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LAMPIRAN

Lampiran 1.

Tumbuhan yang pernah dan atau masih digunakan sebagai antelmintik tradisional di Indonesia

Nama tumbuhan	Bagian tumbuhan
1. <i>Allium sativum</i> L.	Umbi.
2. <i>Punica granatum</i> L.	Kulit batang, akar.
3. <i>Jatropha curcas</i> L.	Daun.
4. <i>Cocos nucifera</i> L.	Minyak daging buah.
5. <i>Cucurbita moschata</i> D.	Biji.
6. <i>Momordica charantia</i> L.	Daun.
7. <i>Carica papaya</i> L.	Akar.
8. <i>Curcuma heyneana</i> V & v.Z.	Rimpang.
9. <i>Curcuma aeruginosa</i> Roxb.	Rimpang.
10. <i>Zingiber purpureum</i> Roxb.	Rimpang.
11. <i>Quisqualis indica</i> L.	Buah atau biji.
12. <i>Globa pendula</i> Roxb.	Rimpang.
13. <i>Hedychium coronarium</i> .	Rimpang.

Lampiran 2.

Tumbuhan suku *Zingiberaceae* yang pernah dan atau masih digunakan sebagai antelmintik tradisional yang tumbuh di Indonesia

Nama tumbuhan	Bagian tumbuhan
1. <i>Curcuma heyneana</i> V & v.Z.	Rimpang.
2. <i>Curcuma aeruginosa</i> Roxb.	Rimpang.
3. <i>Curcuma longa</i> Auct.	Rimpang.
4. <i>Zingiber purpureum</i> Roxb.	Rimpang.
5. <i>Zingiber officinale</i> Roscoe.	Rimpang.
6. <i>Hedichium coronarium</i> L.	Rimpang.
7. <i>Globa pendula</i> Roxb.	Rimpang.

Lampiran 3.

Tumbuhan yang pernah dan atau masih digunakan sebagai antelmintik tradisional di Afrika, Asia dan Afrika Selatan

Nama tumbuhan.	Bagian tumbuhan yang digunakan
1. <i>Asiacusoi d.a.moris.</i>	Tumbuhan segar.
2. <i>Artocarpus lakoloba.</i>	Kulit batang.
3. <i>Averrhoa carambola.</i>	Bunga.
4. <i>Butea frondosa.</i>	Tumbuhan segar.
5. <i>Celosa argentea.</i>	Biji.
6. <i>Cnium cymium.</i>	Buah.
7. <i>Cleo mechlidonii.</i>	Akar.
8. <i>Cucurbita pepo.</i>	Biji.
9. <i>Embelia ribes.</i>	Damar.
10. <i>Gremmathophyllum speciosum.</i>	Bulbus.
11. <i>Ibosa riparia.</i>	Kulit batang.
12. <i>Lansium domesticum.</i>	Biji.
13. <i>Mallotus philipinensis.</i>	Biji,
14. <i>Melia asedarach.</i>	Daun.
15. <i>Murraya paniculata.</i>	Daun.
16. <i>Quiqualis indica.</i>	Biji.
17. <i>Tinospora cordifolia.</i>	Tumbuhan segar.
18. <i>Stemona species.</i>	Tumbuhan segar.
19. <i>Veronia anthelminticum.</i>	Daun.
20. <i>Zingiber officinale Roscoe.</i>	Rimpang.

Lampiran 4.

Tumbuhan yang pernah dan atau masih digunakan sebagai antelmintik tradisional di India, Pakistan dan Asia Tenggara

Nama tumbuhan.	Bagian tumbuhan yang digunakan.
1. <i>Abrus precatorius.</i>	Daun.
2. <i>Bauhinia variegata.</i>	Tumbuhan segar.
3. <i>Bulba monosperma.</i>	Daun.
4. <i>Caesalpinia crista.</i>	Daun.
5. <i>Cassia alba.</i>	Daun.
6. <i>Cassia sophora.</i>	Daun.
7. <i>Cassia tora.</i>	Daun.
8. <i>Tinospora pimpinea.</i>	Tumbuhan segar.
9. <i>Erythrina tuberosa.</i>	Daun.
10. <i>Mucuna prurita.</i>	Tumbuhan segar.

Lampiran 28.

Tabel ransum umum dan penelitian ayam pedaging

Komponen	Ransum umum * (%)	Ransum penelitian (%)
Jagung	25 - 63	60
Sorghum	25 - 63	-
Bungkil kedelai	10 - 30	30
Tepung ikan	0 - 7,5	10
Susu skim	5	-

* Menurut Oluyemi dan Robert dalam Beternak Ayam Pedaging (Rasyaf.M. 1987)

Lampiran 29

Tabel EPG pada hari ke-1 pra(X),hari ke-1 pasca(Y) dan hari ke-3 pasca(Z) perlakuan. Perlakuan dengan pemberian dosis 100 mg dan 300 mg masing-masing untuk minyak atsiri, fraksi terpinen-4-ol dan sabinen, dan 100 mg piperasin sitrat. Sebagai kontrol larutan glukosa salin 5%. Penghitungan pada minggu ke-6 pasca penginfeksian

Larutan glu- kosa salin 5%			Minyak atsiri 100 mg			Fraksi terpi- nen-4-ol 100 mg			Fraksi sabi- nen 100 mg			Minyak atsiri 300 mg			Fraksi terpi- nen-4-ol 300 mg			Fraksi sabi- nen 300 mg			Piperasin si- trat 100 mg		
X1	Y1	Z1	X2	Y2	Z2	X3	Y3	Z3	X4	Y4	Z4	X5	Y5	Z5	X6	Y6	Z6	X7	Y7	Z7	X8	Y8	Z8
1650	1320	1584	1419	627	825	297	231	330	1815	1705	1056	9878	14058	4620	1595	1936	682	2699	4774	672	275	0	0
1485	891	1089	990	385	363	429	726	1287	231	286	426	1320	1496	462	26136	5489	1925	1298	121	209	264	0	0
1716	1815	2046	627	1244	4026	726	451	297	264	770	429	308	198	473	1507	2222	511	1309	330	968	22	143	0
1386	2178	1584	3828	1023	2178	2640	825	132	2575	1397	2079	7788	5676	336	363	539	220	6699	6006	4675	1144	77	0
825	1148	1551	495	1364	2079	1155	770	264	1419	2112	1221	165	517	462	2695	4719	671	1430	352	1925	319	66	0
1320	990	1595	3960	1254	1320	2064	1364	198	1789	847	1267	6990	2057	1980	33	0	0	2915	5665	847	451	0	0
1716	2046	1815	495	1122	2607	726	1023	1584	1749	1045	1351	264	506	627	99	231	363	3828	4125	4026	1584	33	0
1980	1353	1947	1353	517	627	990	363	1221	1716	825	1551	1320	319	990	3861	2255	561	1980	1122	132	627	0	0
1485	1089	1947	1287	627	990	1320	825	990	1320	521	1056	132	99	33	2310	3366	330	528	484	234	1056	0	0
1056	1551	1153	196	319	528	99	726	484	976	1046	362	462	495	165	2244	1232	132	660	429	1419	3828	0	0
												792	1254	1320	132	451	528	990	891	264	1716	33	0
												5676	1122	3828	3366	1122	196	627	110	66	2310	561	0

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Lampiran 30.

Analisis kovarian dan *split-plot* terhadap $\log(\text{EPG}+1)$ pada hari ke-1 pra, hari ke-1 dan ke-3 pasca perlakuan dengan emulsi minyak atsiri, fraksi sabinen, fraksi terpinen-4-ol dengan dosis 100 mg dan 300mg per ekor dan 5ml larutan glukosa salin 5%

- I. Minyak atsiri *Z.purpureum* 100 mg
- II. Fraksi terpinen-4-ol 100 mg
- III. Fraksi sabinen 100 mg
- IV. Larutan glukosa salin 5%

No	I		II		III		IV	
	X	Z	X	Z	X	Z	X	Z
1.	3,15	2,92	2,47	2,52	3,26	3,02	3,21	3,12
2.	2,99	2,56	2,63	3,11	2,36	2,63	3,17	3,02
3.	2,8	3,6	2,86	2,47	2,42	2,63	3,23	3,31
4.	3,58	3,34	3,42	2,12	3,41	3,32	3,14	3,20
5.	2,7	3,32	3,06	2,42	3,15	3,09	3,0	3,19
6.	3,6	3,12	3,31	2,3	3,25	3,1	3,12	3,26
7.	2,7	3,42	2,86	3,2	3,24	3,13	3,3	3,29
8.	3,1	2,8	1,99	3,09	3,23	3,19	3,23	3,29
9.	3,11	2,99	3,12	2,99	3,12	3,02	3,17	3,06
10.	2,29	2,72	2,99	2,68	2,99	2,56	3,02	3,19
Jml	30,05	30,79	28,71	26,9	30,43	29,69	34,89	31,94
Rera	3,01	3,08	2,87	2,69	3,04	2,97	3,49	3,2
ta								

$$X1.+X2.+X3.+X4.= X..= 30,05+28,71+30,43+31,59 = 120,78$$

$$Y1.+Y2.+Y3.+Y5.= Y..= 30,79+26,9+29,69+28,65 = 116,03$$

Jk (sum of square) :

$$SSy = (2,92^2 + 2,56^2 + 3,6^2 + \dots + 3,19^2) - (116,03)^2/40 \\ = 4,41$$

$$SSx = (3,15^2 + 2,99^2 + 2,8^2 + \dots + 3,02^2) - (120,78)^2/40 \\ = 4,76$$

$$SPxy = [(3,15)(2,92) + (2,99)(2,56) + \dots + (3,02)(3,19)] \\ - (119,03)(120,78/40 = 10,56$$

$$SST(y) = \frac{(30,79^2 + 26,9^2 + \dots + 31,94^2)}{10} - (116,03)^2/40 \\ = 377,39 - 336,57 = 0,824$$

$$SST(x) = \frac{(30,05^2 + 28,71^2 + \dots + 34,89^2)}{10} - (120,78)^2/40 \\ = 365,116 - 364,69 = 0,426$$

Lampiran 30 lanjutan

$$SPT = \frac{[(30,05)(30,79) + (28,71)(26,9) + \dots + (34,89)(31,94)]}{10} - (120,78)(116,03)/40 = 350,603 - 350,35 = 0,2539$$

$$SSE(y) = SSy - SST(y) \\ = 4,41 - 0,824 = 3,586$$

$$SSE(x) = SSx - XXT(x) \\ = 4,76 - 0,426 = 4,334$$

$$SPE = SPxy - SPT \\ = 10,56 - 0,2539 = 10,306$$

$$SSR = \frac{SPxy^2}{SSx} \\ = \frac{(10,5625)^2}{4,76} = 23,42$$

$$SS'y = SSy - SSR \\ = 4,41 - 23,42 = 19,01$$

$$SSR(E) = \frac{SPE^2}{SSE(x)} \\ = \frac{(10,30)^2}{4,334} = 24,47$$

$$SSE = SSE(y) - SSR(E) \\ = 3,586 - 24,47 = -20,884$$

$$SST = SS'y - SSE \\ = -19,01 - (-20,884) = 1,174$$

Tabel analisis varian

Sumber variasi	df	SSy	SPxy	SSx
Perlakuan (un.-adj.)	3	0,824	0,254	0,426
Error (un.adj.)	36	3,586	10,306	4,334
Total	39	4,41	10,56	4,76
Regressi (un.-adj.)	1	23,42		
Deviasi dari - regresi	38	19,01		
			MS	F.hit. F.tab.
Perlakuan (adj.)	3	1,87	0,624	1,10 tb 2,87
Error (adj.)	35	20,88	0,590	
Regressi (adj.)	1	24,47	24,470	40,78 * 4,12

* : berbeda bermakna (P < 0,05)

tb : tidak berbeda bermakna (P > 0,05)

Lampiran 30 lanjutan

Uji statistik :

1. Efek perlakuan = $H : T_i = 0$
 $F = MST/MSE = 0,624/0,590 = 1,10$
 Nilai kritis = $F_{\alpha, t-1, n-t-1} = F_{0,05, 3, 35} = 3,37$
 Kesimpulan : Tidak ada efek perlakuan ($P > 0,05$)
2. Kegunaan kovariansi = $H : = 0$
 $F = MSR/MSE = 24,47/0,590 = 40,78$
 Nilai kritis = $F_{\alpha, 1, n-t-1} = F_{0,05, 1, 35} = 4,23$
 Kesimpulan : Ada kegunaan analisis kovariansi dalam penelitian.

Tidak dapat digunakan untuk analisis selanjutnya.

Analisis *Split-plot*.

Kelompok	Periode (B)				
	No.	X	Y	Z	Total
Minyak atsiri 100 mg (A)	j = 1	3,15	2,8	2,92	8,87
	2	2,99	2,59	2,56	8,14
	3	2,8	3,09	3,6	9,49
	4	3,58	3,01	3,34	9,93
	5	2,7	3,13	3,32	9,15
	6	3,6	3,1	3,12	9,82
	7	2,7	3,05	3,42	9,17
	8	3,13	2,71	2,8	8,64
	9	3,11	2,8	2,99	8,9
	10	2,29	2,5	2,72	7,51
Total		30,05	28,78	30,79	89,62
Fraksi Terpinen-4-ol 100 mg (B)	1	2,47	2,36	2,52	7,35
	2	2,63	2,88	3,11	8,62
	3	2,86	2,65	2,47	7,98
	4	3,42	2,92	2,12	8,46
	5	3,06	2,89	2,42	8,37
	6	3,31	3,13	2,3	8,74
	7	2,86	3,01	3,2	9,07
	8	1,99	2,56	3,09	7,64
	9	3,12	2,92	2,99	9,03
	10	2,99	2,86	2,68	8,53
Total		28,71	28,18	26,9	83,79

Lampiran 30 lanjutan

	1	3,26	3,23	3,02	9,51
	2	2,36	2,46	2,63	7,45
	3	2,42	2,89	2,63	7,94
Fraksi	4	3,41	3,15	3,32	9,88
Sabinen 100 mg	5	3,15	3,32	3,09	9,56
(C)	6	3,25	2,93	3,1	9,28
	7	3,24	3,02	3,13	9,39
	8	3,23	2,92	3,19	9,34
	9	3,12	2,72	3,02	8,86
	10	2,99	3,02	2,56	8,57
	Total	30,43	29,66	29,69	89,78

Jk (Sum of square) :

$$\begin{aligned} \text{SSy} &= (3,15^2 + 2,99^2 + \dots + 8,57^2) - (3,15 + 2,99 + \\ &\quad \dots + 8,57)^2 / 90 \\ &= 779,57 - 769,66 = 9,91 \end{aligned}$$

$$\begin{aligned} \text{SSA} &= (89,62^2 + 83,79^2 + 89,78^2) / 30 - (3,15 + 2,99 + \\ &\quad \dots + 8,57)^2 / 90 \\ &= 770,43 - 769,66 = 0,77 \end{aligned}$$

$$\begin{aligned} \text{SSD/A} &= (8,87^2 + 8,14^2 + \dots + 8,57^2) / 3 - (89,62^2 + \\ &\quad 83,79^2 + 89,78^2) / 30 \\ &= 774,84 - 770,43 = 4,41 \end{aligned}$$

$$\begin{aligned} \text{SSB} &= (89,13^2 + 86,62^2 + 87,38^2) / 30 - 769,66 \\ &= 769,41 - 769,66 = -0,25 \end{aligned}$$

$$\begin{aligned} \text{SSAB} &= (30,05^2 + 28,78^2 + \dots + 29,69^2) / 10 - (89,62^2 + \\ &\quad 83,79^2 + 89,78^2) / 30 - 769,41 + 769,66 \\ &= 770,85 - 770,43 - 769,41 + 709,66 = 0,67 \end{aligned}$$

$$\begin{aligned} \text{SSE} &= \text{SSy} - \text{SSA} - \text{SSD/A} - \text{SSB} - \text{SSAB} \\ &= 9,91 - 0,77 - 4,41 - (-0,25) - 0,67 = 4,31 \end{aligned}$$

Analisis varian

Sumber variasi	df	SS	MS	F.hitung
Perlakuan (A)	2	0,77	0,385	2,09 tb
Subyek (D/A)	27	4,41	0,184	
Periode (B)	2	-0,25	-0,125	-1,56 tb
Interaksi (AB)	4	0,67	0,168	2,1 tb
Error (E)	54	4,31	0,08	

tb : tidak berbeda bermakna

Lampiran 30 lanjutan

Nilai kritis : F 0,05, 2, 27 = 3,35
 F 0,05, 2, 54 = 4,06
 F 0,05, 4, 54 = 2,59

Analisis kovarian.

I : Minyak atsiri *Z.purpureum* 300 mg
 II : Fraksi terpinen-4-ol 300 mg
 III : Fraksi sabinen 300 mg
 IV : Larutan glukosa saline 5%

No	I		II		III		IV	
	X	Z	X	Z	X	Z	X	Z
1.	3,99	3,66	3,2	2,83	3,43	2,83	3,21	3,12
2.	3,12	2,66	4,42	3,28	3,11	2,32	3,17	3,03
3.	2,49	2,67	3,18	2,71	3,12	2,99	3,23	3,31
4.	3,89	3,53	2,56	2,34	3,83	3,67	3,14	3,20
5.	2,22	2,66	3,43	2,83	3,16	3,28	3,0	3,19
6.	2,42	2,8	1,99	2,56	3,58	3,6	3,12	3,26
7.	3,12	2,99	3,59	2,75	3,3	3,05	3,13	3,29
8.	2,12	1,52	3,36	2,52	2,72	2,37	3,3	3,29
9.	2,66	2,22	3,35	2,12	2,82	3,15	3,17	3,06
10.	2,9	3,12	2,12	2,72	2,99	2,42	3,02	3,19
11.	3,75	3,58	3,53	2,29	2,8	1,82	3,3	3,29
Jumlah	32,68	31,41	34,73	28,95	34,86	31,59	34,89	31,94
Rerata	2,97	2,86	2,16	2,63	3,17	2,86	3,17	2,90

$$X1.+X2.+X3.+X4 = X.. = 32,68 + 34,73 + 34,86 + 34,89 = 137,16$$

$$Y1.+Y2.+Y3.+Y4 = Y.. = 31,41 + 28,95 + 31,5 + 31,94 = 123,8$$

Jk (Sum of square) :

$$\begin{aligned} SSy &= n = t, r = (3)(11) = 33 \\ &= (3,66^2 + 2,66^2 + 2,67^2 + \dots + 3,29^2) - (123,8)^2/44 \\ &= 377,16 - 348,32 = 28,832 \end{aligned}$$

$$\begin{aligned} SSx &= (3,99^2 + 3,12^2 + 2,49^2 + \dots + 3,3^2) - (137,16)^2/44 \\ &= 443,57 - 427,56 = 16,01 \end{aligned}$$

$$\begin{aligned} SPxy &= [(3,99)(3,66) + (3,12)(2,66) + \dots + (3,17)(2,90)] \\ &\quad - (137,16)(123,8)/44 \\ &= 403,5 - 385,91 = 17,59 \end{aligned}$$

$$\begin{aligned} SST(y) &= \frac{(31,41^2 + 28,95^2 + 31,5^2 + 31,94^2)}{11} - 123,8^2/44 \\ &= 348,826 - 348,328 = 0,50 \end{aligned}$$

$$\begin{aligned} SST(x) &= \frac{(32,68^2 + 34,73^2 + 34,86^2 + 34,89^2)}{11} - (137,16)^2/44 \\ &= 427,88 - 427,56 = 0,32 \end{aligned}$$

$$\begin{aligned} SPT &= \frac{[(32,68)(31,41) + (34,73)(28,95) + (34,86)(31,5) + (34,89)(31,94)]}{11} - (137,16)(123,8)/44 \\ &= 385,85 - 385,91 = -0,07 \end{aligned}$$

$$\begin{aligned} SSE(y) &= SSy - SST(y) \\ &= 28,832 - 0,50 = 28,33 \end{aligned}$$

$$\begin{aligned} SSE(x) &= SSx - SST(x) \\ &= 16,01 - 0,32 = 15,69 \end{aligned}$$

$$\begin{aligned} SPE &= SPxy - SPT \\ &= 17,59 - (-0,07) = 17,66 \end{aligned}$$

$$\begin{aligned} SSR &= SPxy^2/SSx \\ &= (17,59)^2/16,01 = 19,32 \end{aligned}$$

$$\begin{aligned} SS'y &= SSy - SSR \\ &= 28,832 - 19,32 = 9,512 \end{aligned}$$

$$\begin{aligned} SSR(E) &= SPE^2/SSE(x) \\ &= (17,66)^2/15,69 = 19,87 \end{aligned}$$

$$\begin{aligned} SSE &= SSE(y) - SSR(E) \\ &= 28,33 - 19,87 = 8,46 \end{aligned}$$

$$\begin{aligned} SST &= SS'y - SSE \\ &= 9,512 - 9,46 = 1,052 \end{aligned}$$

Tabel analisis varian

Sumber variasi	df.	SSy	SPxy	SSx		
Perlakuan (un.-adj.)	3	0,50	-0,07	0,32		
Error (un.adj.)	40	28,54	17,66	15,69		
Total	43	28,83	17,59	16,01		
Regressi (un.-adj.)	1	19,052				
Deviasi dari - regresi	42	8,49			MS	F.hit. F.tab.
Perlakuan (adj.)	3	1,052	0,35	1,66	tb	2,63
Error (adj.)	39	8,46	0,216			
Regressi (adj.)	1	19,87	19,87	87,14*		4,09

* : berbeda bermakna ($P < 0,05$)

tb : tidak berbeda bermakna ($P > 0,05$)

Lampiran 30 lanjutan

Uji statistik :

1. Efek perlakuan = $H : T_i = 0$
 $F = MST/MSE = 0,35 / 0,216 = 1,66$
 Nilai kritis = $F_{\alpha, t-1, n-t-1} = F_{0,05, 3, 39} = 3,33$
 Kesimpulan = tidak ada efek perlakuan
2. Kegunaan kovariansi = $H : = 0$
 $F = MSR/MSE = 19,67/0,216 = 87,14$
 Nilai kritis = $F_{\alpha, 1, n-t-1} = F_{0,05, 1, 39} = 4,06$
 Kesimpulan = ada kegunaan analisa kovariansi dalam penelitian.

Tidak dapat digunakan untuk analisis selanjutnya.

Analisis *split-plot*.

Kelompok	Periode				
	No.	X	Y	Z	Total
Minyak atsiri 300 mg (A)	J= 1	3,99	4,15	3,66	11,8
	2	3,12	3,17	2,66	8,95
	3	2,49	2,3	2,67	7,46
	4	3,89	3,75	3,53	11,17
	5	2,22	2,71	2,66	7,59
	6	2,42	2,7	2,8	7,92
	7	3,12	2,5	2,99	8,61
	8	2,12	2,0	1,52	5,64
	9	2,66	2,7	2,22	7,58
	10	2,9	3,1	3,12	9,12
	11	3,75	3,05	3,58	10,38
Total		32,68	32,13	31,41	96,22
Fraksi Terpinen-4-ol 300 mg (B)	1	3,2	3,29	2,83	9,32
	2	4,42	3,74	3,28	11,44
	3	3,18	3,35	2,71	9,24
	4	2,56	2,73	2,34	7,63
	5	3,43	3,67	2,83	9,93
	6	1,99	2,36	2,56	6,91
	7	3,59	3,35	2,75	9,69
	8	3,36	3,53	2,52	9,41
	9	3,35	3,09	2,12	8,56
	10	2,12	2,65	2,72	7,49
	11	3,53	3,05	2,29	8,87
Total		34,73	34,81	28,95	98,49

Lampiran 30 lanjutan

	1	3,43	3,68	2,83	9,94
	2	3,11	2,08	2,32	7,51
	3	3,12	2,52	2,99	8,63
Fraksi	4	3,83	3,78	3,67	11,28
Sabinen 300 mg	5	3,16	2,55	3,28	8,99
(C)	6	3,58	3,62	3,6	10,88
	7	3,3	3,05	3,05	9,4
	8	2,72	2,68	2,37	7,77
	9	2,82	2,63	3,15	8,66
	10	2,99	2,95	2,42	8,36
	11	2,8	2,04	1,82	6,66
	Total	34,86	31,58	31,5	97,94

Jk (Sum of square) :

$$SSy = (3,99^2 + 3,12^2 + \dots + 1,82^2) - (3,99 + \dots + 1,82)^2/99$$

$$= 896,34 - 865,09 = 31,25$$

$$SSA = (96,22^2 + 98,49^2 + 97,94^2)/33 - (3,99 + 3,12 + \dots + 1,82)^2/99$$

$$= 865,18 - 865,09 = 0,09$$

$$SSD/A = (11,8^2 + 8,95^2 + \dots + 6,66^2)/3 - (96,22^2 + 98,49^2 + 97,94^2)/33$$

$$= 887,67 - 865,18 = 22,49$$

$$SSB = (102,27^2 + 98,52^2 + 91,86^2)/33 - (3,99 + 3,12 + \dots + 1,82)^2/99$$

$$= 866,78 - 865,09 = 1,69$$

$$SSAB = (32,68^2 + 32,13^2 + \dots + 31,5^2)/11 - 865,18 - 866,78 + 865,09$$

$$= 867,97 - 865,18 - 866,78 + 865,09 = 1,1$$

$$SSE = SSy - SSA - SSD/A - SSB - SSAB$$

$$= 31,25 - 0,09 - 22,49 - 1,69 - 1,1 = 5,88$$

Analisis varian

Sumber variasi	d.f	SS	MS	F.hitung
Perlakuan (A)	2	0,09	0,045	0,06 tb
Subyek (D/A)	30	22,49	0,75	
Periode (B)	2	1,69	0,85	8,7*
Interaksi (AB)	4	1,1	0,28	2,9*
Error (E)	60	5,88	0,098	

tb : berbeda tidak bermakna

* : berbeda bermakna

Lampiran 30 lanjutan

Nilai kritis : $F_{0,05, 2,30} = 3,32$
 $F_{0,05, 2,60} = 3,15$
 $F_{0,05, 4,60} = 2,53$

Orthogonal contrast : (Bon - ferronit) (Terpinen 300 mg)

Perlakuan	Mean	$r_i = 33$
1 X	3,16	MSE = 0,098
2 Y	3,16	
3 Z	2,63	

Koefisien kontras (c_{ik})

K = kontras	C_{1k}	C_{2k}	C_{3k}	
(a) 1 kontra 2	-1	+1	0	$c_i^2 a = 2$
(b) 2 kontra 3	0	-1	+1	$c_i^2 b = 2$
(c) 1 kontra 3	+1	0	-1	$c_i^2 c = 2$

$$q_a = (-1)(3,16) + (+1)(3,16) + (0)(2,63) = 0$$

$$q_b = (0)(3,16) + (+1)(3,16) + (-1)(2,63) = 0,53$$

$$q_c = (+1)(3,16) + (0)(3,16) + (-1)(2,63) = 0,53$$

$$t_a = -0,53 / \sqrt{2/11 (0,098)} = 3,98$$

$$N.k = t_B, 0,05, 3,30 = 2,92$$

Lampiran 31.

Tabel jumlah cacing dalam usus ayam pasca mati dan konversi ($\log X+1$)

Tabel jumlah cacing dalam usus ayam pasca mati dalam ayam kontrol(K), ayam perlakuan dengan pemberian minyak atsiri (MA), Fraksi sabinen (FSAB), Fraksi terpinen-4-ol (FTPOL) masing-masing 300 dan 500 mg per ekor dan piperasin sitrat(PS) 100 mg per ekor ; pada ayam kontrol diberi larutan glukosa salin 5% 5ml

Jumlah cacing dalam usus ayam pasca mati															
K		MA 300mg		MA 500mg		FSAB 300mg		FSAB 500mg		FTPOL 300mg		FTPOL 500mg		PS 100mg	
j	jk	j	jk	j	jk	j	jk	j	jk	j	jk	j	jk	j	jk
30	1,4913	42	1,6334	4	0,6989	25	1,4149	10	1,0413	12	1,1139	0	0,0000	0	0,0000
14	1,1760	36	1,5682	2	0,4771	5	0,7781	12	1,1139	0	0,0000	4	0,6989	0	0,0000
20	1,3222	5	0,7781	0	0,0000	13	1,1461	9	1,0000	2	0,4771	0	0,0000	0	0,0000
16	1,2304	11	1,0791	0	0,0000	52	1,7242	8	0,9542	14	1,1760	8	0,9542	0	0,0000
26	1,4313	17	1,2552	0	0,0000	17	1,2552	10	1,0413	18	1,2787	6	0,8450	0	0,0000
12	1,1139	28	1,4623	10	1,0413	16	1,2304	8	0,0542	12	1,1139	0	0,0000	0	0,0000
30	1,4913	9	1,0000	8	0,9542	19	1,3070	6	0,8450	24	1,3979	0	0,0000	0	0,0000
10	1,0413	8	0,9542	10	1,0413	10	1,0413	8	0,9542	2	0,4771	8	0,9542	0	0,0000
18	1,2787	5	0,7791	4	0,6989	11	1,0791	6	0,8450	4	0,6989	2	0,4771	0	0,0000
45	1,6627	6	0,8450	6	0,8450	22	1,3617	7	0,9030	14	1,1760	6	0,8450	0	0,0000

j : jumlah cacing

jk: jumlah cacing setelah konversi $\log(X+1)$

Lampiran 32

Tabel penurunan jumlah cacing dalam usus ayam pasca mati
 Penurunan jumlah cacing dalam usus kelompok ayam perlakuan dibanding dengan jumlah cacing dalam usus kelompok ayam kontrol; perlakuan dengan pemberian minyak atsiri (MA) Fraksi sabinen (FSAB); Fraksi terpinen-4-ol (FTPOL) dan piperasin sitrat (PS)

Penurunan jumlah cacing disebabkan pemberian						
MA 300 mg	MA 500 mg	FSAB 300 mg	FSAB 300 mg	FTPOL 300 mg	FTPOL 500 mg	PS 100 mg
-0.1421	0.7924	0.0764	0.4500	0.3774	1.4913	1.4913
-0.3922	0.6989	0.3979	0.0621	1.1760	0.4711	1.1760
0.5441	1.3222	0.1761	0.3222	0.8451	1.3222	1.3222
0.1513	1.2304	-0.4938	0.2762	0.2762	0.0544	1.2304
0.1761	1.4313	0.1761	0.3900	0.1526	0.5863	1.4313
-0.3484	0.0726	-0.1165	0.1597	0.0000	1.1139	1.1139
0.4913	0.5371	0.1903	0.6463	0.0934	1.4913	1.4913
0.0871	0.0000	0.0000	0.0871	0.5642	0.0871	1.0413
0.2632	0.5798	0.1996	0.4337	0.5798	0.8016	1.2787
0.8177	0.8177	0.3010	0.7597	0.4867	0.8177	1.6627

X 0.1890 0.7480 0.0920 0,3590 0.4330 0.8940 1.3230

Lampiran 33

Analisis varian penurunan jumlah cacing

Analisis varian terhadap penurunan jumlah cacing dalam usus ayam pasca mati pada kelompok ayam kontrol dan perlakuan diperoleh hasil dibawah ini:

Kelompok	Rerata	N	SD	SE
I	0,1890	10	0,4020	0,1271
II	0,7480	10	0,4859	0,1536
III	0,0920	10	0,2510	0,0794
IV	0,3590	10	0,2283	0,0722
V	0,4330	10	0,3812	0,1205
VI	0,8940	10	0,4575	0,1447
VII	1,3230	10	0,1936	0,0612
RERATA	0.5670	70		

Sumber variansi	JK	DF	MK	Fo	Prob
Perlakuan	11.165	6	1,861	13.686	7.027E-10
Dalam	8,566	63	0,136		

Lampiran 34

Perhitungan beda rerata penurunan jumlah cacing dengan uji Tukey-HSD

Untuk $P=0,05$

Rerata penurunan cacing	Kelompok	Kelompok						
		III	I	IV	V	II	VI	VII
0,0920	III							
0,1890	I							
0,3590	IV							
0,4330	V							
0,7480	II	*	*					
0,8940	VI	*	*	*				
1,3230	VII	*	*	*	*	*		

* berbeda bermakna ($P > 0,05$) pada pasangan kelompok

RIWAYAT HIDUP

Data pribadi.

Nama : Taroeno.
NIP : 130188490.
Tanggal lahir : 2 Juni 1932.
Tempat lahir : Surakarta.
Jenis kelamin : Laki-laki.
Agama : Islam.
Nama Istri : Proborini Larasati.
Jumlah anak : Tiga orang.
Alamat rumah : Flat E/4. Sekip. Yogyakarta.

Riwayat pendidikan.

Pendidikan Dasar : SD Negeri. Solo. Tamat th 1944.
Pendidikan Menengah : SMP Negeri I. Solo. Tamat th 1947.
SMA Negeri B.I. Solo. Tamat th 1953.
Pendidikan Tinggi : Fakultas Farmasi Universitas Gadjah Mada Yogyakarta.
Lulus Apoteker th 1961.

Riwayat pekerjaan.

Th 1961 Asisten Akhli. Gol F1/F2.
Th 1962 Asisten Akhli Tugas Mengajar. Gol F1/F2.
Th 1962 Lektor Muda. Gol F/II.

Th 1966	Lektor. Gol F/IV.
Th 1968	Lektor/Pembina. Gol IV/a.
Th 1976	Lektor Kepala/ Pembina tingkat I. Gol IV/b.
Th 1980	Lektor Kepala/Pembina Utama Muda. Gol IV/c.

Riwayat jabatan.

Th 1964-1968	Kepala Seksi Farmakognosi.
Th 1964-1966	Pembantu Dekan II.
Th 1967-1978	Kepala Bagian Biologi Farmasi.
Th 1967-1978	Kepala Unit Pengembangan Fakultas.
Th 1978-1980	Kepala Unit Perpustakaan Fakultas.
Th 1980-1982	Pembantu Dekan II.
Th 1982-1984	Pembantu Dekan II.

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Keanggautaan profesi.

1. Anggauta Ikatan Sarjana Farmasi Indonesia.
2. Anggauta Peneliti Bahan Obat Alami Indonesia.
3. Anggauta Ikatan Akhli Farmakologi Indonesia.
4. Anggauta Himpunan Kimia Indonesia.

