LAMPIRAN – LAMPIRAN

This document is Undip Institutional Repository Collection. The author(s) or copyright owner(s) agree that UNDIP-IR may, without changing the content, translate the submission to any medium or format for the purpose of preservation. The author(s) or copyright owner(s) also agree that UNDIP-IR may keep more than one copy of this submission for purposes of security, back-up and preservation. (http://eprints.undip.ac.id)

Lampiran 01. Analisis Data Diameter Hepatosit Dengan Menggunakan RAL

Tabel 03. Data Diameter Hepatosit (μ)

Frekuensi \ Dosis Cu	A0	A1	A2	A3	Total
B1	23,375 20,635	21,188 16,438	19,563 16,938	17,625 15,750	
Jumlah Rerata	44,00 22	37,63 18,81	36,50 18,25	33,38 16,69	151,51
B2	20,188 20,313	18,438 16,000	19,063 16,938	17,438 15,000	
Jumlah Rerata	42,50 21,25	34,44 17,22	36,00 18,00	32,44 16,00	145,38
Total	86,50	72,07	72,50	65,82	296,89

Perhitungan :

Faktor Koreksi (FK) :

$$= \frac{(296,89)^2}{4.2.2}$$

$$= 5508,98$$

Jumlah Kuadrat Total (JKT) :

$$= (23,375)^2 + (20,625)^2 + \ldots + (15,0)^2 - FK$$

$$= 5599,49 - 5508,98$$

$$= 90,51$$

This document is Undip Institutional Repository Collection. The author(s) or copyright owner(s) agree that UNDIP-IR may, without changing the content, translate the submission to any medium or format for the purpose of preservation. The author(s) or copyright owner(s) also agree that UNDIP-IR may keep more than one copy of this submission for purposes of security, back-up and preservation. (http://eprints.undip.ac.id)

Jumlah Kuadrat Perlakuan (JKP) :

$$= \frac{(44{,}00)^2 + \ldots + (32{,}44)^2}{2} - \text{FK}$$

$$= 5560{,}60 - 5508{,}98$$

$$= 60{,}62$$

Jumlah Kuadrat Galat (JKG) :

$$= \text{JKT} - \text{JKP}$$

$$= 90{,}51 - 60{,}62$$

$$= 29{,}89$$

Jumlah Kuadrat Faktor A (JKA) :

$$= \frac{(86{,}50)^2 + \ldots + (65{,}82)^2}{2.2} - \text{FK}$$

$$= 5566{,}21 - 5508{,}98$$

$$= 57{,}23$$

Jumlah Kuadrat Faktor B (JKB) :

$$= \frac{(151{,}51)^2 + (145{,}38)^2}{3.4} - \text{FK}$$

$$= 5511{,}33 - 5508{,}98$$

$$= 2{,}35$$

Jumlah Kuadrat Faktor Interaksi (JKA x B) :

$$= \text{JKP} - \text{JKA} - \text{JKB}$$

$$= 60{,}62 - 57{,}23 - 2{,}35$$

$$= 1{,}04$$

This document is Undip Institutional Repository Collection. The author(s) or copyright owner(s) agree that UNDIP-IR may, without changing the content, translate the submission to any medium or format for the purpose of preservation. The author(s) or copyright owner(s) also agree that UNDIP-IR may keep more than one copy of this submission for purposes of security, back-up and preservation. (http://eprints.undip.ac.id)

Kuadrat Tengah Perlakuan (KTP) :

$$= JKP / dbp = \frac{60,62}{7} = 8,66$$

Kuadrat Tengah Faktor A (KTA) :

$$= JKA / dbA = \frac{57,23}{3} = 19,08$$

Kuadrat Tengah Faktor B (KTB) :

$$= JKB / dbB = \frac{2,23}{1} = 2,35$$

Kuadrat Tengah Faktor Interaksi (KTA x B) :

$$= JKA \times B / dbAB = \frac{1,04}{3} = 0,35$$

Kuadrat Tengah Galat (KTG) :

$$= JKG / dbG = \frac{29,89}{8} = 3,74$$

ANOVA Diameter Hepatosit

SK	db	JK	KT	Fhitung	F0,05
Perlakuan	7	60,62	8,66	$2,32^{ns}$	3,50
Faktor A	3	57,23	19,08	$5,10^{*}$	4,07
Faktor B	1	2,35	2,35	$0,63^{ns}$	5,32
Interaksi A x B	3	1,04	0,35	$0,09^{ns}$	4,07
Galat	8	29,89	3,74		
Total	15	90,51			

Keterangan : * = berbeda nyata pada taraf uji 5%
ns = berbeda tidak nyata pada taraf uji 5%

This document is Undip Institutional Repository Collection. The author(s) or copyright owner(s) agree that UNDIP-IR may, without changing the content, translate the submission to any medium or format for the purpose of preservation. The author(s) or copyright owner(s) also agree that UNDIP-IR may keep more than one copy of this submission for purposes of security, back-up and preservation. (http://eprints.undip.ac.id)

Uji Duncan :

$$Sd = \sqrt{\frac{2\,KTG}{r.b}}$$

$$Rp = \frac{rp\,(Sd)}{\sqrt{2}} \quad p = 2,3,4$$

Sd = Galat baku perbedaan rata-rata

Rp = Wilayah beda nyata terpendek

rp = Nilai tabel wilayah student

p = Jarak dalam peringkat antara pasang rataan perlakuan yang dibandingkan

r = Ulangan

Rerata :

A0 = 21,63

A1 = 18,02

A2 = 18,13

A3 = 16,46

$$Sd = \sqrt{\frac{2.3,74}{2.2}} = 1,37$$

P	Rp.
2	$\frac{(3,26)(1,37)}{\sqrt{2}} = 3,17$
3	$\frac{(3,39)(1,37)}{\sqrt{2}} = 3,29$
4	$\frac{(3,47)(1,37)}{\sqrt{2}} = 3,37$

This document is Undip Institutional Repository Collection. The author(s) or copyright owner(s) agree that UNDIP-IR may, without changing the content, translate the submission to any medium or format for the purpose of preservation. The author(s) or copyright owner(s) also agree that UNDIP-IR may keep more than one copy of this submission for purposes of security, back-up and preservation. (http://eprints.undip.ac.id)

	3,17	3,29	3,37	
	A0	A2	A1	A3
A3	5,17*	1,67	1,56	-
A1	3,61*	0,11	-	-
A2	3,50*	-	-	-
A0	-	-	-	-

16,46[a] 18,02[a] 18,13[a] 21,63[b]

a

Keterangan : Perhitungan ANOVA untuk parameter yang lainnya dilakukan seperti cara perhitungan di atas.

This document is Undip Institutional Repository Collection. The author(s) or copyright owner(s) agree that UNDIP-IR may, without changing the content, translate the submission to any medium or format for the purpose of preservation. The author(s) or copyright owner(s) also agree that UNDIP-IR may keep more than one copy of this submission for purposes of security, back-up and preservation. (http://eprints.undip.ac.id)

Lampiran 02. Analisis Data Bobot Hepar Dengan Menggunakan RAL

Tabel 04. Data Bobot Hepar (g)

Frekuensi \ Dosis Cu	A0	A1	A2	A3	Total
B1	12,40 14,76 13,00	10,90 14,76 12,98	13,10 10,99 5,10	9,30 14,47 12,72	
Jumlah Rerata	40,16 13,39	38,64 12,88	29,19 9,73	36,49 12,16	144,48
B2	11,43 9,84 12,60	12,75 13,13 11,80	10,21 11,66 13,80	10,45 11,97 13,00	
Jumlah Rerata	33,87 11,29	37,68 12,56	35,67 11,89	35,42 11,81	142,64
Total	74,03	76,32	64,86	71,91	287,12

ANOVA Bobot Hepar

SK	db	JK	KT	Fhitung	F0,05
Perlakuan	7	26,20	3,74	$0,82^{ns}$	2,66
Faktor A	3	12,27	4,09	$0,89^{ns}$	3,24
Faktor B	1	0,14	0,14	$0,03^{ns}$	4,49
Interaksi A x B	3	13,79	4,60	$1,004^{ns}$	3,24
Galat	16	73,28	4,58		
Total	23	99,48			

Keterangan : ns = berbeda tidak nyata pada taraf uji 5%

This document is Undip Institutional Repository Collection. The author(s) or copyright owner(s) agree that UNDIP-IR may, without changing the content, translate the submission to any medium or format for the purpose of preservation. The author(s) or copyright owner(s) also agree that UNDIP-IR may keep more than one copy of this submission for purposes of security, back-up and preservation. (http://eprints.undip.ac.id)

Lampiran 03. Analisis Data Konsumsi Pakan Minggu Keenam Dengan Menggunakan RAL

Tabel 05. Data Konsumsi Pakan Minggu Keenam (g)

Frekuensi \ Dosis Cu	A0	A1	A2	A3	Total
B1	291,32 423,42 460,60	338,48 401,56 412,72	347,10 362,70 392,78	316,30 400,70 441,58	
Jumlah Rerata	1175,34 391,78	1152,76 384,25	1102,58 367,53	1158,58 386,19	4589,26
B2	356,86 421,60 422,64	374,82 407,08 392,96	282,84 405,64 423,06	287,64 363,80 514,90	
Jumlah Rerata	1201,10 400,37	1174,86 391,62	1111,54 370,51	1166,34 388,78	4653,84
Total	2376,44	2327,62	2214,12	2324,92	9243,10

ANOVA Konsumsi Pakan

SK	db	JK	KT	Fhitung	F0,05
Perlakuan	7	2571,73	367,39	$0,08^{ns}$	2,66
Faktor A	3	2356,32	785,44	$0,18^{ns}$	3,24
Faktor B	1	173,77	173,77	$0,04^{ns}$	4,49
Interaksi A x B	3	41,64	13,88	$0,0032^{ns}$	3,24
Galat	16	70080,09	4380,00		
Total	23	72651,82			

Keterangan : ns = berbeda tidak nyata pada taraf uji 5 %

This document is Undip Institutional Repository Collection. The author(s) or copyright owner(s) agree that UNDIP-IR may, without changing the content, translate the submission to any medium or format for the purpose of preservation. The author(s) or copyright owner(s) also agree that UNDIP-IR may keep more than one copy of this submission for purposes of security, back-up and preservation. (http://eprints.undip.ac.id)

Lampiran 04. Analisis Data Konsumsi Air Minum, Minggu Keenam Dengan Menggunakan RAL

Tabel 06. Data Konsumsi Air Minum Minggu Keenam (ml)

Frekuensi \ Dosis Cu	A0	A1	A2	A3	Total
B1	737 1239 770	1460 993 1106	1024 992 684	1502 1502 1283	
Jumlah Rerata	2746 915,33	3559 1186,33	2700 900	3837 1278	12.842
B2	1515 650 1271	1513 779 1166	962 1571 634	940 538 1354	
Jumlah Rerata	3436 1145,33	3458 1152,67	3167 1055,67	2835 945	12.896
Total	6182	7017	5867	6672	25.738

ANOVA Konsumsi Air Minum

SK	db	JK	KT	Fhitung	F0,05
Perlakuan	7	414986,50	59283,79	$0,50^{ns}$	2,66
Faktor A	3	130254,16	43418,05	$0,37^{ns}$	3,24
Faktor B	1	121,49	121,49	$0,0010^{ns}$	4,49
Interaksi A x B	3	284613,85	94871,28	$0,80^{ns}$	3,24
Galat	16	1900703,33	118793,96		
Total	23	2315689,83			

Keterangan : ns = berbeda tidak nyata pada taraf uji 5 %

This document is Undip Institutional Repository Collection. The author(s) or copyright owner(s) agree that UNDIP-IR may, without changing the content, translate the submission to any medium or format for the purpose of preservation. The author(s) or copyright owner(s) also agree that UNDIP-IR may keep more than one copy of this submission for purposes of security, back-up and preservation. (http://eprints.undip.ac.id)

Lampiran 05. Data Temperatur (°C) dan Kelembaban (%) Per Minggu

Temperatur (°C)

Pkl	II	III	IV	V	VI
07.00	27	27	27	29	27
12.00	29	30	29	29	30
15.00	30	30	30	30	30

Kelembaban (%)

Pkl	II	III	IV	V	VI
07.00	70,6	70,5	71,7	72,6	71,3
12.00	59,9	58,7	59,3	61,6	55,3
15.00	58,7	57,9	57,6	54,4	54,0

This document is Undip Institutional Repository Collection. The author(s) or copyright owner(s) agree that UNDIP-IR may, without changing the content, translate the submission to any medium or format for the purpose of preservation. The author(s) or copyright owner(s) also agree that UNDIP-IR may keep more than one copy of this submission for purposes of security, back-up and preservation. (http://eprints.undip.ac.id)

Lampiran 06. Diskripsi hepatosit ayam (*Gallus sp*) dengan perlakuan 0 ppm Cu secara oral

Mikrofotografi penampang melintang hepar ayam dengan perlakuan 0 ppm Cu, tebal irisan 6 mikron, pewarnaan : Hematoxylin dan Eosin, Perbesaran 10 x 100.

Keterangan :

1. Hepatosit
2. Nukleus
3. Sinusoid
4. Vena sentralis
5. Sitoplasma

Terlihat adanya vena sentralis, sitoplasma hepatosit homogen dan nukleus tampak vesikular.

This document is Undip Institutional Repository Collection. The author(s) or copyright owner(s) agree that UNDIP-IR may, without changing the content, translate the submission to any medium or format for the purpose of preservation. The author(s) or copyright owner(s) also agree that UNDIP-IR may keep more than one copy of this submission for purposes of security, back-up and preservation. (http://eprints.undip.ac.id)

Lampiran 07. Diskripsi hepatosit ayam (*Gallus sp*) dengan perlakuan 89 ppm Cu secara oral

Mikrofotografi penampang melintang hepar ayam dengan perlakuan 89 ppm Cu, tebal irisan 6 mikron, Pewarnaan : Hematoxylin dan Eosin, Perbesaran : 10 x 100

Keterangan :

1. Hepatosit
2. Nukleus
3. Sinusoid
4. Sitoplasma

Terlihat adanya pembelahan nukleus hepatosit, dengan kemungkinan terjadinya regenerasi hepatosit. Ukuran hepatosit relatif lebih kecil dan sitoplasma tampak homogen.

This document is Undip Institutional Repository Collection. The author(s) or copyright owner(s) agree that UNDIP-IR may, without changing the content, translate the submission to any medium or format for the purpose of preservation. The author(s) or copyright owner(s) also agree that UNDIP-IR may keep more than one copy of this submission for purposes of security, back-up and preservation. (http://eprints.undip.ac.id)

Lampiran 08. Diskripsi hepatosit ayam (*Gallus sp*) dengan perlakuan 178 ppm Cu secara oral

Mikrofotografi penampang melintang hepar ayam dengan perlakuan 178 ppm Cu, tebal irisan 6 mikron, Pewarnaan : Hematoxylin dan Eosin, Perbesaran : 10 x 100

Keterangan :

1. Hepatosit
2. Nukleus
3. Sinusoid
4. Sitoplasma

Sebagian besar nukleus tampak membesar dengan kemungkinan terjadi awal pembelahan sel, beberapa hepatosit membran selnya terlihat tidak jelas.

This document is Undip Institutional Repository Collection. The author(s) or copyright owner(s) agree that UNDIP-IR may, without changing the content, translate the submission to any medium or format for the purpose of preservation. The author(s) or copyright owner(s) also agree that UNDIP-IR may keep more than one copy of this submission for purposes of security, back-up and preservation. (http://eprints.undip.ac.id)

Lampiran 09. Diskripsi hepatosit ayam (*Gallus sp*) dengan perlakuan 267 ppm Cu secara oral

Mikrofotografi penampang melintang hepar ayam dengan perlakuan 267 ppm Cu, tebal irisan 6 mikron, Pewarnaan : Hematoxylin dan Eosin, Perbesaran : 10 x 100

Keterangan :

1. Hepatosit
2. Nukleus
3. Sinusoid
4. Sitoplasma

Nukleus tampak seperti halnya perlakuan 178 ppm Cu, dengan kemungkinan terjadi awal pembelahan sel untuk regenerasi. Terlihat beberapa kelompokan nukleus dengan membran yang tidak jelas, beberapa hepatosit menunjukkan terjadinya pembelahan.

This document is Undip Institutional Repository Collection. The author(s) or copyright owner(s) agree that UNDIP-IR may, without changing the content, translate the submission to any medium or format for the purpose of preservation. The author(s) or copyright owner(s) also agree that UNDIP-IR may keep more than one copy of this submission for purposes of security, back-up and preservation. (http://eprints.undip.ac.id)