm SD		0.057735027	0.115470054	0.1	0.2
F4	Replikasi 1	5.1	5.2	5.4	6.0
	Replikasi 2	5.2	5.4	5.5	6.5
	Replikasi 3	5.0	5.3	5.7	6.4
Rata rata \pm SD		0.1	0.1	0.152752523	0.264575131

Lampiran 9. Gambar Uji iritasi sediaan *lip balm*



Lampiran 10. Form lembar Uji Hedonik berdasarkan standar SNI

LEMBAR PENILAIAN UJI HEDONIK

Berikan tanda centang pada nilai yang disukai pada tabel dibawah ini :

Panelis	Tekstur				Rasa				Aroma			
	F1	F2	F3	F4	F1	F2	F3	F4	F1	F2	F3	F4
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
Total												

Kategori Penilaian :

1 : Amat sangat tidak suka

2 : Sangat tidak suka

3 : Tidak suka

4 : Agak tidak suka

5 : Netral

6 : Agak suka

7 : Suka

8 : Sangat suka

9 : Amat sangat suka

Lampiran 11. Pengujian hedonik

LEMBAR PENILAIAN UJI HEDONIK

Berikan tanda centang pada nilai yang disukai pada tabel dibawah ini :

Panelis	Tekstur				Rasa				Aroma			
	F1	F2	F3	F4	F1	F2	F3	F4	F1	F2	F3	F4
1	7	7	8	8	4	6	5	5	3	6	6	3
2	8	6	8	7	7	5	6	5	5	5	6	4
3	6	6	7	6	6	6	6	5	5	6	7	5
4	7	5	6	7	6	6	6	6	6	5	6	5
5	5	4	7	7	6	3	5	6	5	5	5	5
6	6	8	5	7	7	6	5	7	7	5	6	6
7	3	6	6	5	2	6	4	7	1	2	6	4
8	4	5	7	6	3	5	7	6	2	6	5	4
9	6	7	5	6	5	6	6	6	2	3	7	3
10	7	7	5	6	6	7	7	5	6	5	7	4
11	6	6	6	5	7	6	5	5	3	5	5	3
12	7	5	7	5	5	1	5	7	6	4	7	5
Total	72	72	77	73	59	67	67	70	51	57	72	51

Kategori Penilaian :

- 1 : Amat sangat tidak suka
- 2 : Sangat tidak suka
- 3 : Tidak suka
- 4 : Agak tidak suka
- 5 : Netral
- 6 : Agak suka
- 7 : Suka
- 8 : Sangat suka
- 9 : Amat sangat suka

LEMBAR PENILAIAN UJI HEDONIK

Berikan tanda centang pada nilai yang disukai pada tabel dibawah ini : **REPUKASI 2**

Panelis	Tekstur				Rasa				Aroma			
	F1	F2	F3	F4	F1	F2	F3	F4	F1	F2	F3	F4
1	5	5	4	5	3	4	6	3	2	3	5	5
2	6	5	6	6	2	5	5	4	2	4	6	4
3	5	6	5	5	3	5	6	5	2	5	7	5
4	6	5	5	4	4	6	7	4	3	5	6	6
5	6	6	5	7	3	5	8	3	2	4	8	7
6	5	7	4	7	4	4	7	4	3	6	7	7
7	5	5	5	7	2	7	7	5	4	5	6	7
8	4	5	6	6	3	6	8	5	3	6	6	6
9	7	4	7	6	5	8	7	6	5	5	5	5
10	6	6	6	6	5	7	6	6	5	7	6	8
11	7	7	7	7	4	6	6	7	5	4	7	7
12	6	5	8	6	4	5	5	6	3	5	6	7
Total	71	66	68	68	42	68	78	58	39	59	74	79

Kategori Penilaian :

- 1 : Amat sangat tidak suka
- 2 : Sangat tidak suka
- 3 : Tidak suka
- 4 : Agak tidak suka
- 5 : Netral
- 6 : Agak suka
- 7 : Suka
- 8 : Sangat suka
- 9 : Amat sangat suka

LEMBAR PENILAIAN UJI HEDONIK

Berikan tanda centang pada nilai yang disukai pada tabel dibawah ini : **REPUKACT 3**

Panelis	Tekstur				Rasa				Aroma			
	F1	F2	F3	F4	F1	F2	F3	F4	F1	F2	F3	F4
1	4	5	5	6	7	7	8	7	3	4	5	3
2	6	6	6	7	3	5	6	5	2	5	6	4
3	7	6	7	8	4	6	5	7	3	5	6	4
4	6	6	7	7	5	4	7	6	4	5	7	5
5	5	5	7	8	5	5	8	7	5	6	7	6
6	6	7	6	7	4	6	8	5	4	5	7	6
7	8	7	5	7	5	6	7	4	5	6	6	5
8	7	6	4	6	3	7	6	3	5	5	7	6
9	6	8	5	5	4	8	7	2	6	7	5	5
10	6	7	6	3	3	7	7	2	4	7	8	7
11	5	4	6	3	4	6	5	2	3	5	7	6
12	6	5	5	4	4	5	4	3	6	5	6	6
Total	72	71	69	71	51	72	78	53	52	65	77	63

Kategori Penilaian :

- 1 : Amat sangat tidak suka
- 2 : Sangat tidak suka
- 3 : Tidak suka
- 4 : Agak tidak suka
- 5 : Netral
- 6 : Agak suka
- 7 : Suka
- 8 : Sangat suka
- 9 : Amat sangat suka

Lampiran 12. Perhitungan uji hedonik sediaan *lip balm*

Tabel 9. Hasil penilaian uji hedonik sediaan *lip balm* formulasi 1

Panelis	Replikasi 1			Replikasi 2			Replikasi 3		
	Tekstur	Rasa	Aroma	Tesktur	Rasa	Aroma	Tekstur	Rasa	Aroma
1	7	6	3	5	3	2	4	7	3
2	8	7	5	6	2	2	6	3	2
3	6	3	5	5	3	2	7	4	3
4	7	6	6	6	4	3	6	5	4
5	5	6	5	6	3	2	5	5	5
6	6	7	7	5	4	3	6	4	6
7	3	2	1	5	2	4	8	5	5
8	4	3	2	4	3	3	7	3	5
9	6	5	2	7	5	5	6	4	6
10	7	6	6	6	5	5	6	3	4
11	6	7	3	7	4	5	5	4	3
12	7	1	6	6	4	3	6	4	6
Total	72	59	51	71	42	39	72	51	52

Tekstur replikasi 1

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{72}{12} = 6$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(7-6)^2}{12} + \frac{(8-6)^2}{12} + \frac{(6-6)^2}{12} + \frac{(7-6)^2}{12} + \frac{(5-6)^2}{12} + \frac{(3-6)^2}{12} + \frac{(4-6)^2}{12} + \frac{(6-6)^2}{12} + \frac{(7-6)^2}{12} + \frac{(6-6)^2}{12} + \frac{(7-6)^2}{12} + \frac{(6-6)^2}{12}$$

$$S^2 = \frac{23}{12} = 1,92$$

$$S = \sqrt{1,92} = 1,39$$

$$P \left[6 - \left(\frac{1,96 \cdot 1,39}{\sqrt{12}} \right) \right] \leq \mu \leq \left[6 + \left(\frac{1,96 \cdot 1,39}{\sqrt{12}} \right) \right]$$

$$P = 5,22 \leq \mu \leq 6,78 = 5 \text{ (Netral)}$$

Rasa replikasi 1

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{59}{12} = 4,92$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(6-4,92)^2}{12} + \frac{(7-4,92)^2}{12} + \frac{(3-4,92)^2}{12} + \frac{(6-4,92)^2}{12} + \frac{(6-4,92)^2}{12} + \frac{(7-4,92)^2}{12} + \frac{(2-4,92)^2}{12} + \frac{(3-4,92)^2}{12} + \frac{(5-4,92)^2}{12} + \frac{(6-4,92)^2}{12} + \frac{(7-4,92)^2}{12} + \frac{(1-4,92)^2}{12}$$

$$S^2 = \frac{48,96}{12} = 4,08$$

$$S = \sqrt{4,08} = 2,02$$

$$P \left[4,92 - \left(\frac{1,96 \cdot 2,02}{\sqrt{12}} \right) \right] \leq \mu \leq \left[4,92 + \left(\frac{1,96 \cdot 2,02}{\sqrt{12}} \right) \right]$$

$$P = 3,78 \leq \mu \leq 6,06 = 4 \text{ (Agak tidak suka)}$$

Aroma replikasi 1

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{51}{12} = 4,25$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(3-4,25)^2}{12} + \frac{(5-4,25)^2}{12} + \frac{(5-4,25)^2}{12} + \frac{(6-4,25)^2}{12} + \frac{(5-4,25)^2}{12} + \frac{(7-4,25)^2}{12} + \frac{(1-4,25)^2}{12} + \frac{(2-4,25)^2}{12} + \frac{(2-4,25)^2}{12} + \frac{(6-4,25)^2}{12} + \frac{(3-4,25)^2}{12} + \frac{(6-4,25)^2}{12}$$

$$S^2 = \frac{37,23}{12} = 3,10$$

$$S = \sqrt{3,10} = 1,76$$

$$P \left[4,25 - \left(\frac{1,96 \cdot 1,76}{\sqrt{12}} \right) \right] \leq \mu \leq \left[4,25 + \left(\frac{1,96 \cdot 1,76}{\sqrt{12}} \right) \right]$$

$$P = 3,26 \leq \mu \leq 5,24 = 3 \text{ (Tidak suka)}$$

Tekstur replikasi 2

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{71}{12} = 5,92$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(5-5,92)^2}{12} + \frac{(6-5,92)^2}{12} + \frac{(5-5,92)^2}{12} + \frac{(6-5,92)^2}{12} + \frac{(6-5,92)^2}{12} + \frac{(5-5,92)^2}{12} + \frac{(5-5,92)^2}{12} + \frac{(5-5,92)^2}{12} + \frac{(4-5,92)^2}{12} + \frac{(7-5,92)^2}{12} + \frac{(6-5,92)^2}{12} + \frac{(7-5,92)^2}{12} + \frac{(6-5,92)^2}{12}$$

$$S^2 = \frac{9,40}{12} = 0,78$$

$$S = \sqrt{0,78} = 0,88$$

$$P \left[5,92 - \left(\frac{1,96 \cdot 0,88}{\sqrt{12}} \right) \right] \leq \mu \leq \left[5,92 + \left(\frac{1,96 \cdot 0,88}{\sqrt{12}} \right) \right]$$

$$P = 3,91 \leq \mu \leq 7,93 = 4 \text{ (Agak tidak suka)}$$

Rasa replikasi 2

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{42}{12} = 3,5$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(3-3,5)^2}{12} + \frac{(2-3,5)^2}{12} + \frac{(3-3,5)^2}{12} + \frac{(4-3,5)^2}{12} + \frac{(3-3,5)^2}{12} + \frac{(4-3,5)^2}{12} + \frac{(2-3,5)^2}{12} + \frac{(3-3,5)^2}{12} + \frac{(5-3,5)^2}{12} + \frac{(5-3,5)^2}{12} + \frac{(4-3,5)^2}{12} + \frac{(4-3,5)^2}{12}$$

$$S^2 = \frac{11,25}{12} = 0,94$$

$$S = \sqrt{0,94} = 0,97$$

$$P \left[3,5 - \left(\frac{1,96 \cdot 0,97}{\sqrt{12}} \right) \right] \leq \mu \leq \left[3,5 + \left(\frac{1,96 \cdot 0,97}{\sqrt{12}} \right) \right]$$

$$P = 2,95 \leq \mu \leq 4,05 = 3 \text{ (tidak suka)}$$

Aroma replikasi 2

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{39}{12} = 3,25$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(2-3,25)^2}{12} + \frac{(2-3,25)^2}{12} + \frac{(2-3,25)^2}{12} + \frac{(3-3,25)^2}{12} + \frac{(2-3,25)^2}{12} + \frac{(3-3,25)^2}{12} + \frac{(3-3,25)^2}{12} + \frac{(4-3,25)^2}{12} + \frac{(3-3,25)^2}{12} + \frac{(5-3,25)^2}{12} + \frac{(5-3,25)^2}{12} + \frac{(5-3,25)^2}{12} + \frac{(3-3,25)^2}{12}$$

$$S^2 = \frac{18,34}{12} = 1,53$$

$$S = \sqrt{1,53} = 1,24$$

$$P \left[3,25 - \left(\frac{1,96 \cdot 1,24}{\sqrt{12}} \right) \right] \leq \mu \leq \left[3,25 + \left(\frac{1,96 \cdot 1,24}{\sqrt{12}} \right) \right]$$

$$P = 2,55 \leq \mu \leq 3,95 = 3 \text{ (Tidak suka)}$$

Tekstur replikasi 3

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{72}{12} = 6$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(4-6)^2}{12} + \frac{(6-6)^2}{12} + \frac{(7-6)^2}{12} + \frac{(6-6)^2}{12} + \frac{(5-6)^2}{12} + \frac{(6-6)^2}{12} + \frac{(8-6)^2}{12} + \frac{(7-6)^2}{12} + \frac{(6-6)^2}{12} + \frac{(6-6)^2}{12} + \frac{(5-6)^2}{12} + \frac{(6-6)^2}{12}$$

$$S^2 = \frac{12}{12} = 1$$

$$S = \sqrt{1} = 1$$

$$P \left[6 - \left(\frac{1,96 \cdot 1}{\sqrt{12}} \right) \right] \leq \mu \leq \left[6 + \left(\frac{1,96 \cdot 1}{\sqrt{12}} \right) \right]$$

$$P = 5,43 \leq \mu \leq 6,57 = 5 \text{ (Netral)}$$

Rasa replikasi 3

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{51}{12} = 4,25$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(7-4,25)^2}{12} + \frac{(3-4,25)^2}{12} + \frac{(4-4,25)^2}{12} + \frac{(5-4,25)^2}{12} + \frac{(5-4,25)^2}{12} + \frac{(4-4,25)^2}{12} + \frac{(5-4,25)^2}{12} + \frac{(3-4,25)^2}{12} + \frac{(4-4,25)^2}{12} + \frac{(4-4,25)^2}{12} + \frac{(3-4,25)^2}{12} + \frac{(4-4,25)^2}{12}$$

$$S^2 = \frac{14,22}{12} = 1,19$$

$$S = \sqrt{1,19} = 1,09$$

$$P \left[4,25 - \left(\frac{1,96 \cdot 1,09}{\sqrt{12}} \right) \right] \leq \mu \leq \left[4,25 + \left(\frac{1,96 \cdot 1,09}{\sqrt{12}} \right) \right]$$

$$P = 3,63 \leq \mu \leq 4,87 = 4 \text{ (agak Tidak suka)}$$

Aroma Replikasi 3

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{52}{12} = 4,33$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(3-4,33)^2}{12} + \frac{(2-4,33)^2}{12} + \frac{(3-4,33)^2}{12} + \frac{(4-4,33)^2}{12} + \frac{(5-4,33)^2}{12} + \frac{(6-4,33)^2}{12} + \frac{(5-4,33)^2}{12} + \frac{(5-4,33)^2}{12} + \frac{(6-4,33)^2}{12} + \frac{(4-4,33)^2}{12} + \frac{(3-4,33)^2}{12} + \frac{(6-4,33)^2}{12}$$

$$S^2 = \frac{20,67}{12} = 1,72$$

$$S = \sqrt{1,72} = 1,31$$

$$P \left[4,33 - \left(\frac{1,96 \cdot 1,31}{\sqrt{12}} \right) \right] \leq \mu \leq \left[4,33 + \left(\frac{1,96 \cdot 1,31}{\sqrt{12}} \right) \right]$$

$$P = 3,59 \leq \mu \leq 5,07 = 4 \text{ (agak tidak suka)}$$

Tabel 10. Hasil penilaian uji hedonik sediaan *lip balm* formulasi 2

Panelis	Replikasi 1			Replikasi 2			Replikasi 3		
	Tekstur	Rasa	Aroma	Tekstur	Rasa	Aroma	Tekstur	Rasa	Aroma
1	7	6	6	5	4	3	5	7	4
2	6	5	5	5	5	4	6	5	5
3	6	6	6	6	5	5	5	6	5
4	5	6	5	5	6	5	6	4	5
5	4	3	5	6	5	4	5	5	6
6	8	6	5	7	4	6	7	6	5
7	6	6	2	5	7	5	7	6	6
8	5	5	6	5	6	6	6	7	5
9	7	6	3	4	8	5	8	8	7
10	7	7	5	6	7	7	7	7	7
11	6	6	5	7	6	4	4	6	5
12	5	5	4	5	5	5	5	5	5
Total	72	67	57	66	68	59	71	72	65

Tekstur replikasi 1

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{72}{12} = 6$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(7-6)^2}{12} + \frac{(6-6)^2}{12} + \frac{(6-6)^2}{12} + \frac{(5-6)^2}{12} + \frac{(4-6)^2}{12} + \frac{(8-6)^2}{12} + \frac{(6-6)^2}{12} + \frac{(5-6)^2}{12} + \frac{(7-6)^2}{12} + \frac{(7-6)^2}{12} + \frac{(6-6)^2}{12} + \frac{(5-6)^2}{12}$$

$$S^2 = \frac{14}{12} = 1,17$$

$$S = \sqrt{1,17} = 1,08$$

$$P \left[6 - \left(\frac{1,96 \cdot 1,08}{\sqrt{12}} \right) \right] \leq \mu \leq \left[6 + \left(\frac{1,96 \cdot 1,08}{\sqrt{12}} \right) \right]$$

$$P = 5,39 \leq \mu \leq 6,61 = 5 \text{ (Netral)}$$

Rasa replikasi 1

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{67}{12} = 5,58$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(6-5,58)^2}{12} + \frac{(5-5,58)^2}{12} + \frac{(6-5,58)^2}{12} + \frac{(6-5,58)^2}{12} + \frac{(3-5,58)^2}{12} + \frac{(6-5,58)^2}{12} + \frac{(6-5,58)^2}{12} + \frac{(5-5,58)^2}{12} + \frac{(6-5,58)^2}{12} + \frac{(7-5,58)^2}{12} + \frac{(6-5,58)^2}{12} + \frac{(1-5,58)^2}{12}$$

$$S^2 = \frac{31,42}{12} = 2,62$$

$$S = \sqrt{2,62} = 1,62$$

$$P \left[5,58 - \left(\frac{1,96 \cdot 1,62}{\sqrt{12}} \right) \right] \leq \mu \leq \left[5,58 + \left(\frac{1,96 \cdot 1,62}{\sqrt{12}} \right) \right]$$

$$P = 4,66 \leq \mu \leq 6,49 = 5 \text{ (Netral)}$$

Aroma replikasi 1

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{57}{12} = 4,75$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(6-4,75)^2}{12} + \frac{(5-4,75)^2}{12} + \frac{(6-4,75)^2}{12} + \frac{(5-4,75)^2}{12} + \frac{(5-4,75)^2}{12} + \frac{(5-4,75)^2}{12} + \frac{(2-4,75)^2}{12} + \frac{(6-4,75)^2}{12} + \frac{(3-4,75)^2}{12} + \frac{(5-4,75)^2}{12} + \frac{(5-4,75)^2}{12} + \frac{(4-4,75)^2}{12}$$

$$S^2 = \frac{16,22}{12} = 1,35$$

$$S = \sqrt{1,35} = 1,16$$

$$P \left[4,75 - \left(\frac{1,96 \cdot 1,16}{\sqrt{12}} \right) \right] \leq \mu \leq \left[4,75 + \left(\frac{1,96 \cdot 1,16}{\sqrt{12}} \right) \right]$$

$$P = 4,09 \leq \mu \leq 5,41 = 4 \text{ (Netral)}$$

Tekstur Replikasi 2

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{66}{12} = 5,5$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(5-5,5)^2}{12} + \frac{(5-5,5)^2}{12} + \frac{(6-5,5)^2}{12} + \frac{(5-5,5)^2}{12} + \frac{(6-5,5)^2}{12} + \frac{(7-5,5)^2}{12} + \frac{(5-5,5)^2}{12} + \frac{(5-5,5)^2}{12} + \frac{(4-5,5)^2}{12} + \frac{(6-5,5)^2}{12} + \frac{(7-5,5)^2}{12} + \frac{(5-5,5)^2}{12}$$

$$S^2 = \frac{9}{12} = 0,75$$

$$S = \sqrt{0,75} = 0,87$$

$$P \left[5,5 - \left(\frac{1,96 \cdot 0,87}{\sqrt{12}} \right) \right] \leq \mu \leq \left[5,5 + \left(\frac{1,96 \cdot 0,87}{\sqrt{12}} \right) \right]$$

$$P = 5,01 \leq \mu \leq 5,99 = 5 \text{ (Netral)}$$

Rasa Replikasi 2

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{68}{12} = 5,66$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(4-5,66)^2}{12} + \frac{(5-5,66)^2}{12} + \frac{(5-5,66)^2}{12} + \frac{(6-5,66)^2}{12} + \frac{(5-5,66)^2}{12} + \frac{(4-5,66)^2}{12} + \frac{(7-5,66)^2}{12} + \frac{(6-5,66)^2}{12} + \frac{(8-5,66)^2}{12} + \frac{(7-5,66)^2}{12} + \frac{(6-5,66)^2}{12} + \frac{(5-5,66)^2}{12}$$

$$S^2 = \frac{2,17}{12} = 0,18$$

$$S = \sqrt{0,18} = 0,42$$

$$P \left[5,66 - \left(\frac{1,96 \cdot 0,42}{\sqrt{12}} \right) \right] \leq \mu \leq \left[5,66 + \left(\frac{1,96 \cdot 0,42}{\sqrt{12}} \right) \right]$$

$$P = 5,42 \leq \mu \leq 5,89 = 5 \text{ (Netral)}$$

Aroma Replikasi 2

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{59}{12} = 4,92$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(6-4,92)^2}{12} + \frac{(7-4,92)^2}{12} + \frac{(3-4,92)^2}{12} + \frac{(6-4,92)^2}{12} + \frac{(6-4,92)^2}{12} + \frac{(7-4,92)^2}{12} + \frac{(2-4,92)^2}{12} + \frac{(3-4,92)^2}{12} + \frac{(5-4,92)^2}{12} + \frac{(6-4,92)^2}{12} + \frac{(7-4,92)^2}{12} + \frac{(1-4,92)^2}{12}$$

$$S^2 = \frac{12,94}{12} = 1,08$$

$$S = \sqrt{1,08} = 1,04$$

$$P \left[4,92 - \left(\frac{1,96 \cdot 1,04}{\sqrt{12}} \right) \right] \leq \mu \leq \left[4,92 + \left(\frac{1,96 \cdot 1,04}{\sqrt{12}} \right) \right]$$

$$P = 4,34 \leq \mu \leq 5,5 = 4 \text{ (Agak tidak suka)}$$

Tekstur replikasi 3

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{71}{12} = 5,92$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(5-5,92)^2}{12} + \frac{(6-5,92)^2}{12} + \frac{(5-5,92)^2}{12} + \frac{(6-5,92)^2}{12} + \frac{(5-5,92)^2}{12} + \frac{(7-5,92)^2}{12} + \frac{(7-5,92)^2}{12} + \frac{(5-5,92)^2}{12} + \frac{(6-5,92)^2}{12} + \frac{(8-5,92)^2}{12} + \frac{(7-5,92)^2}{12} + \frac{(5-5,92)^2}{12}$$

$$S^2 = \frac{14,92}{12} = 1,24$$

$$S = \sqrt{1,24} = 1,12$$

$$P \left[5,92 - \left(\frac{1,96 \cdot 1,12}{\sqrt{12}} \right) \right] \leq \mu \leq \left[5,92 + \left(\frac{1,96 \cdot 1,12}{\sqrt{12}} \right) \right]$$

$$P = 5,29 \leq \mu \leq 6,55 = 5 \text{ (netral)}$$

Rasa replikasi 3

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{72}{12} = 6$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(7-6)^2}{12} + \frac{(5-6)^2}{12} + \frac{(6-6)^2}{12} + \frac{(4-6)^2}{12} + \frac{(5-6)^2}{12} + \frac{(6-6)^2}{12} + \frac{(6-6)^2}{12} + \frac{(7-6)^2}{12} + \frac{(8-6)^2}{12} + \frac{(7-6)^2}{12} + \frac{(6-6)^2}{12} + \frac{(5-6)^2}{12}$$

$$S^2 = \frac{14}{12} = 1,17$$

$$S = \sqrt{1,17} = 1,08$$

$$P \left[6 - \left(\frac{1,96 \cdot 1,08}{\sqrt{12}} \right) \right] \leq \mu \leq \left[6 + \left(\frac{1,96 \cdot 1,08}{\sqrt{12}} \right) \right]$$

$$P = 5,39 \leq \mu \leq 6,61 = 5 \text{ (Netral)}$$

Aroma replikasi 3

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{65}{12} = 5,42$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(4-5,42)^2}{12} + \frac{(5-5,42)^2}{12} + \frac{(5-5,42)^2}{12} + \frac{(5-5,42)^2}{12} + \frac{(6-5,42)^2}{12} + \frac{(5-5,42)^2}{12} + \frac{(6-5,42)^2}{12} + \frac{(6-5,42)^2}{12} + \frac{(7-5,42)^2}{12} + \frac{(7-5,42)^2}{12} + \frac{(5-5,42)^2}{12} + \frac{(5-5,42)^2}{12}$$

$$S^2 = \frac{8,94}{12} = 0,75$$

$$S = \sqrt{0,75} = 0,87$$

$$P \left[5,42 - \left(\frac{1,96 \cdot 0,87}{\sqrt{12}} \right) \right] \leq \mu \leq \left[5,42 + \left(\frac{1,96 \cdot 0,87}{\sqrt{12}} \right) \right]$$

$$P = 4,93 \leq \mu \leq 6,35 = 5 \text{ (Netral)}$$

Tabel 11. Hasil penilaian uji hedonik sediaan *lip balm* formulasi 3

Panelis	Replikasi 1			Replikasi 2			Replikasi 3		
	Tekstur	Rasa	Aroma	Tekstur	Rasa	Aroma	Tekstur	Rasa	Aroma
1	8	5	5	4	6	5	5	8	5
2	8	6	6	6	5	6	6	6	6
3	7	6	7	5	6	7	7	5	6
4	6	6	6	5	7	6	7	7	7
5	7	5	5	5	8	8	7	8	7
6	5	5	6	4	7	7	6	8	7
7	6	4	6	5	7	6	5	7	6
8	7	7	5	6	8	5	4	6	7
9	5	6	7	7	7	5	5	7	5
10	5	7	7	6	6	6	6	7	8
11	6	5	5	7	6	7	6	5	7
12	7	5	7	8	5	6	5	4	6
Total	77	67	72	68	78	74	69	78	77

Tekstur replikasi 1

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{77}{12} = 6,42$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(8-6,42)^2}{12} + \frac{(8-6,42)^2}{12} + \frac{(7-6,42)^2}{12} + \frac{(6-6,42)^2}{12} + \frac{(7-6,42)^2}{12} + \frac{(5-6,42)^2}{12} + \frac{(6-6,42)^2}{12} + \frac{(7-6,42)^2}{12} + \frac{(5-6,42)^2}{12} + \frac{(5-6,42)^2}{12} + \frac{(6-6,42)^2}{12} + \frac{(7-6,42)^2}{12}$$

$$S^2 = \frac{12,96}{12} = 1,08$$

$$S = \sqrt{1,08} = 1,04$$

$$P \left[6,42 - \left(\frac{1,96 \cdot 1,04}{\sqrt{12}} \right) \right] \leq \mu \leq \left[6,42 + \left(\frac{1,96 \cdot 1,04}{\sqrt{12}} \right) \right]$$

$$P = 5,83 \leq \mu \leq 7,01 = 6 \text{ (Agak suka)}$$

Rasa replikasi 1

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{67}{12} = 5,58$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(5-5,58)^2}{12} + \frac{(6-5,58)^2}{12} + \frac{(6-5,58)^2}{12} + \frac{(6-5,58)^2}{12} + \frac{(5-5,58)^2}{12} + \frac{(5-5,58)^2}{12} + \frac{(4-5,58)^2}{12} + \frac{(7-5,58)^2}{12} + \frac{(6-5,58)^2}{12} + \frac{(7-5,58)^2}{12} + \frac{(5-5,58)^2}{12} + \frac{(5-5,58)^2}{12}$$

$$S^2 = \frac{8,95}{12} = 0,75$$

$$S = \sqrt{0,75} = 0,86$$

$$P \left[5,58 - \left(\frac{1,96 \cdot 0,86}{\sqrt{12}} \right) \right] \leq \mu \leq \left[5,58 + \left(\frac{1,96 \cdot 0,86}{\sqrt{12}} \right) \right]$$

$$P = 5,09 \leq \mu \leq 6,07 = 5 \text{ (Netral)}$$

Aroma replikasi 1

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{72}{12} = 6$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(5-6)^2}{12} + \frac{(6-6)^2}{12} + \frac{(7-6)^2}{12} + \frac{(6-6)^2}{12} + \frac{(5-6)^2}{12} + \frac{(6-6)^2}{12} + \frac{(6-6)^2}{12} + \frac{(5-6)^2}{12} + \frac{(7-6)^2}{12} + \frac{(7-6)^2}{12} + \frac{(5-6)^2}{12} + \frac{(7-6)^2}{12}$$

$$S^2 = \frac{8}{12} = 0,67$$

$$S = \sqrt{0,67} = 0,82$$

$$P \left[6 - \left(\frac{1,96 \cdot 0,82}{\sqrt{12}} \right) \right] \leq \mu \leq \left[6 + \left(\frac{1,96 \cdot 0,82}{\sqrt{12}} \right) \right]$$

$$P = 5,54 \leq \mu \leq 6,46 = 6 \text{ (agak suka)}$$

Tekstur replikasi 2

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{68}{12} = 5,66$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(4-5,66)^2}{12} + \frac{(6-5,66)^2}{12} + \frac{(5-5,66)^2}{12} + \frac{(5-5,66)^2}{12} + \frac{(5-5,66)^2}{12} + \frac{(4-5,66)^2}{12} + \frac{(5-5,66)^2}{12} + \frac{(6-5,66)^2}{12} + \frac{(7-5,66)^2}{12} + \frac{(8-5,66)^2}{12} + \frac{(6-5,66)^2}{12} + \frac{(7-5,66)^2}{12}$$

$$S^2 = \frac{15,88}{12} = 1,32$$

$$S = \sqrt{1,32} = 1,15$$

$$P \left[5,66 - \left(\frac{1,96 \cdot 1,15}{\sqrt{12}} \right) \right] \leq \mu \leq \left[5,66 + \left(\frac{1,96 \cdot 1,15}{\sqrt{12}} \right) \right]$$

$$P = 5,01 \leq \mu \leq 6,31 = 5 \text{ (Netral)}$$

Rasa replikasi 2

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{78}{12} = 6,5$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(6-6,5)^2}{12} + \frac{(5-6,5)^2}{12} + \frac{(6-6,5)^2}{12} + \frac{(7-6,5)^2}{12} + \frac{(8-6,5)^2}{12} + \frac{(7-6,5)^2}{12} + \frac{(7-6,5)^2}{12} + \frac{(7-6,5)^2}{12} + \frac{(8-6,5)^2}{12} + \frac{(7-6,5)^2}{12} + \frac{(6-6,5)^2}{12} + \frac{(5-6,5)^2}{12}$$

$$S^2 = \frac{11}{12} = 0,92$$

$$S = \sqrt{0,92} = 0,96$$

$$P \left[6,5 - \left(\frac{1,96 \cdot 0,96}{\sqrt{12}} \right) \right] \leq \mu \leq \left[6,5 + \left(\frac{1,96 \cdot 0,96}{\sqrt{12}} \right) \right]$$

$$P = 5,96 \leq \mu \leq 7,04 = 6 \text{ (Agak suka)}$$

Aroma replikasi 2

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{74}{12} = 6,17$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(5-6,17)^2}{12} + \frac{(6-6,17)^2}{12} + \frac{(7-6,17)^2}{12} + \frac{(6-6,17)^2}{12} + \frac{(8-6,17)^2}{12} + \frac{(7-6,17)^2}{12} + \frac{(6-6,17)^2}{12} + \frac{(5-6,17)^2}{12} + \frac{(5-6,17)^2}{12} + \frac{(6-6,17)^2}{12} + \frac{(7-6,17)^2}{12} + \frac{(6-6,17)^2}{12}$$

$$S^2 = \frac{9,65}{12} = 0,80$$

$$S = \sqrt{0,80} = 0,89$$

$$P \left[6,17 - \left(\frac{1,96 \cdot 0,89}{\sqrt{12}} \right) \right] \leq \mu \leq \left[6,17 + \left(\frac{1,96 \cdot 0,89}{\sqrt{12}} \right) \right]$$

$$P = 5,67 \leq \mu \leq 6,67 = 6 \text{ (Agak suka)}$$

Tekstur replikasi 3

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{69}{12} = 5,75$$
$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(5-5,75)^2}{12} + \frac{(6-5,75)^2}{12} + \frac{(7-5,75)^2}{12} + \frac{(7-5,75)^2}{12} + \frac{(7-5,75)^2}{12} + \frac{(6-5,75)^2}{12} + \frac{(5-5,75)^2}{12} + \frac{(4-5,75)^2}{12} + \frac{(5-5,75)^2}{12} + \frac{(6-5,75)^2}{12} + \frac{(6-5,75)^2}{12} + \frac{(5-5,75)^2}{12}$$
$$S^2 = \frac{8,66}{12} = 0,72$$
$$S = \sqrt{0,72} = 0,85$$
$$P \left[5,75 - \left(\frac{1,96 \cdot 0,85}{\sqrt{12}} \right) \right] \leq \mu \leq \left[5,75 + \left(\frac{1,96 \cdot 0,85}{\sqrt{12}} \right) \right]$$
$$P = 5,27 \leq \mu \leq 6,23 = 5 \text{ (netral)}$$

Rasa replikasi 3

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{78}{12} = 6,5$$
$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(8-6,5)^2}{12} + \frac{(6-6,5)^2}{12} + \frac{(5-6,5)^2}{12} + \frac{(7-6,5)^2}{12} + \frac{(8-6,5)^2}{12} + \frac{(8-6,5)^2}{12} + \frac{(7-6,5)^2}{12} + \frac{(6-6,5)^2}{12} + \frac{(7-6,5)^2}{12} + \frac{(7-6,5)^2}{12} + \frac{(5-6,5)^2}{12} + \frac{(4-6,5)^2}{12}$$
$$S^2 = \frac{19,25}{12} = 1,6$$
$$S = \sqrt{1,6} = 1,26$$
$$P \left[6,5 - \left(\frac{1,96 \cdot 1,26}{\sqrt{12}} \right) \right] \leq \mu \leq \left[6,5 + \left(\frac{1,96 \cdot 1,26}{\sqrt{12}} \right) \right]$$
$$P = 5,79 \leq \mu \leq 7,21 = 6 \text{ (Agak suka)}$$

Aroma replikasi 3

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{77}{12} = 6,42$$
$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(5-6,42)^2}{12} + \frac{(6-6,42)^2}{12} + \frac{(6-6,42)^2}{12} + \frac{(7-6,42)^2}{12} + \frac{(7-6,42)^2}{12} + \frac{(7-6,42)^2}{12} + \frac{(6-6,42)^2}{12} + \frac{(7-6,42)^2}{12} + \frac{(5-6,42)^2}{12} + \frac{(8-6,42)^2}{12} + \frac{(7-6,42)^2}{12} + \frac{(6-6,42)^2}{12}$$
$$S^2 = \frac{8,95}{12} = 0,75$$
$$S = \sqrt{0,75} = 0,86$$
$$P \left[6,42 - \left(\frac{1,96 \cdot 0,86}{\sqrt{12}} \right) \right] \leq \mu \leq \left[6,42 + \left(\frac{1,96 \cdot 0,86}{\sqrt{12}} \right) \right]$$
$$P = 5,93 \leq \mu \leq 6,91 = 6 \text{ (agak suka)}$$

Tabel 12. Hasil penilaian uji hedonik sediaan *lip balm* formulasi 4

Panelis	Replikasi 1			Replikasi 2			Replikasi 3		
	Tekstur	Rasa	Aroma	Tekstur	Rasa	Aroma	Tekstur	Rasa	Aroma
1	6	5	3	5	3	5	6	7	3
2	7	5	4	6	4	4	7	5	4
3	6	5	5	5	5	5	8	7	4
4	7	6	5	6	4	6	7	6	5
5	7	6	5	7	3	7	8	7	6
6	7	7	6	7	4	7	7	5	6
7	5	7	4	7	5	7	7	4	5
8	6	6	4	6	5	6	6	3	6
9	6	6	3	6	6	5	5	2	5
10	6	5	4	6	6	8	3	2	7
11	5	5	3	7	7	7	3	2	6
12	5	7	5	6	6	7	4	3	6
Total	73	70	51	68	58	79	72	78	63

Tekstur replikasi 1

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{73}{12} = 6,08$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(6-6,08)^2}{12} + \frac{(7-6,08)^2}{12} + \frac{(6-6,08)^2}{12} + \frac{(7-6,08)^2}{12} + \frac{(7-6,08)^2}{12} + \frac{(7-6,08)^2}{12} + \frac{(5-6,08)^2}{12} + \frac{(6-6,08)^2}{12} + \frac{(6-6,08)^2}{12} + \frac{(6-6,08)^2}{12} + \frac{(5-6,08)^2}{12} + \frac{(5-6,08)^2}{12}$$

$$S^2 = \frac{6,94}{12} = 0,57$$

$$S = \sqrt{0,57} = 0,76$$

$$P \left[6,08 - \left(\frac{1,96 \cdot 0,76}{\sqrt{12}} \right) \right] \leq \mu \leq \left[6,08 + \left(\frac{1,96 \cdot 0,76}{\sqrt{12}} \right) \right]$$

$$P = 4,59 \leq \mu \leq 7,57 = 5 \text{ (Netral)}$$

Rasa replikasi 1

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{70}{12} = 5,83$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(5-5,83)^2}{12} + \frac{(5-5,83)^2}{12} + \frac{(5-5,83)^2}{12} + \frac{(6-5,83)^2}{12} + \frac{(6-5,83)^2}{12} + \frac{(7-5,83)^2}{12} + \frac{(7-5,83)^2}{12} + \frac{(6-5,83)^2}{12} + \frac{(6-5,83)^2}{12} + \frac{(5-5,83)^2}{12} + \frac{(7-5,83)^2}{12} + \frac{(7-5,83)^2}{12}$$

$$S^2 = \frac{7,68}{12} = 0,64$$

$$S = \sqrt{0,64} = 0,8$$

$$P \left[5,83 - \left(\frac{1,96 \cdot 0,8}{\sqrt{12}} \right) \right] \leq \mu \leq \left[5,83 + \left(\frac{1,96 \cdot 0,8}{\sqrt{12}} \right) \right]$$

$$P = 5,38 \leq \mu \leq 6,31 = 5 \text{ (Netral)}$$

Aroma replikasi 1

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{51}{12} = 4,25$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(3-4,25)^2}{12} + \frac{(4-4,25)^2}{12} + \frac{(5-4,25)^2}{12} + \frac{(5-4,25)^2}{12} + \frac{(5-4,25)^2}{12} + \frac{(6-4,25)^2}{12} + \frac{(6-4,25)^2}{12} + \frac{(4-4,25)^2}{12} + \frac{(4-4,25)^2}{12} + \frac{(3-4,25)^2}{12} + \frac{(5-4,25)^2}{12}$$

$$S^2 = \frac{10,22}{12} = 0,85$$

$$S = \sqrt{0,85} = 0,92$$

$$P \left[4,25 - \left(\frac{1,96 \cdot 0,92}{\sqrt{12}} \right) \right] \leq \mu \leq \left[4,25 + \left(\frac{1,96 \cdot 0,92}{\sqrt{12}} \right) \right]$$

$$P = 3,73 \leq \mu \leq 4,77 = 4 \text{ (agak tidak suka)}$$

Tekstur replikasi 2

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{68}{12} = 5,66$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(5-5,66)^2}{12} + \frac{(6-5,66)^2}{12} + \frac{(5-5,66)^2}{12} + \frac{(6-5,66)^2}{12} + \frac{(7-5,66)^2}{12} + \frac{(7-5,66)^2}{12} + \frac{(7-5,66)^2}{12} + \frac{(7-5,66)^2}{12} + \frac{(6-5,66)^2}{12} + \frac{(6-5,66)^2}{12} + \frac{(6-5,66)^2}{12} + \frac{(7-5,66)^2}{12} + \frac{(6-5,66)^2}{12}$$

$$S^2 = \frac{8,76}{12} = 0,73$$

$$S = \sqrt{0,73} = 0,85$$

$$P \left[5,66 - \left(\frac{1,96 \cdot 0,85}{\sqrt{12}} \right) \right] \leq \mu \leq \left[5,66 + \left(\frac{1,96 \cdot 0,85}{\sqrt{12}} \right) \right]$$

$$P = 5,18 \leq \mu \leq 6,14 = 5 \text{ (Netral)}$$

Rasa replikasi 2

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{58}{12} = 4,83$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(3-4,83)^2}{12} + \frac{(4-4,83)^2}{12} + \frac{(5-4,83)^2}{12} + \frac{(4-4,83)^2}{12} + \frac{(3-4,83)^2}{12} + \frac{(4-4,83)^2}{12} + \frac{(5-4,83)^2}{12} + \frac{(5-4,83)^2}{12} + \frac{(6-4,83)^2}{12} + \frac{(6-4,83)^2}{12} + \frac{(6-4,83)^2}{12} + \frac{(7-4,83)^2}{12} + \frac{(6-4,83)^2}{12}$$

$$S^2 = \frac{17,65}{12} = 1,47$$

$$S = \sqrt{1,47} = 1,21$$

$$P \left[4,83 - \left(\frac{1,96 \cdot 1,21}{\sqrt{12}} \right) \right] \leq \mu \leq \left[4,83 + \left(\frac{1,96 \cdot 1,21}{\sqrt{12}} \right) \right]$$

$$P = 4,15 \leq \mu \leq 5,51 = 4 \text{ (agak tidak suka)}$$

Aroma replikasi 2

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{79}{12} = 6,58$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(5-6,58)^2}{12} + \frac{(4-6,58)^2}{12} + \frac{(5-6,58)^2}{12} + \frac{(6-6,58)^2}{12} + \frac{(7-6,58)^2}{12} + \frac{(7-6,58)^2}{12} + \frac{(7-6,58)^2}{12} + \frac{(7-6,58)^2}{12} + \frac{(6-6,58)^2}{12} + \frac{(5-6,58)^2}{12} + \frac{(8-6,58)^2}{12} + \frac{(7-6,58)^2}{12} + \frac{(7-6,58)^2}{12}$$

$$S^2 = \frac{17,73}{12} = 1,48$$

$$S = \sqrt{1,48} = 1,22$$

$$P \left[6,58 - \left(\frac{1,96 \cdot 1,22}{\sqrt{12}} \right) \right] \leq \mu \leq \left[6,58 + \left(\frac{1,96 \cdot 1,22}{\sqrt{12}} \right) \right]$$

$$P = 5,89 \leq \mu \leq 7,27 = 6 \text{ (agak suka)}$$

Tekstur replikasi 3

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{71}{12} = 5,92$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(6-5,92)^2}{12} + \frac{(7-5,92)^2}{12} + \frac{(8-5,92)^2}{12} + \frac{(7-5,92)^2}{12} + \frac{(8-5,92)^2}{12} + \frac{(7-5,92)^2}{12} + \frac{(6-5,92)^2}{12} + \frac{(5-5,92)^2}{12} + \frac{(3-5,92)^2}{12} + \frac{(3-5,92)^2}{12} + \frac{(4-5,92)^2}{12}$$

$$S^2 = \frac{34,94}{12} = 2,91$$

$$S = \sqrt{2,91} = 1,71$$

$$P \left[5,92 - \left(\frac{1,96 \cdot 1,71}{\sqrt{12}} \right) \right] \leq \mu \leq \left[5,92 + \left(\frac{1,96 \cdot 1,71}{\sqrt{12}} \right) \right]$$

$$P = 4,95 \leq \mu \leq 6,89 = 5 \text{ (netral)}$$

Rasa replikasi 3

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{53}{12} = 4,42$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(7-4,42)^2}{12} + \frac{(5-4,42)^2}{12} + \frac{(7-4,42)^2}{12} + \frac{(6-4,42)^2}{12} + \frac{(7-4,42)^2}{12} + \frac{(5-4,42)^2}{12} + \frac{(4-4,42)^2}{12} + \frac{(3-4,42)^2}{12} + \frac{(2-4,42)^2}{12} + \frac{(2-4,42)^2}{12} + \frac{(3-4,42)^2}{12}$$

$$S^2 = \frac{44,95}{12} = 3,75$$

$$S = \sqrt{3,75} = 1,94$$

$$P \left[4,42 - \left(\frac{1,96 \cdot 1,94}{\sqrt{12}} \right) \right] \leq \mu \leq \left[4,42 + \left(\frac{1,96 \cdot 1,94}{\sqrt{12}} \right) \right]$$

$$P = 3,33 \leq \mu \leq 5,51 = 3 \text{ (sangat tidak suka)}$$

Aroma replikasi 3

$$x = \frac{\sum_{i=1}^n x_i}{n} = \frac{63}{12} = 5,25$$

$$S^2 = \frac{\sum_{i=1}^n (x_i - x)^2}{n} = \frac{(3-5,25)^2}{12} + \frac{(4-5,25)^2}{12} + \frac{(4-5,25)^2}{12} + \frac{(5-5,25)^2}{12} + \frac{(6-5,25)^2}{12} + \frac{(6-5,25)^2}{12} + \frac{(5-5,25)^2}{12} + \frac{(6-5,25)^2}{12} + \frac{(5-5,25)^2}{12} + \frac{(7-5,25)^2}{12} + \frac{(6-5,25)^2}{12} + \frac{(6-5,25)^2}{12}$$

$$S^2 = \frac{14,22}{12} = 1,19$$

$$S = \sqrt{1,19} = 1,09$$

$$P \left[5,25 - \left(\frac{1,96 \cdot 1,09}{\sqrt{12}} \right) \right] \leq \mu \leq \left[5,25 + \left(\frac{1,96 \cdot 1,09}{\sqrt{12}} \right) \right]$$

$$P = 4,63 \leq \mu \leq 5,88 = 5 \text{ (netral)}$$

Tabel 13. Hasil Kelembaban Bibir Penggunaan *Lip Balm* Madu Kelulut (*Meliponini Honey*)

Panelis	Formula	Replikasi	Sebelum (%)	Hari Pertama (%)	Hasil hari ke 3 (%)	Hasil hari ke 7 (%)
1	F1	1	10,5	29,5	36	55,6
2		2	11,5	32,7	45,4	65,6
3		3	21,4	32,2	33,2	65,1
4	F2	1	12	24,5	37,7	65,2
5		2	22,2	36,4	40,2	65
6		3	22,1	33,5	52,1	79,1
7	F3	1	29,5	40,8	46,7	86,7
8		2	28,9	48,3	52,1	68,2
9		3	6,7	29,4	33,7	47,5
10	F4	1	24,5	33,4	57,6	82,7
11		2	7	31,2	46,3	56,8
12		3	11,7	29	38,9	65,4

Tabel 14. Hasil Uji Daya Sebar *Lip Balm* Madu Kelulut (*Meliponini Honey*)

Waktu	F1 (%)	F2 (%)	F3 (%)	F4 (%)
Sebelum	13.48	18.11	21.37	14.73
Hari Pertama	31.47	31.47	39.83	31.20
Hari ke-3	38.87	43.33	44.18	47.60
Hari ke-7	62.43	69.44	67.47	68.60

Lampiran 13. Uji kelembapan sediaan *lip balm* dengan *Sample Paired T Test*

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Sebelum	17.3333	12	8.29494	2.39454
	Sesudah	33.4083	12	6.19625	1.78870
Pair 2	Hari_ke_3	43.3250	12	7.93223	2.28984
	Hari_ke_7	66.9083	12	11.32956	3.27056

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Sebelum & Sesudah	12	.780	.003
Pair 2	Hari_ke_3 & Hari_ke_7	12	.696	.012

Paired Samples Test

		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Sebelum - Sesudah	-16.07500	5.20090	1.50137	-19.37949	-12.77051	-10.707	11	<.001
Pair 2	Hari_ke_3 - Hari_ke_7	-23.58333	8.13621	2.34872	-28.75283	-18.41383	-10.041	11	<.001

Lampiran 14. Dokumentasi Uji kelembapan Sediaan *Lip Balm*



