

LAMPIRAN

Lampiran 1. Perhitungan Susut Pengeringan

1. Wortel

- a. Berat sampel baasah (A) = 6.000 gram
- b. Berat sampel kering (B) = 320 gram
- c. Prosentase bobot kering $\frac{\text{Bobot kering}}{\text{Bobot basah}} \times 100\%$
 $\frac{320 \text{ gram}}{6000 \text{ gram}} \times 100\%$
 $= 5,83 \%$

Lampiran 2. Perhitungan Rendemen

1. Wortel

- a. Berat sampel (X) = 320 gram
- b. Berat cawan uap kosong (A) = 87,1 gram
- c. Berat cawan uap + isi (B) = 198,2 gram
- d. Berat isi (Y) = B - A
 $= B - A$
 $= 198,2 \text{ gram} - 87,1 \text{ gram}$
 $= 111,1 \text{ gram}$
- e. Rendemen $= \frac{Y}{X} \times 100\%$
 $= \frac{111,1 \text{ gram}}{320 \text{ gram}} \times 100\%$
 $= 34,71 \%$

Lampiran 3. Perhitungan simplisia : Pelarut untuk meserasi dengan perbandingan 1:5

serbuk : pelarut = 1:5

$$= 320 \text{ gram sampel} : 1,600 \text{ etanol } 70\%$$

Lampiran 4. Penimbangan Bahan Formulasi

Sediaan sampo cair transparan dibuat sebanyak 100 mL.

Tabel formula

Bahan	Formula 0	Formula 1	Formula II	Formula III
Ekstrak wortel		2%	4%	6%
Sari buah jeruk		2%	4%	6%
Nipis				
Na lauril sulfat	10%	10%	10%	10%
Gliserin	10%	10%	10%	10%
CMC Na	2%	2 %	2%	2%
Na.EDTA	0,1%	0,1%	0,1%	0,1%
Metil paraben	0,2%	0,2%	0,2%	0,2%
Parfum	1%	1%	1%	1%
TEA	1%	1%	1%	1%
Propilen Glikol	20%	20%	20%	20%
Aquadest	ad 100%	ad 100%	ad 100%	ad 100%

Formula 0

$$\text{Na lauril sulfat} = \frac{10}{100} \times 100\% = 10 \text{ gram}$$

$$\text{Gliseri} = \frac{10}{100\%} \times 100\% = 10 \text{ gram}$$

$$\text{CMC Na} = \frac{2}{100} \times 100\% = 2 \text{ gram}$$

$$\text{Na.EDTA} = \frac{0,1}{100} \times 100\% = 0,1 \text{ gram}$$

$$\text{Metil Paraben} = \frac{0,2}{100} \times 100\% = 0,2 \text{ gram}$$

$$\text{Parfum} = \frac{1}{100} \times 100\% = 1 \text{ gram}$$

$$\text{TEA} = \frac{1}{100} \times 100\% = 1 \text{ gram}$$

$$\text{Propilen glikol} = \frac{20}{100} \times 100\% = 20 \text{ gram}$$

$$\begin{aligned} \text{Aquadest} &= 100 - (10 + 10 + 1 + 0,1 + 0,2 + 1 + 1 + 20) \\ &= 100 - 44,3 \\ &= 55,7 \text{ gram} \end{aligned}$$

Formula 1

$$\text{Ekstrak wortel} = \frac{2}{100} \times 100\% = 2 \text{ gram}$$

$$\text{Sari jeruk nipis} = \frac{2}{100} \times 100\% = 2 \text{ gram}$$

$$\text{Na lauril sulfat} = \frac{10}{100} \times 100\% = 10 \text{ gram}$$

$$\text{Gliserin} = \frac{10}{100} \times 100\% = 10 \text{ gram}$$

$$\text{CMC Na} = \frac{2}{100} \times 100\% = 2 \text{ gram}$$

$$\text{Na. EDTA} = \frac{0,1}{100} \times 100\% = 0,1 \text{ gram}$$

$$\text{Metil paraben} = \frac{0,2}{100} \times 100\% = 0,2 \text{ gram}$$

$$\text{Parfum} = \frac{1}{100} \times 100\% = 1 \text{ gram}$$

$$\text{TEA} = \frac{1}{100} \times 100\% = 1 \text{ gram}$$

$$\text{Propilen glikol} = \frac{20}{100} \times 100\% = 20 \text{ gram}$$

$$\begin{aligned} \text{Aquadest} &= 100 - (2+2+10+10+2+0,1+0,2+1+1+20) \\ &= 100 - 48,3 \\ &= 51,7 \text{ ml} \end{aligned}$$

Formula II

$$\text{Ekstrak wortel} = \frac{4}{100} \times 100\% = 4 \text{ gram}$$

$$\text{Sari jeruk nipis} = \frac{4}{100} \times 100\% = 4 \text{ gram}$$

$$\text{Na lauril sulfat} = \frac{10}{100} \times 100\% = 10 \text{ gram}$$

$$\text{Gliserin} = \frac{10}{100} \times 100\% = 10 \text{ gram}$$

$$\text{CMC Na} = \frac{2}{100} \times 100\% = 2 \text{ gram}$$

$$\text{Na.EDTA} = \frac{0,1}{100} \times 100\% = 0,1 \text{ gram}$$

$$\text{Metil paraben} = \frac{0,2}{100} \times 100\% = 0,2 \text{ gram}$$

$$\text{Parfum} = \frac{1}{100} \times 100\% = 1 \text{ gram}$$

$$\text{TEA} = \frac{1}{100} \times 100\% = 1 \text{ gram}$$

$$\text{Propilen glikol} = \frac{20}{100} \times 100\% = 20 \text{ gram}$$

$$\begin{aligned} \text{Aquadest} &= 100 - (4+4+10+10+2+0,1+0,2+1+1+20) \\ &= 100 - 52,3 \\ &= 47,7 \text{ ml} \end{aligned}$$

Formula III

$$\text{Ekstrak wortel} = \frac{6}{100} \times 100\% = 6 \text{ gram}$$

$$\text{Sari jeruk nipis} = \frac{6}{100} \times 100\% = 6 \text{ gram}$$

$$\text{Na lauril sulfat} = \frac{10}{100} \times 100\% = 10 \text{ gram}$$

$$\text{Gliserin} = \frac{10}{100} \times 100\% = 10 \text{ gram}$$

$$\text{CMC Na} = \frac{2}{100} \times 100\% = 2 \text{ gram}$$

$$\text{Na.EDTA} = \frac{0,1}{100} \times 100\% = 0,1 \text{ gram}$$

$$\text{Metil paraben} = \frac{0,2}{100} \times 100\% = 0,2 \text{ gram}$$

$$\text{Parfum} = \frac{1}{100} \times 100\% = 1 \text{ gram}$$

$$\text{TEA} = \frac{1}{100} \times 100\% = 1 \text{ gram}$$

$$\text{Propilen glikol} = \frac{20}{100} \times 100\% = 20 \text{ gram}$$

$$\begin{aligned} \text{Aquadest} &= 100 - (6+6+10+10+2+0,1+0,2+1+1+20) \\ &= 100 - 56,3 \\ &= 43,7 \text{ mL} \end{aligned}$$

Lampiran 5. Perhitungan Uji Tinggi Busa

a. Formula 1

Replikasi	TB Awal	TB Akhir	Hasil (%)
1	29	23	79,3
2	27	20	74
Rata-rata mm	28 mm	21,5 mm	76,6 mm

1). Replikasi 1

$$\text{Uji busa} = \frac{\text{Tinggi busa akhir}}{\text{Tinggi busa awal}} \times 100\%$$

$$\text{Uji busa} = \frac{23}{29} \times 100\% = 79,3 \text{ mm}$$

2). Replikasi 2

$$\text{Uji busa} = \frac{\text{Tinggi busa akhir}}{\text{Tinggi busa awal}} \times 100\%$$

$$\text{Uji busa} = \frac{20}{27} \times 100\% = 74 \text{ mm}$$

b. Formula II

Replikasi	TB Awal	TB Akhir	Hasil (%)
1	30	24	80
2	29	23	79,3
Rata-rata mm	29,5 mm	23,5 mm	79,6 mm

1). Replikasi 1

$$\text{Uji busa} = \frac{\text{Tinggi busa akhir}}{\text{Tinggi busa awal}} \times 100\%$$

$$\text{Uji busa} = \frac{24}{30} \times 100\% = 80 \text{ mm}$$

2). Replikasi II

$$\text{Uji busa} = \frac{\text{Tinggi busa akhir}}{\text{Tinggi busa awal}} \times 100\%$$

$$\text{Uji busa} = \frac{23}{29} \times 100\% = 79,3 \text{ mm}$$

c. Formula III

Replikasi	TB Awal	TB Akhir	Hasil (mm)
1	28	22	78,5
2	29	20	68,9
Rata-rata mm	28,5 mm	21 mm	73,7 mm

1). Replikasi 1

$$\text{Uji busa} = \frac{\text{Tinggi busa akhir}}{\text{Tinggi busa awal}} \times 100\%$$

$$\text{Uji busa} = \frac{22}{28} \times 100\% = 78,5 \text{ mm}$$

2). Replikasi III

$$\text{Uji busa} = \frac{\text{Tinggi busa akhir}}{\text{Tinggi busa awal}} \times 100\%$$

$$\text{Uji busa} = \frac{20}{29} \times 100\% = 68,9 \text{ mm}$$

Lampiran 6. Perhitungan Uji Viskositas

Replikasi	F I	F II	F III
1	25.162	37.881	34.986
2	73.149	32.183	38.258
Rata-rata	49,155 mPa.s	35.032 mPa.s	36,622 mPa.s

a. Formula 1

$$\text{Uji Viskositas} = \frac{\text{Viskositas Replikasi 1} + \text{viskositas Replikasi 2}}{2}$$

$$\text{Uji Viskositas} = \frac{25.162 + 73.149}{2} = \frac{98.311}{2} = 49.155 \text{ mPa.s}$$

b. Formula II

$$\text{Uji Viskositas} = \frac{\text{Viskositas Replikasi 1} + \text{Viskositas Replikasi 2}}{2}$$

$$\text{Uji Viskositas} = \frac{37.881 + 32.183}{2} = \frac{70.064}{2} = 35.032 \text{ mPa.s}$$

c. Formula III

$$\text{Uji Viskositas} = \frac{\text{Viskositas Replikasi 1} + \text{Viskositas Replikasi 2}}{2}$$

$$\text{Uji Viskositas} = \frac{34.986 + 38.258}{2} = \frac{73.244}{2} = 36,622$$

Lampiran 7. Perhitungan Uji Hedonik

Replikasi I	Penilaian %	
	Suka (S)	Tidak Suka (Ts)
Formula 0	$\frac{2}{10} \times 100\% = 20\%$	$\frac{8}{10} \times 100\% = 80\%$
Formula I	$\frac{1}{10} \times 100\% = 10\%$	$\frac{9}{10} \times 100\% = 90\%$
Formula II	$\frac{4}{10} \times 100\% = 40\%$	$\frac{6}{10} \times 100\% = 60\%$
Formula III	$\frac{3}{10} \times 100\% = 30\%$	$\frac{7}{10} \times 100\% = 70\%$

Pada uji kesukaan 10 responden pada replikasi I

Formula 0 : Suka (S) ada 2 responden

: Tidak Suka (TS) ada 8 responden

Formula I : Suka (S) ada 1 responden

: Tidak suka (TS) ada 9 responden

Formula II : Suka (S) ada 4 responden

: Tidak suka (TS) ada 6 responden

Formula III : Suka (S) ada 3 responden

: Tidak suka (TS) ada 7 responden

Replikasi II	Penilaian %	
	Suka (S)	Tidak Suka (Ts)
Formula 0	$\frac{2}{10} \times 100\% = 20\%$	$\frac{8}{10} \times 100\% = 80\%$
Formula I	$\frac{1}{10} \times 100\% = 10\%$	$\frac{9}{10} \times 100\% = 90\%$
Formula II	$\frac{4}{10} \times 100\% = 40\%$	$\frac{6}{10} \times 100\% = 60\%$
Formula III	$\frac{3}{10} \times 100\% = 30\%$	$\frac{7}{10} \times 100\% = 70\%$

Pada uji kesukaan 10 responden pada replikasi I

Formula 0 : Suka (S) ada 2 responden

: Tidak Suka (TS) ada 8 responden

Formula I : Suka (S) ada 1 responden

: Tidak suka (TS) ada 9 responden

Formula II : Suka (S) ada 4 responden

: Tidak suka (TS) ada 6 responden

Formula III : Suka (S) ada 3 responden

: Tidak suka (TS) ada 7 responden

Lampiran 8. Gambar Pembuatan Simplisia

No	Gambar	Keterangan
1		Pemilihan Bahan
2.		Pencucian
3.		Pengeringan
4.		Penimbangan berat kering

Lampiran 9. Gambar Pembuatan Ekstrak

No	Gambar	Keterangan
1 .		Penghalusan Simplisia
2.		Penimbangan serbuk simplisia
3.		Proses Maserasi
4.		Penyaringan

Lanjutan Lampiran Pembuatan Ekstraak

5.

Penguapan dan pengentalan



6.

Hasil Ekstrak Wortel

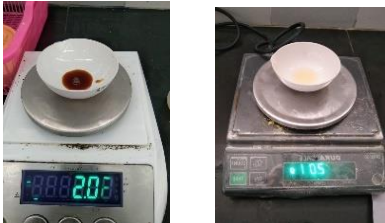


7.

Hasil Perasan Jeruk Nipis



Lampiran 10. Gambar Pembuatan Sediaan

No	Gambar	Keterangan
1.		Penimbangan Ekstrak
2.		Penimbangan Na Lauril Sulfat dan Cmc Na
3.		Penimbangan Na.EDTA dan Metil Paraben
4.		Penimbangan Gliserin dan Propilen Glikol
5.		Penimbangan TEA dan Parfum

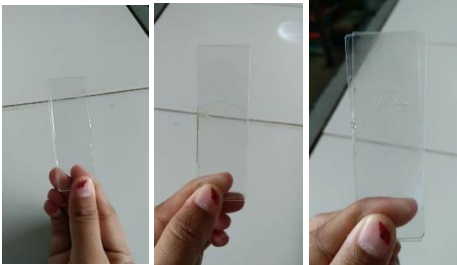
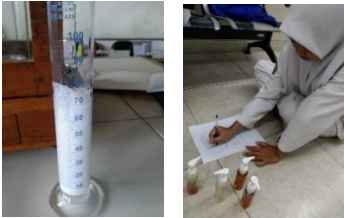
6.

Pencampuran Bahan



Hasil Sediaan

Lampiran 11. Gambar Hasil Uji

No	Gambar	Keterangan
1.		Uji Organoleptik
2.		Uji pH
3.		Uji Homogenitas
4.		Uji Tinggi Busa dan uji hedonik



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SURAT KETERANGAN

Dengan ini menerangkan bahwa mahasiswa berikut :

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Sari Buah Jeruk Nipis

Benar – benar telah melakukan penelitian di Laboratorium Diploma III Farmasi Politeknik Harapan Bersama Tegal.

Demikian surat keterangan ini untuk digunakan sebagaimana mestinya.

Tegal, 24 Juni 2025
Ka. Program Studi Diploma III Farmasi
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 (*Daucus Carota L*) Dan Sari buah jeruk nipis