

**LAMPIRAN A**  
**PERHITUNGAN STANDARISASI**

**Perhitungan Susut Pengeringan Serbuk Daun Jeruk Purut**

Replikasi	Berat serbuk (gram)	Susut pengeringan (%)	Pustaka (MMI, 1995)
1	5	7,9	< 10 %
2	5	7,9	
3	5	7,8	
Rata-rata		7,87	

**Perhitungan Kadar Abu Serbuk Daun Jeruk Purut**

Perhitungan kadar abu menggunakan rumus sebagai berikut :

$$\% \text{ kadar abu} = \frac{\{W_{\text{konstan (K+S)}} - W_{\text{konstan}}\}}{W_{(S)}} \times 100\%$$

Keterangan : K = bobot krus porselin, S = bobot serbuk

$$\text{Kadar abu 1} = \frac{23,6787 - 23,5343}{2,0010} \times 100\% = 7,21 \%$$

$$\text{Kadar abu 2} = \frac{23,6853 - 23,5482}{2,0127} \times 100\% = 6,81 \%$$

$$\text{Kadar abu 3} = \frac{21,5128 - 21,3742}{2,0400} \times 100\% = 6,79 \%$$

$$\text{Kadar abu rata-rata} = \frac{7,21 + 6,81 + 6,79}{3} = 6,94 \%$$

### Perhitungan Kadar Sari Larut Dalam Etanol

Perhitungan kadar sari larut etanol serbuk daun jeruk purut (*Citrus hystrix* DC.) menggunakan rumus :

$$\text{Kadar sari larut etanol} = \frac{\{W(C+E)-W(C)\}}{W(S)} 100\%$$

$$\text{Kadar sari larut etanol I} = \frac{85,6398-85,0889}{5,0082} 100\% = 10,99\%$$

$$\text{Kadar sari larut etanol II} = \frac{85,6486-85,0897}{5,0138} 100\% = 11,15\%$$

$$\text{Kadar sari larut etanol III} = \frac{86,1213-85,4602}{5,0073} 100\% = 13,20\%$$

$$\text{Kadar sari larut etanol rata-rata} = \frac{10,99+11,15+13,20}{3} = 11,78\%$$

### Contoh Perhitungan Harga Rf

$$\text{Harga Rf} = \frac{\text{Jarak senyawa dari titik awal}}{\text{Jarak fase gerak dari titik akhir}}$$

Jarak noda ekstrak jeruk purut dari titik awal = 4,1 cm

Jarak noda rutin = 4,2 cm

Jarak fase gerak dari titik akhir = 8 cm

$$\text{Harga Rf ekstrak daun jeruk purut} = \frac{4,1}{8,0} = 0,51$$

$$\text{Harga Rf rutin} = \frac{3,8}{8,0} = 0,48$$

## LAMPIRAN B

### PERHITUNGAN ANAVA UNTUK UJI EFEK JUMLAH JENGUKAN KEPALA MENCIT KE DALAM LUBANG

$$\begin{aligned}\sum X_T &= \sum X_1 + \sum X_2 + \sum X_3 + \sum X_4 + \sum X_5 \\ &= 74 + 108 + 144 + 187 + 231 \\ &= 744\end{aligned}$$

$$\begin{aligned}\sum X_T^2 &= \sum X_1^2 + \sum X_2^2 + \sum X_3^2 + \sum X_4^2 + \sum X_5^2 \\ &= 1104 + 2342 + 4162 + 7011 + 1068 \\ &= 25306\end{aligned}$$

$$\begin{aligned}N_T &= n_1 + n_2 + n_3 + n_4 + n_5 \\ &= 5 + 5 + 5 + 5 + 5 \\ &= 25\end{aligned}$$

$$\begin{aligned}FK &= \frac{(\sum X_T)^2}{N_T} \\ &= \frac{(744)^2}{25} \\ &= 22141,44\end{aligned}$$

$$\begin{aligned}JK_T &= \sum X_T^2 - \frac{(\sum X_T)^2}{N_T} \\ &= 25306 - 22141,44 \\ &= 3164,56\end{aligned}$$

$$\begin{aligned}JK_P &= \left[ \sum \frac{(\sum X_p)^2}{N_p} - \frac{(\sum X_T)^2}{N_T} \right] \\ &= \frac{5476 + 11664 + 20736 + 34969 + 53361}{5} - 22141,44 \\ &= 3099,76\end{aligned}$$

$$\begin{aligned}
 JK_d &= JK_T - JK_p \\
 &= 3164,56 - 3099,76 \\
 &= 64,8
 \end{aligned}$$

$$\begin{aligned}
 Db_T &= N - 1 \\
 &= 25 - 1 \\
 &= 24
 \end{aligned}$$

$$\begin{aligned}
 Db_p &= n-1 \\
 &= 5-1 \\
 &= 4
 \end{aligned}$$

$$\begin{aligned}
 Db_d &= Db_T - Db_p \\
 &= 24 - 4 \\
 &= 20
 \end{aligned}$$

$$\begin{aligned}
 MK_p &= \frac{JK_p}{MK_p} \\
 &= \frac{3099,76}{4} \\
 &= 774,94
 \end{aligned}$$

$$\begin{aligned}
 MK_d &= \frac{JK_d}{MK_d} \\
 &= \frac{64,8}{20} \\
 &= 3,24
 \end{aligned}$$

$$\begin{aligned}
 F_{\text{hitung}} &= \frac{MK_p}{MK_d} \\
 &= \frac{774,94}{3,24} \\
 &= 239,18
 \end{aligned}$$

F hitung : 239,18 ≥ F tabel : 2,87 (α : 0,05) dan F tabel : 4,43 (α : 0,01).

Jadi H0 ditolak berarti terdapat perbedaan yang bermakna terhadap jumlah jengukan mencit ke dalam lubang antar kelompok.

F hitung 239,18 ≥ F tabel, maka perhitungan dilanjutkan dengan uji HSD 5% dan HSD 1%.

## LAMPIRAN C

### PERHITUNGAN ANAVA UNTUK UJI EFEK JUMLAH MENCIT MENAIKI DAN MENURUNI PAPAN MIRING

$$\begin{aligned}\sum X_T &= \sum X_1 + \sum X_2 + \sum X_3 + \sum X_4 + \sum X_5 \\ &= 18 + 33 + 57 + 76 + 84 \\ &= 268\end{aligned}$$

$$\begin{aligned}\sum X_T^2 &= \sum X_1^2 + \sum X_2^2 + \sum X_3^2 + \sum X_4^2 + \sum X_5^2 \\ &= 70 + 231 + 663 + 1164 + 1418 \\ &= 3546\end{aligned}$$

$$\begin{aligned}N_T &= n_1 + n_2 + n_3 + n_4 + n_5 \\ &= 5 + 5 + 5 + 5 + 5 \\ &= 25\end{aligned}$$

$$\begin{aligned}FK &= \frac{(\sum X_T)^2}{N_T} \\ &= \frac{(268)^2}{25} \\ &= 2872,96\end{aligned}$$

$$\begin{aligned}JK_T &= \sum X_T^2 - \frac{(\sum X_T)^2}{N_T} \\ &= 3546 - 2872,96 \\ &= 673,04\end{aligned}$$

$$\begin{aligned}JK_P &= \left[ \sum \frac{(\sum X_P)}{N_P} - \frac{(\sum X_T)^2}{N_T} \right] \\ &= \frac{324 + 1089 + 3249 + 8776 + 7056}{5} - 2872,96 \\ &= 625,84\end{aligned}$$

$$\begin{aligned} JK_d &= JK_T - JK_p \\ &= 673,04 - 625,84 \\ &= 47,2 \end{aligned}$$

$$\begin{aligned} Db_T &= N - 1 \\ &= 25 - 1 \\ &= 24 \end{aligned}$$

$$\begin{aligned} Db_p &= n-1 \\ &= 5-1 \\ &= 4 \end{aligned}$$

$$\begin{aligned} Db_d &= Db_T - Db_p \\ &= 24 - 4 \\ &= 20 \end{aligned}$$

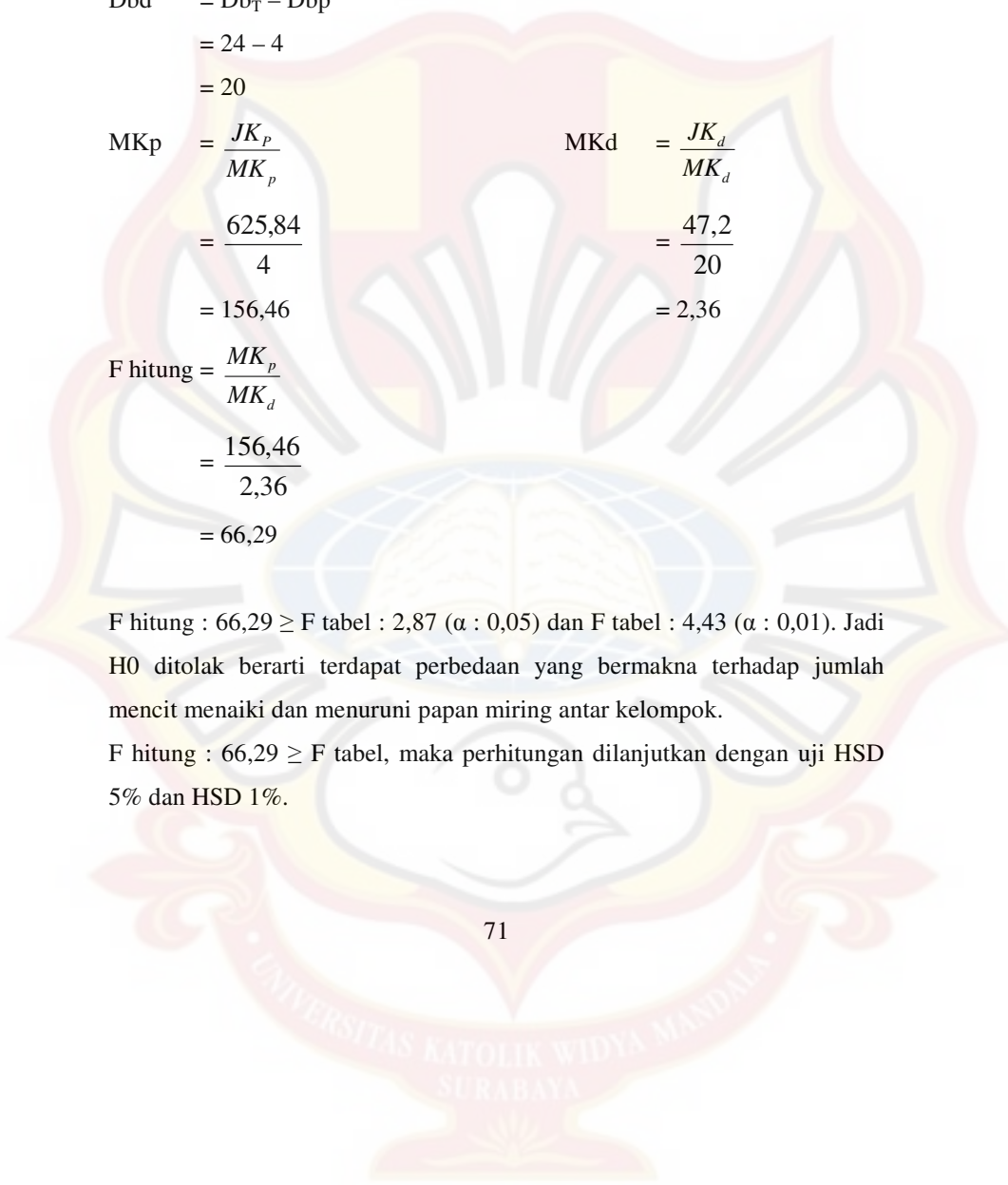
$$\begin{aligned} MK_p &= \frac{JK_p}{MK_p} \\ &= \frac{625,84}{4} \\ &= 156,46 \end{aligned}$$

$$\begin{aligned} MK_d &= \frac{JK_d}{MK_d} \\ &= \frac{47,2}{20} \\ &= 2,36 \end{aligned}$$

$$\begin{aligned} F \text{ hitung} &= \frac{MK_p}{MK_d} \\ &= \frac{156,46}{2,36} \\ &= 66,29 \end{aligned}$$

F hitung : 66,29  $\geq$  F tabel : 2,87 ( $\alpha$  : 0,05) dan F tabel : 4,43 ( $\alpha$  : 0,01). Jadi  $H_0$  ditolak berarti terdapat perbedaan yang bermakna terhadap jumlah mencit menaiki dan menuruni papan miring antar kelompok.

F hitung : 66,29  $\geq$  F tabel, maka perhitungan dilanjutkan dengan uji HSD 5% dan HSD 1%.





## LAMPIRAN D

### PERHITUNGAN ANAVA UNTUK UJI EFEK STIMULAN LAMA WAKTU MENCIT BERTAHAN DI ATAS *ROTAROD*

$$\begin{aligned}\sum X_T &= \sum X_1 + \sum X_2 + \sum X_3 + \sum X_4 + \sum X_5 \\ &= 15,84 + 20,75 + 29,2 + 40,6 + 42,85 \\ &= 149,24\end{aligned}$$

$$\begin{aligned}\sum X_T^2 &= \sum X_1^2 + \sum X_2^2 + \sum X_3^2 + \sum X_4^2 + \sum X_5^2 \\ &= 50,19 + 86,31 + 171,88 + 329,89 + 367,57 \\ &= 1005,84\end{aligned}$$

$$\begin{aligned}N_T &= n_1 + n_2 + n_3 + n_4 + n_5 \\ &= 5 + 5 + 5 + 5 + 5 \\ &= 25\end{aligned}$$

$$\begin{aligned}FK &= \frac{(\sum X_T)^2}{N_T} \\ &= \frac{(149,24)^2}{25} \\ &= 890,90\end{aligned}$$

$$\begin{aligned}JK_T &= \sum X_T^2 - \frac{(\sum X_T)^2}{N_T} \\ &= 1005,84 - 890,90 \\ &= 114,94\end{aligned}$$

$$\begin{aligned}JK_P &= \left[ \sum \frac{(\sum X_P)}{N_P} - \frac{(\sum X_T)^2}{N_T} \right] \\ &= \frac{250,91 + 430,56 + 852,64 + 1648,36 + 1836,12}{5} - 890,90 \\ &= 112,82\end{aligned}$$

$$JK_d = JK_T - JK_P$$

$$\begin{aligned}
 &= 114,94 - 112,82 \\
 &= 2,12 \\
 \text{Db}_T &= N - 1 & \text{Db}_p &= n - 1 \\
 &= 25 - 1 & &= 5 - 1 \\
 &= 24 & &= 4 \\
 \text{Db}_d &= \text{Db}_T - \text{Db}_p \\
 &= 24 - 4 \\
 &= 20 \\
 \text{MK}_p &= \frac{JK_p}{MK_p} & \text{MK}_d &= \frac{JK_d}{MK_d} \\
 &= \frac{112,82}{4} & &= \frac{2,12}{20} \\
 &= 28,21 & &= 0,106 \\
 \text{F hitung} &= \frac{MK_p}{MK_d} \\
 &= \frac{28,21}{0,106} \\
 &= 266,13
 \end{aligned}$$

F hitung :  $266,13 \geq$  F tabel : 2,87 ( $\alpha : 0,05$ ) dan F tabel : 4,43 ( $\alpha : 0,01$ ). Jadi  $H_0$  ditolak berarti terdapat perbedaan yang bermakna terhadap lama waktu mencit bertahan di atas *rotarod* antar kelompok.

F hitung :  $266,13 \geq$  F tabel, maka perhitungan dilanjutkan dengan uji HSD 5% dan HSD 1%.



## LAMPIRAN E

### PERHITUNGAN ANAVA UNTUK UJI EFEK STIMULAN JUMLAH SENTUHAN MENCIT

$$\begin{aligned}\sum X_T &= \sum X_1 + \sum X_2 + \sum X_3 + \sum X_4 + \sum X_5 \\ &= 134 + 242 + 341 + 422 + 479 \\ &= 1618\end{aligned}$$

$$\begin{aligned}\sum X_T^2 &= \sum X_1^2 + \sum X_2^2 + \sum X_3^2 + \sum X_4^2 + \sum X_5^2 \\ &= 3702 + 1182 + 23463 + 35696 + 45925 \\ &= 120608\end{aligned}$$

$$\begin{aligned}N_T &= n_1 + n_2 + n_3 + n_4 + n_5 \\ &= 5 + 5 + 5 + 5 + 5 \\ &= 25\end{aligned}$$

$$\begin{aligned}FK &= \frac{(\sum X_T)^2}{N_T} \\ &= \frac{(1618)^2}{25} \\ &= 104716,96\end{aligned}$$

$$\begin{aligned}JK_T &= \sum X_T^2 - \frac{(\sum X_T)^2}{N_T} \\ &= 120608 - 104716,96 \\ &= 15891,04\end{aligned}$$

$$\begin{aligned}JK_P &= \left[ \sum \frac{(\sum X_p)}{N_p} - \frac{(\sum X_T)^2}{N_T} \right] \\ &= \frac{17956 + 58564 + 116281 + 178084 + 229441}{5} - 104716,96 \\ &= 15348,24\end{aligned}$$

$$\begin{aligned}
 JK_d &= JK_T - JK_p \\
 &= 15891,04 - 15348,24 \\
 &= 542,8
 \end{aligned}$$

$$\begin{aligned}
 Db_T &= N - 1 \\
 &= 25 - 1 \\
 &= 24
 \end{aligned}$$

$$\begin{aligned}
 Db_p &= n - 1 \\
 &= 5 - 1 \\
 &= 4
 \end{aligned}$$

$$\begin{aligned}
 Db_d &= Db_T - Db_p \\
 &= 24 - 4 \\
 &= 20
 \end{aligned}$$

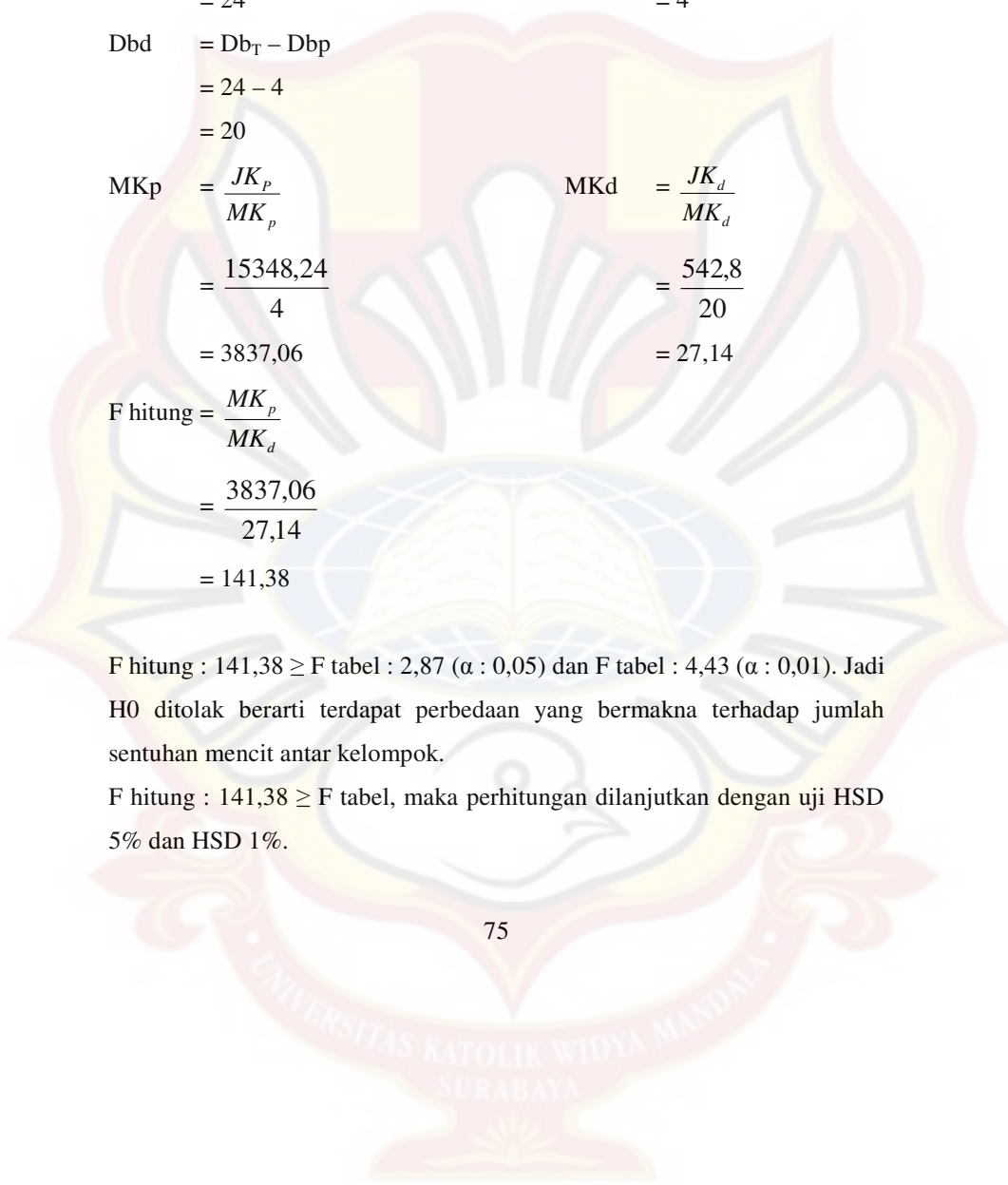
$$\begin{aligned}
 MK_p &= \frac{JK_p}{MK_p} \\
 &= \frac{15348,24}{4} \\
 &= 3837,06
 \end{aligned}$$

$$\begin{aligned}
 MK_d &= \frac{JK_d}{MK_d} \\
 &= \frac{542,8}{20} \\
 &= 27,14
 \end{aligned}$$

$$\begin{aligned}
 F \text{ hitung} &= \frac{MK_p}{MK_d} \\
 &= \frac{3837,06}{27,14} \\
 &= 141,38
 \end{aligned}$$

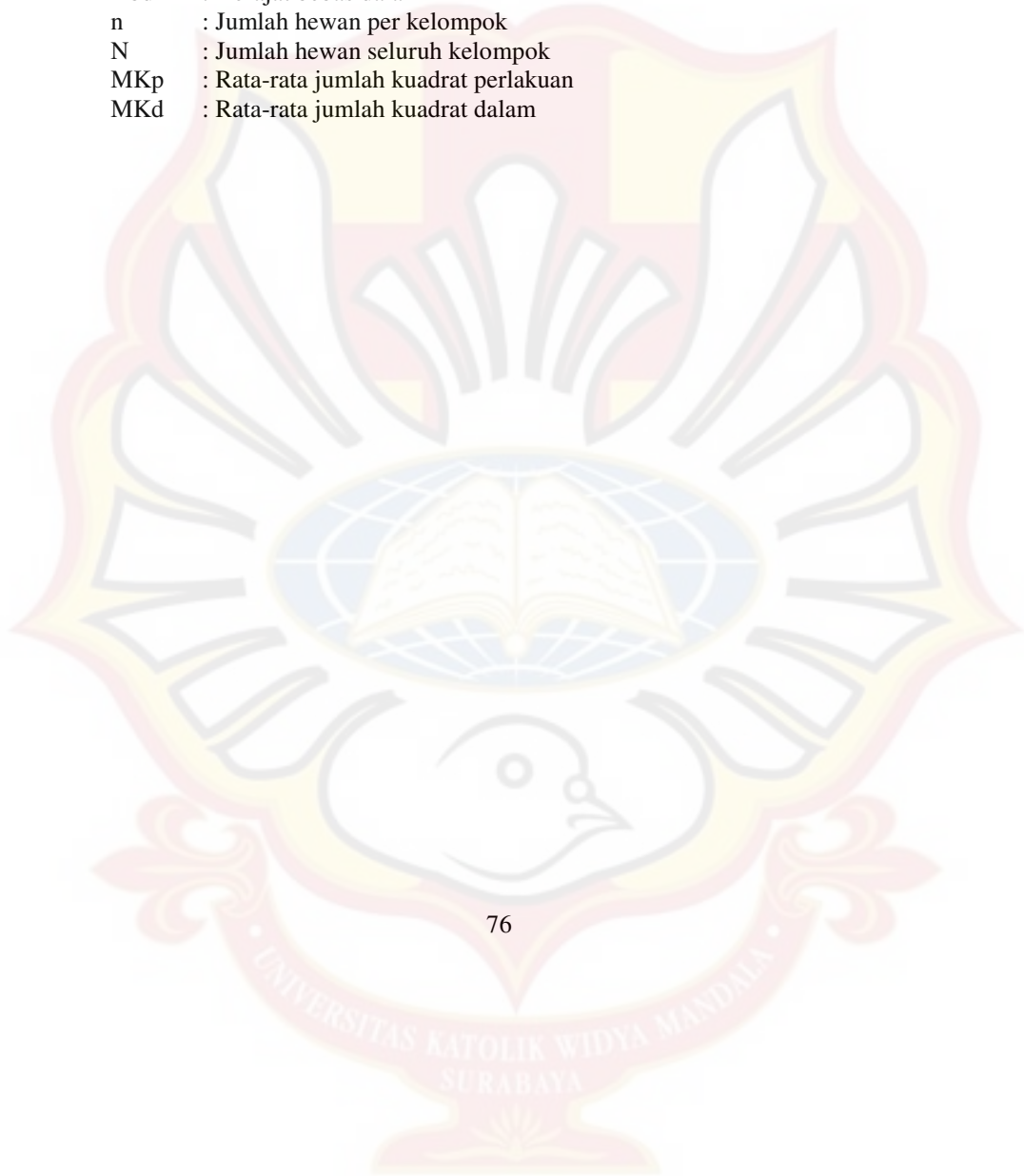
F hitung : 141,38  $\geq$  F tabel : 2,87 ( $\alpha$  : 0,05) dan F tabel : 4,43 ( $\alpha$  : 0,01). Jadi  $H_0$  ditolak berarti terdapat perbedaan yang bermakna terhadap jumlah sentuhan mencit antar kelompok.

F hitung : 141,38  $\geq$  F tabel, maka perhitungan dilanjutkan dengan uji HSD 5% dan HSD 1%.



Keterangan :

- $JK_T$  : Jumlah kuadrat total
- $JK_p$  : Jumlah kuadrat antara
- $JK_d$  : Jumlah kuadrat dalam
- $Db_T$  : Derajat bebas total
- $Db_p$  : Derajat bebas antara
- $Db_d$  : Derajat bebas dalam
- $n$  : Jumlah hewan per kelompok
- $N$  : Jumlah hewan seluruh kelompok
- $MK_p$  : Rata-rata jumlah kuadrat perlakuan
- $MK_d$  : Rata-rata jumlah kuadrat dalam



**LAMPIRAN F**  
**HASIL PERHITUNGAN HSD**

**Hasil Perhitungan HSD Jumlah Jengukan Kepala Mencit Ke dalam Lubang**

$$\begin{aligned} \text{HSD } 5\% &= q_{0,05} (p; Dbd) \sqrt{\frac{MK_d}{n}} \\ &= 4,23 \sqrt{\frac{3,24}{5}} \\ &= 3,41 \end{aligned}$$

$$\begin{aligned} \text{HSD } 1\% &= q_{0,01} (p; Dbd) \sqrt{\frac{MK_d}{n}} \\ &= 5,29 \sqrt{\frac{3,24}{5}} \\ &= 4,2 \end{aligned}$$

**Hasil Perhitungan HSD Jumlah Mencit Menaiki dan Menuruni Papan Miring**

$$\begin{aligned} \text{HSD } 5\% &= q_{0,05} (p; Dbd) \sqrt{\frac{MK_d}{n}} \\ &= 4,23 \sqrt{\frac{2,36}{5}} \\ &= 2,91 \end{aligned}$$

$$\begin{aligned} \text{HSD } 1\% &= q_{0,01} (p; Dbd) \sqrt{\frac{MK_d}{n}} \\ &= 5,29 \sqrt{\frac{2,36}{5}} \\ &= 3,63 \end{aligned}$$

### Hasil Perhitungan HSD Lama Waktu Mencit Bertahan Di Atas Rotarod

$$\begin{aligned} \text{HSD } 5\% &= q_{0,05} (p; Dbd) \sqrt{\frac{MK_d}{n}} \\ &= 4,23 \sqrt{\frac{0,106}{5}} \\ &= 0,61 \end{aligned}$$

$$\begin{aligned} \text{HSD } 1\% &= q_{0,01} (p; Dbd) \sqrt{\frac{MK_d}{n}} \\ &= 5,29 \sqrt{\frac{0,106}{5}} \\ &= 0,77 \end{aligned}$$

### Hasil Perhitungan HSD Jumlah Sentuhan Mencit

$$\begin{aligned} \text{HSD } 5\% &= q_{0,05} (p; Dbd) \sqrt{\frac{MK_d}{n}} \\ &= 4,23 \sqrt{\frac{27,14}{5}} \\ &= 9,86 \end{aligned}$$

$$\begin{aligned} \text{HSD } 1\% &= q_{0,01} (p; Dbd) \sqrt{\frac{MK_d}{n}} \\ &= 5,29 \sqrt{\frac{27,14}{5}} \\ &= 12,32 \end{aligned}$$

**LAMPIRAN G**  
**PERHITUNGAN LINIERITAS**

**Perhitungan Linieritas Rata-rata Jumlah Jengukan Kepala Mencit Ke dalam Lubang**

$$R = \frac{\sum XY - \frac{(\sum X)(\sum Y)}{n}}{\sqrt{\left(\sum X^2 - \frac{\sum X^2}{n}\right)\left(\sum Y^2 - \frac{\sum Y^2}{n}\right)}}$$
$$R = \frac{139,6 - \frac{(4,5)(87,8)}{5}}{\sqrt{\left(7,25 - \frac{20,25}{5}\right)\left(2694,76 - \frac{7708,84}{5}\right)}}$$

R = 0,9974

**Perhitungan Linieritas Rata-rata Jumlah Mencit Menaiki dan Menuruni Papan Miring**

$$R = \frac{\sum XY - \frac{(\sum X)(\sum Y)}{n}}{\sqrt{\left(\sum X^2 - \frac{\sum X^2}{n}\right)\left(\sum Y^2 - \frac{\sum Y^2}{n}\right)}}$$
$$R = \frac{54,1 - \frac{(4,5)(33,2)}{5}}{\sqrt{\left(7,25 - \frac{20,25}{5}\right)\left(404,56 - \frac{1102,24}{5}\right)}}$$

R = 0,9978



**Perhitungan Linieritas Rata-rata Lama Waktu Mencit Bertahan Di Atas Rotarod**

$$R = \frac{\sum XY - \frac{(\sum X)(\sum Y)}{n}}{\sqrt{\left(\sum X^2 - \frac{\sum X^2}{n}\right)\left(\sum Y^2 - \frac{\sum Y^2}{n}\right)}}$$

$$R = \frac{29,15 - \frac{(4,5)(18,11)}{5}}{\sqrt{\left(7,25 - \frac{20,25}{5}\right)\left(117,26 - \frac{327,98}{5}\right)}}$$

$$R = 0,9993$$

**Perhitungan Linieritas Rata-rata Jumlah Sentuhan Mencit**

$$R = \frac{\sum XY - \frac{(\sum X)(\sum Y)}{n}}{\sqrt{\left(\sum X^2 - \frac{\sum X^2}{n}\right)\left(\sum Y^2 - \frac{\sum Y^2}{n}\right)}}$$

$$R = \frac{319,5 - \frac{(4,5)(201)}{5}}{\sqrt{\left(7,25 - \frac{20,25}{5}\right)\left(14117,16 - \frac{40401}{5}\right)}}$$

$$R = 0,9978$$

LAMPIRAN H

Tabel Uji F

Beri pertama pada setiap pasangan beri adalah titik pada distribusi F untuk  $\alpha = 0.05$ ; beri kedua untuk  $\alpha = 0.01$ .

		Derajat kebebasan untuk mean kuadrat yang lebih besar																													
		1	2	3	4	5	6	7	8	9	10	11	12	14	16	20	24	30	40	50	75	100	200	300	$\infty$						
Derajat kebebasan untuk rataan kuadrat yang lebih kecil	16	4.49	3.63	3.24	2.91	2.65	2.44	2.24	2.09	1.94	1.82	1.72	1.63	1.55	1.48	1.41	1.35	1.29	1.24	1.19	1.14	1.10	1.06	1.02	1.00	0.97	0.95	0.93	0.91	0.90	
	17	4.45	3.59	3.20	2.86	2.61	2.40	2.20	2.05	1.90	1.78	1.68	1.59	1.51	1.44	1.37	1.31	1.25	1.20	1.15	1.10	1.06	1.02	0.98	0.94	0.92	0.90	0.88	0.86	0.85	0.84
	18	4.41	3.55	3.16	2.82	2.57	2.36	2.16	2.01	1.86	1.74	1.64	1.55	1.47	1.40	1.33	1.27	1.21	1.16	1.11	1.06	1.02	0.98	0.94	0.90	0.88	0.86	0.84	0.83	0.82	0.81
	19	4.38	3.52	3.13	2.79	2.54	2.33	2.13	1.98	1.83	1.71	1.61	1.52	1.44	1.37	1.30	1.24	1.18	1.13	1.08	1.03	0.99	0.95	0.91	0.87	0.84	0.82	0.80	0.79	0.78	0.77
	20	4.35	3.49	3.10	2.76	2.51	2.30	2.10	1.95	1.80	1.68	1.58	1.49	1.41	1.34	1.27	1.21	1.15	1.10	1.05	1.00	0.96	0.92	0.88	0.84	0.81	0.79	0.77	0.76	0.75	0.74
	21	4.32	3.47	3.07	2.73	2.48	2.27	2.07	1.92	1.77	1.65	1.55	1.46	1.38	1.31	1.24	1.18	1.12	1.07	1.02	0.97	0.93	0.89	0.85	0.81	0.78	0.76	0.74	0.73	0.72	0.71
	22	4.30	3.44	3.05	2.71	2.46	2.25	2.05	1.90	1.75	1.63	1.53	1.44	1.36	1.29	1.22	1.16	1.10	1.05	1.00	0.95	0.91	0.87	0.83	0.79	0.76	0.74	0.72	0.71	0.70	0.69
	23	4.28	3.42	3.03	2.69	2.44	2.23	2.03	1.88	1.73	1.61	1.51	1.42	1.34	1.27	1.20	1.14	1.08	1.03	0.98	0.93	0.89	0.85	0.81	0.77	0.74	0.72	0.70	0.69	0.68	0.67
	24	4.26	3.40	3.01	2.67	2.42	2.21	2.01	1.86	1.71	1.59	1.49	1.40	1.32	1.25	1.18	1.12	1.06	1.01	0.96	0.91	0.87	0.83	0.79	0.75	0.72	0.70	0.68	0.67	0.66	0.65
	25	4.24	3.38	2.99	2.65	2.40	2.19	1.99	1.84	1.69	1.57	1.47	1.38	1.30	1.23	1.16	1.10	1.04	0.99	0.94	0.89	0.85	0.81	0.77	0.73	0.70	0.68	0.66	0.65	0.64	0.63
	26	4.22	3.37	2.97	2.63	2.38	2.17	1.97	1.82	1.67	1.55	1.45	1.36	1.28	1.21	1.14	1.08	1.02	0.97	0.92	0.87	0.83	0.79	0.75	0.71	0.68	0.66	0.64	0.63	0.62	0.61
	27	4.21	3.35	2.96	2.62	2.37	2.16	1.96	1.81	1.66	1.54	1.44	1.35	1.27	1.20	1.13	1.07	1.01	0.96	0.91	0.86	0.82	0.78	0.74	0.70	0.67	0.65	0.63	0.62	0.61	0.60
	28	4.20	3.34	2.95	2.61	2.36	2.15	1.95	1.80	1.65	1.53	1.43	1.34	1.26	1.19	1.12	1.06	1.00	0.95	0.90	0.85	0.81	0.77	0.73	0.69	0.66	0.64	0.62	0.61	0.60	0.59
	29	4.18	3.33	2.93	2.60	2.35	2.14	1.94	1.79	1.64	1.52	1.42	1.33	1.25	1.18	1.11	1.05	0.99	0.94	0.89	0.84	0.80	0.76	0.72	0.68	0.64	0.62	0.60	0.59	0.58	0.57
	30	4.17	3.32	2.92	2.59	2.34	2.13	1.93	1.78	1.63	1.51	1.41	1.32	1.24	1.17	1.10	1.04	0.98	0.93	0.88	0.83	0.79	0.75	0.71	0.67	0.63	0.61	0.59	0.58	0.57	0.56

LAMPIRAN I

Tabel Uji HSD (0,01)

k \ d.k.	2	3	4	5	6	7	8	9	10	11
5	5.70	6.98	7.80	8.42	8.91	9.32	9.67	9.97	10.24	10.48
6	5.24	6.33	7.03	7.56	7.97	8.32	8.61	8.87	9.10	9.30
7	4.95	5.92	6.54	7.01	7.37	7.68	7.94	8.17	8.37	8.55
8	4.75	5.64	6.20	6.62	6.96	7.24	7.47	7.68	7.86	8.03
9	4.60	5.43	5.96	6.35	6.66	6.91	7.13	7.33	7.49	7.65
10	4.48	5.27	5.77	6.14	6.43	6.67	6.87	7.05	7.21	7.36
11	4.39	5.15	5.62	5.97	6.25	6.48	6.67	6.84	6.99	7.13
12	4.32	5.05	5.50	5.84	6.10	6.32	6.51	6.67	6.81	6.94
13	4.26	4.96	5.40	5.73	5.98	6.19	6.37	6.53	6.67	6.79
14	4.21	4.89	5.32	5.65	5.88	6.08	6.26	6.41	6.54	6.66
15	4.17	4.84	5.25	5.56	5.80	5.99	6.16	6.31	6.44	6.55
16	4.13	4.79	5.19	5.49	5.72	5.92	6.08	6.22	6.35	6.46
17	4.10	4.74	5.14	5.43	5.66	5.85	6.01	6.15	6.27	6.38
18	4.07	4.70	5.09	5.38	5.60	5.79	5.94	6.08	6.20	6.21
19	4.05	4.67	5.05	5.33	5.55	5.73	5.89	6.02	6.14	6.25
20	4.02	4.64	5.02	5.29	5.51	5.69	5.84	5.97	6.09	6.19
24	3.96	4.53	4.91	5.17	5.37	5.54	5.69	5.81	5.92	6.02
30	3.89	4.45	4.80	5.05	5.24	5.40	5.54	5.65	5.76	5.85
40	3.82	4.37	4.70	4.93	5.11	5.26	5.39	5.50	5.60	5.67
60	3.76	4.28	4.59	4.82	4.99	5.13	5.25	5.36	5.45	5.53
120	3.70	4.20	4.50	4.71	4.87	5.01	5.12	5.21	5.30	5.38
∞	3.64	4.12	4.40	4.60	4.76	4.88	4.99	5.08	5.16	5.23



LAMPIRAN J

Tabel Uji HSD (0,05)

d. k.	2	3	4	5	6	7	8	9	10	11
5	3.64	4.60	5.22	5.67	6.03	6.33	6.58	6.80	6.99	7.17
6	3.46	4.34	4.90	5.30	5.63	5.90	6.12	6.32	6.49	6.65
7	3.34	4.16	4.68	5.06	5.36	5.61	5.82	6.00	6.16	6.30
8	3.26	4.01	4.53	4.89	5.17	5.40	5.60	5.77	5.92	6.05
9	3.20	3.95	4.41	4.76	5.02	5.24	5.43	5.59	5.74	5.87
10	3.15	3.88	4.33	4.65	4.91	5.12	5.30	5.46	5.60	5.72
11	3.11	3.82	4.26	4.57	4.82	5.03	5.20	5.35	5.49	5.61
12	3.08	3.77	4.20	4.51	4.75	4.95	5.12	5.27	5.39	5.51
13	3.06	3.73	4.15	4.45	4.69	4.88	5.05	5.19	5.32	5.43
14	3.03	3.70	4.11	4.41	4.64	4.83	4.99	5.13	5.25	5.36
15	3.01	3.67	4.08	4.37	4.59	4.78	4.94	5.08	5.20	5.31
16	3.00	3.65	4.05	4.33	4.56	4.74	4.90	5.03	5.15	5.26
17	2.98	3.63	4.02	4.30	4.52	4.71	4.86	4.99	5.11	5.21
18	2.97	3.61	4.00	4.28	4.49	4.67	4.82	4.96	5.07	5.17
19	2.96	3.59	3.98	4.25	4.47	4.65	4.79	4.92	5.04	5.14
20	2.95	3.58	3.96	4.23	4.45	4.62	4.77	4.90	5.01	5.11
24	2.92	3.53	3.90	4.17	4.37	4.54	4.68	4.81	4.92	5.01
30	2.89	3.49	3.85	4.10	4.30	4.46	4.60	4.72	4.82	4.92
40	2.86	3.44	3.79	4.04	4.23	4.39	4.52	4.63	4.73	4.82
60	2.83	3.40	3.74	3.98	4.16	4.31	4.44	4.55	4.65	4.73
120	2.80	3.36	3.68	3.92	4.10	4.24	4.36	4.47	4.56	4.64
$\infty$	2.77	3.31	3.63	3.86	4.03	4.17	4.29	4.39	4.47	4.55

Catatan kaki: Dari *Annals of mathematical statistics*. Diulang cetak sesuai penerbit, The Institute of Mathematical Statistics.

Sumber: Scheffler (1987).

LAMPIRAN K

Tabel Uji r

DEGREES OF FREEDOM (DF)	5 PERCENT	1 PERCENT	DEGREES OF FREEDOM (DF)	5 PERCENT	1 PERCENT
1	.997	1.000	24	.388	.496
2	.950	.990	25	.381	.487
3	.878	.959	26	.374	.478
4	.811	.917	27	.367	.470
5	.754	.874	28	.361	.463
6	.707	.834	29	.355	.456
7	.666	.798	30	.349	.449
8	.632	.765	35	.325	.418
9	.602	.735	40	.304	.393
10	.576	.708	48	.288	.372
11	.553	.684	50	.273	.354
12	.532	.661	60	.250	.325
13	.514	.641	70	.232	.302
14	.497	.623	80	.217	.283
15	.482	.606	90	.205	.267
16	.468	.590	100	.195	.254
17	.456	.575	125	.174	.228
18	.444	.561	150	.159	.208
19	.433	.549	200	.138	.181
20	.423	.537	300	.113	.148
21	.413	.526	400	.098	.128
22	.404	.515	500	.088	.115
23	.396	.505	1000	.062	.081

Sumber: Soedigdo & Soedigdo (1977).

LAMPIRAN L  
SERTIFIKAT ANALISIS KAFEIN

JILIN SHULAN SYNTHETIC PHARMACEUTICAL CO., LTD.



**CERTIFICATE OF ANALYSIS**  
吉林省舒兰合成药业股份有限公司检验报告单

Name 品名	Caffeine Anhydrous 无水咖啡因	Certificate No. 检验编号	20090199
Batch No. 批号	200902119	Test Date 检验日期	2009年2月25日
Manufacture Date 生产日期	2009年2月24日	Expiry Date 有效期	2013年1月
Batch Size 批数量	1000kg	Package 包装	25kg/drum 25千克/桶
Specification 检验依据	BP2007、USP30 英国药典2007版、美国药典30版		
Items 分析项目	Specifications 质量标准	Results 分析结果	
Characters 性状	A white, crystalline powder 白色结晶性粉末	Satisfactory 符合规定	
Identifications 鉴别	Positive reaction 呈正反应	Confirmed 符合规定	
Acidity 酸度	10ml of solution S consumes 0.01mol/l NaOH ≤ 0.2ml 10ml 溶液 S 消耗 0.01mol/l NaOH ≤ 0.2ml	Complies 符合规定	
Appearance of solution 溶液的外观	Clear, Colorless 澄清, 无色	Complies 符合规定	
Readily Carbonizable Substance 易炭化物	No more color than Matching Fluid D 不深于对照液 D	Complies 符合规定	
Other Alkaloids 其它碱类	No precipitate is formed 不得有沉淀	Complies 符合规定	
Organic Volatile Impurities 有机挥发杂质	Meets the requirements 应符合规定	Undetected 未检出	
Heavy Metals 重金属	≤ 10ppm	< 10 ppm	
Sulphates 硫酸盐	≤ 500ppm	< 300 ppm	
Related Substances 有关物质	≤ 0.5%	< 0.5%	
Chromatographic Purity 色谱纯度	≤ 0.1%	0.08%	
Loss on Drying 干燥失重	≤ 0.5%	0.08%	
Sulphated Ash 硫酸化灰份	≤ 0.1%	0.04%	
Melting Point 熔点	235-239°C	236-237°C	
Assay 含量	98.5-101.0%	99.5%	
Remark 声明	We hereby declare that only water and no organic solvent were used as solvent in the process. 我们声明在生产过程中只用水作溶剂, 没有使用有机溶剂。		
Conclusion: The product complies with BP2007、USP30 结论: 本品符合英国药典2007版、美国药典30版			

Stamp:  
印章:



Q.C.  
质检:

韩喜英

Analyst:  
检验人:

杨玉茹

Checker:  
复核人:

史云江

Dr. TANIRAGA PRATIYAMA



**LAMPIRAN M**  
**SURAT KETERANGAN DETERMINASI**



**DINAS KESEHATAN PROPINSI JAWA TIMUR**  
**UPT MATERIA MEDICA**

Jalan Lahor No.87 Telp. (0341) 593396 Batu (65313)  
**KOTA BATU**

Nomor : 074 / 71 / 101.8 / 2009  
Sifat : Biasa  
Perihal : **Determinasi Tanaman Jeruk Purut**

Memenuhi permohonan saudara

Nama : BUDI RAHARJA  
NIM : 2443004095  
Fakultas : Fakultas Farmasi  
Universitas Widya Mandala Surabaya

1. Perihal determinasi tanaman Jeruk Purut  
Divisi : Spermatophyta  
Sub divisi : Angiospermae  
Kelas : Dicotyledonae  
Bangsa : Geraniales  
Suku : Rutaceae  
Marga : Citrus  
Jenis : *Citrus hystrix* DC.  
Sinonim : *Citrus paeda* Miq., Jeruk purut (Jawa), Parale (Makassar), Lemon papeda (Ambon), Lemon titigila (Ternate)
2. Nama Simplisia : *Citri hystrixis Folium*/ Daun Jeruk Perut
3. Kandungan Kimia : Daun jeruk purut mengandung alkaloida, polifenol dan minyak atsiri, juga tanin 1,8%, steroid triterpenoid, dan minyak asiri 1 - 1,5% v/b. Kulit buah dan daging buah mengandung saponin dan flavonoida, Kulit buah mengandung saponin, tanin 1%, steroid triterpenoid, flavonoida, polifenol, dan minyak asiri yang mengandung sitrat 2 - 2,5% v/b
4. Penggunaan : Penelitian

Demikian determinasi ini kami buat untuk dipergunakan sebagaimana mestinya.

Batu, 1 Mei 2009

An. Kepala UPT Materia Medica Batu



Eko Marwanio  
NIP. 19651016 198803 1 007