

Lampiran 01.

**Data Panjang Tulang Tibia (cm)**

Perlakuan	Ulangan		Jumlah	Rata-rata
	I	II		
A0B0	9.95	9.45	19.40	9.700
A0B1	10.06	9.78	19.84	9.920
A0B2	10.62	9.83	20.45	10.225
A0B3	9.90	10.06	19.96	9.980
A1B0	10.22	10.32	20.54	10.270
A1B1	9.83	10.41	20.24	10.120
A1B2	10.32	10.42	20.74	10.370
A1B3	11.00	10.45	21.45	10.725
A2B0	10.16	10.48	20.64	10.320
A2B1	10.58	10.61	21.19	10.595
A2B2	10.77	10.75	21.52	10.760
A2B3	11.02	10.78	21.80	10.900
A3B0	10.91	10.87	21.78	10.890
A3B1	11.65	10.90	22.55	11.275
A3B2	11.25	10.04	21.29	10.645
A3B3	11.19	11.32	22.51	11.255
Jumlah			335.90	

SEMARANG

Lampiran 02.

### Contoh Perhitungan Statistik (ANOVA)

$$\begin{aligned}\text{Faktor Koreksi (FK)} &= \frac{Y^2}{n.a.b} \\ &= \frac{335.90}{32} \\ &= 3525.9003\end{aligned}$$

$$\begin{aligned}\text{Jumlah Kuadrat Total (JK}_t\text{)} &= \sum_i \sum_j \sum_k Y_{ijk}^2 - FK \\ &= (9.95^2 + 10.06^2 + 10.62^2 \dots + 11.32^2) - FK \\ &= 3534.2218 - 3525.9003 \\ &= 8.3215\end{aligned}$$

$$\begin{aligned}\text{Jumlah Kuadrat Perlakuan (JK}_p\text{)} &= \sum_i \sum_j (\sum_k Y_{ijk})^2 / n - FK \\ &= (19.40 + 19.84 + \dots + 22.51)^2 - FK \\ &= 7064.6002/2 - 3525.9003 \\ &= 6.3998\end{aligned}$$

$$\begin{aligned}\text{Jumlah Kuadrat A (JK}_A\text{)} &= \sum_i (\sum_j \sum_k Y_{ijk})^2 / n.a - F \\ &= (79.65^2 + 82.97^2 \dots + 88.13^2) - 3525.9003 \\ &= 4.79505\end{aligned}$$

$$\begin{aligned}\text{Jumlah Kuadrat B (JK}_B\text{)} &= \sum_j (\sum_i \sum_k Y_{ijk})^2 / n.b - FK \\ &= (82.36^2 + 83.82^2 \dots + 85.72^2) - 3525.9003 \\ &= 0.70975\end{aligned}$$

$$\begin{aligned}\text{Jumlah Kuadrat A} \times \text{B} &= JK_p - JK_A - JK_B \\ &= 6.40 - 4.80 - 0.71 \\ &= 0.89\end{aligned}$$

$$\begin{aligned} \text{Jumlah Kuadrat Galat (JK}_g) &= \text{JK}_t - \text{JK}_p = 8.32 - 6.40 \\ &= 1.92 \end{aligned}$$

$$\begin{aligned} \text{Kuadrat Tengah Perlakuan (KT}_p) &= \text{JK/db} = 6.40/15 \\ &= 0.43 \end{aligned}$$

$$\begin{aligned} \text{Kuadrat Tengah A (Cu)} &= \text{JK/db} = 4.80/3 \\ &= 1.60 \end{aligned}$$

$$\begin{aligned} \text{Kuadrat Tengah B (Zn)} &= \text{JK/db} = 0.71/3 \\ &= 0.24 \end{aligned}$$

$$\begin{aligned} \text{Kuadrat Tengah A} \times \text{B} &= \text{JK/db} = 0.89/9 \\ &= 0.10 \end{aligned}$$

$$\begin{aligned} \text{Kuadrat Tengah Galat} &= \text{JK/db} = 1.92/16 \\ &= 0.12 \end{aligned}$$

$$\begin{aligned} F_{\text{hitung}} \text{ Perlakuan} &= \text{KT/KT}_g = 0.43/0.12 \\ &= 13.30 \end{aligned}$$

$$\begin{aligned} F_{\text{hitung}} \text{ A (Cu)} &= \text{KT/KT}_g = 1.60/0.12 \\ &= 13.30 \end{aligned}$$

$$\begin{aligned} F_{\text{hitung}} \text{ B (Zn)} &= \text{KT/KT}_g = 0.24/0.12 \\ &= 2.00 \end{aligned}$$

$$\begin{aligned} F_{\text{hitung}} \text{ A} \times \text{B} &= \text{KT/KT}_g = 0.10/0.12 \\ &= 0.83 \end{aligned}$$

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

Lampiran 03.

**ANOVA Panjang Tulang Tibia**

SK	DB	JK	KT	F <sub>hitung</sub>	F <sub>tabel</sub>
Perlakuan	15	6.40	0.43	3.58*	2.35
Faktor A	3	4.80	1.60	13.30*	3.24
Faktor B	3	0.71	0.24	2.00	3.24
Interaksi AB	9	0.89	0.10	0.83	2.54
Galat	16	1.92	0.12		
Total	31				

\*) Berbeda nyata (P(0.05))



Lampiran 04.

**Data Panjang Tulang Femur (cm)**

Perlakuan	Ulangan		Jumlah	Rata-rata
	I	II		
A0B0	7.29	6.98	14.27	7.135
A0B1	7.39	7.42	14.81	7.405
A0B2	7.54	7.68	15.22	7.610
A0B3	7.62	7.37	14.99	7.495
A1B0	7.40	7.61	15.01	7.505
A1B1	7.41	7.18	14.59	7.295
A1B2	7.57	7.64	15.21	7.605
A1B3	7.87	7.96	15.83	7.915
A2B0	8.05	7.48	15.53	7.765
A2B1	7.85	7.66	15.51	7.755
A2B2	7.82	7.74	15.56	7.780
A2B3	7.69	7.98	15.67	7.835
A3B0	7.48	7.82	15.30	7.650
A3B1	7.94	9.36	17.30	8.650
A3B2	7.58	8.01	15.60	7.800
A3B3	7.91	8.01	15.92	7.960
Jumlah			446.32	

**ANOVA Panjang Tulang Femur**

SK	DB	JK	KT	$F_{hitung}$	$F_{tabel}$
Perlakuan	15	3.46	0.23	2.56*	2.35
Faktor A	3	1.63	0.54	6.00*	3.24
Faktor B	3	0.41	0.14	1.58	3.24
Interaksi AB	9	1.42	0.16	0.76	2.54
Galat	16	1.53	0.09		
Total	31				

\* $\Rightarrow$  Berbeda nyata (P(0.05))

Lampiran 05.

**Data Panjang Tulang Humerus (cm)**

Perlakuan	Ulangan		Jumlah	Rata-rata
	I	II		
A0B0	6.60	6.85	13.45	6.725
A0B1	7.76	7.10	13.86	6.930
A0B2	7.01	7.19	14.20	7.100
A0B3	7.12	7.01	14.13	7.065
A1B0	6.84	7.14	13.98	6.990
A1B1	6.87	6.90	13.77	6.885
A1B2	6.99	7.15	14.14	7.070
A1B3	7.20	7.34	14.54	7.270
A2B0	7.23	7.25	14.48	7.240
A2B1	7.18	7.16	14.34	7.170
A2B2	7.14	7.02	14.16	7.080
A2B3	7.13	7.40	14.53	7.265
A3B0	6.92	7.21	14.13	7.065
A3B1	7.26	7.90	15.16	7.580
A3B2	7.25	7.49	14.74	7.370
A3B3	7.21	7.54	14.75	7.375
Jumlah			228.36	

**ANOVA Panjang Tulang Humerus**

SK	DB	JK	KT	$F_{hitung}$	$F_{tabel}$
Perlakuan	15	1.34	0.09	3.00*	2.35
Faktor A	3	0.70	0.23	7.67*	3.24
Faktor B	3	0.23	0.08	2.67	3.24
Interaksi AB	9	0.41	0.05	1.67	2.54
Galat	16	0.55	0.03		
Total	31				

\*) Berbeda nyata (P(0.05))

Lampiran 06.

**Data Berat Tulang Tibia (gram)**

Perlakuan	Ulangan		Jumlah	Rata-rata
	I	II		
A0B0	15.69	14.44	30.13	15.065
A0B1	16.40	16.39	32.79	16.395
A0B2	18.00	17.76	35.76	17.880
A0B3	18.35	15.56	33.91	16.955
A1B0	16.96	16.49	33.45	16.725
A1B1	16.31	15.18	31.49	15.745
A1B2	17.82	17.67	35.49	17.745
A1B3	19.81	19.25	39.06	19.530
A2B0	21.98	16.45	38.43	19.215
A2B1	19.03	17.77	36.80	18.400
A2B2	19.01	18.17	37.18	18.590
A2B3	18.80	19.67	38.47	19.235
A3B0	17.50	18.43	35.93	17.965
A3B1	21.78	22.40	44.18	22.090
A3B2	18.33	21.95	40.28	20.140
A3B3	19.93	20.31	40.24	20.120
Jumlah			583.59	

**ANOVA Panjang Tulang Tibia**

SK	DB	JK	KT	$F_{hitung}$	$F_{tabel}$
Perlakuan	15	99.65	6.64	3.57*	2.35
Faktor A	3	57.50	19.17	10.31*	3.24
Faktor B	3	14.17	4.72	2.54	3.24
Interaksi AB	9	27.98	3.12	1.68	2.54
Galat	16	29.69	1.86		
Total	31				

\*) Berbeda nyata (P(0.05))

Lampiran 07.

**Data Berat Tulang Femur (gram)**

Perlakuan	Ulangan		Jumlah	Rata-rata
	I	II		
A0B0	10.24	10.45	20.69	10.345
A0B1	10.88	11.71	22.59	11.295
A0B2	12.66	12.54	25.20	12.600
A0B3	12.98	11.05	24.03	12.015
A1B0	11.48	11.80	23.28	11.640
A1B1	11.57	10.55	22.12	11.060
A1B2	12.15	12.11	24.26	12.130
A1B3	13.63	13.18	26.81	13.405
A2B0	16.11	11.75	27.86	13.930
A2B1	13.56	13.52	27.08	13.540
A2B2	13.01	13.15	26.16	13.080
A2B3	12.99	13.70	26.69	13.345
A3B0	11.77	13.18	24.95	12.475
A3B1	15.69	14.47	30.16	15.080
A3B2	12.85	14.31	27.16	13.580
A3B3	14.59	14.09	28.68	14.340
Jumlah			407.72	

**ANOVA Berat Tulang Femur**

SK	DB	JK	KT	$F_{hitung}$	$F_{tabel}$
Perlakuan	15	49.13	3.28	3.56*	2.35
Faktor A	3	29.28	9.76	9.96*	3.24
Faktor B	3	5.70	1.90	1.94	3.24
Interaksi AB	9	14.15	1.57	1.60	2.54
Galat	16	15.61	0.98		
Total	31				

\*) Berbeda nyata ( $P(0.05)$ )



Lampiran 08.

**Data Berat Tulang Humerus (gram)**

Perlakuan	Ulangan		Jumlah	Rata-rata
	I	II		
A0B0	6.85	6.58	13.43	6.715
A0B1	7.36	7.18	14.54	7.270
A0B2	8.00	7.65	15.65	7.825
A0B3	8.25	7.01	15.26	7.630
A1B0	7.50	7.36	14.86	7.430
A1B1	7.53	7.02	14.55	7.275
A1B2	7.70	7.57	15.27	7.635
A1B3	9.15	8.13	17.28	8.640
A2B0	9.78	7.21	16.99	8.495
A2B1	8.63	7.62	16.25	8.125
A2B2	8.45	7.67	16.12	8.060
A2B3	8.37	8.26	16.63	8.315
A3B0	7.64	8.00	15.64	7.820
A3B1	9.51	9.50	19.01	9.505
A3B2	8.17	9.48	17.65	8.825
A3B3	9.32	8.44	17.76	8.880
Jumlah			256.89	

**ANOVA Berat Tulang Humerus**

SK	DB	JK	KT	$F_{hitung}$	$F_{tabel}$
Perlakuan	15	15.70	6.64	15.10*	2.35
Faktor A	3	8.86	2.96	6.73*	3.24
Faktor B	3	2.31	0.77	1.75	3.24
Interaksi AB	9	4.53	0.50	1.14	2.54
Galat	16	6.98	0.44		
Total	31				

\*) Berbeda nyata (P(0.05))

Lampiran 09.

**Data Berat Tubuh (gram)**

Perlakuan	Ulangan		Jumlah	Rata-rata
	I	II		
A0B0	433.60	444.30	877.90	438.95
A0B1	454.50	455.30	909.80	454.90
A0B2	492.00	471.90	963.80	481.95
A0B3	492.00	478.80	970.80	485.40
A1B0	469.20	446.80	916.00	458.00
A1B1	474.50	437.80	912.30	456.15
A1B2	459.60	453.20	912.80	456.40
A1B3	461.80	480.00	941.80	470.90
A2B0	476.10	498.20	974.70	487.35
A2B1	475.70	450.80	926.50	463.25
A2B2	503.10	445.30	948.46	474.23
A2B3	466.20	456.70	922.90	461.45
A3B0	494.20	457.30	951.50	475.75
A3B1	472.30	509.30	981.60	490.80
A3B2	499.40	489.20	988.60	494.30
A3B3	447.50	402.20	849.66	424.85
Jumlah			14949.12	

**ANOVA Berat Tubuh**

SK	DB	JK	KT	$F_{hitung}$	$F_{tabel}$
Perlakuan	15	11661.364	777.424	1.998*	2.35
Faktor A	3	1249.588	416.529	1.090*	3.24
Faktor B	3	1661.606	553.868	1.420	3.24
Interaksi AB	9	8750.170	972.241	2.499	2.54
Galat	16	6223.796	388.987		
Total	31				

\*) Berbeda nyata (P(0.05))

Lampiran 10.

Data Konsumsi Pakan (gram)

Perlakuan	Ulangan		Jumlah	Rata-rata
	I	II		
A0B0	2313.10	2289.20	4602.30	2301.15
A0B1	2363.90	2279.20	4643.10	2321.55
A0B2	2323.60	2317.00	4640.60	2320.30
A0B3	2309.40	2389.10	4698.50	2349.25
A1B0	2345.00	2305.40	4650.40	2325.20
A1B1	2361.80	2342.40	4704.20	2352.10
A1B2	2343.00	2276.40	4619.40	2309.70
A1B3	2378.90	2387.10	4766.00	2383.00
A2B0	2361.80	2363.30	4725.10	2362.55
A2B1	2388.40	2331.20	4719.60	2359.60
A2B2	2375.80	2357.60	4733.40	2366.70
A2B3	2377.90	2342.40	4720.30	2366.70
A3B0	2343.20	2289.80	4633.00	2316.50
A3B1	2320.60	2337.30	4657.90	2328.95
A3B2	2394.00	2362.80	4756.80	2378.40
A3B3	2374.50	2377.20	4751.20	2375.85
Jumlah			75022.30	

ANOVA Konsumsi Pakan

SK	DB	JK	KT	F <sub>hitung</sub>	F <sub>tabel</sub>
Perlakuan	15	21935.537	1462.369	1.552*	2.35
Faktor A	3	6859.693	2286.564	2.428*	3.24
Faktor B	3	7167.918	2389.306	2.537	3.24
Interaksi AB	9	7907.925	878.658	0.933	2.54
Galat	16	15069.815	941.863		
Total	31				

\*) Berbeda nyata (P(0.05))

Lampiran 11

Contoh Perhitungan Statistik Uji Jarak Ganda Duncan)

$$S_{\bar{y}} = \sqrt{KT_g / n.a} = \sqrt{0.12 / 8}$$

$$= 0.122$$

$$Rp = q.S_{\bar{y}} \quad p = 2.3.5 \dots t$$

p	2	3	4
q(α, p)	3.00	3.15	3.23
Rp	0.366	0.384	0.394

Perlakuan	A0    A1    A2    A3				
	Rata - rata	9.956	10.371	10.644	11.016
A0	9.956 <sup>a</sup>	-			
A1	10.371 <sup>b</sup>	0.415*	-		
A2	10.644 <sup>b</sup>	0.688*	0.273	-	
A3	11.016 <sup>c</sup>	1.060*	0.645*	0.372*	-

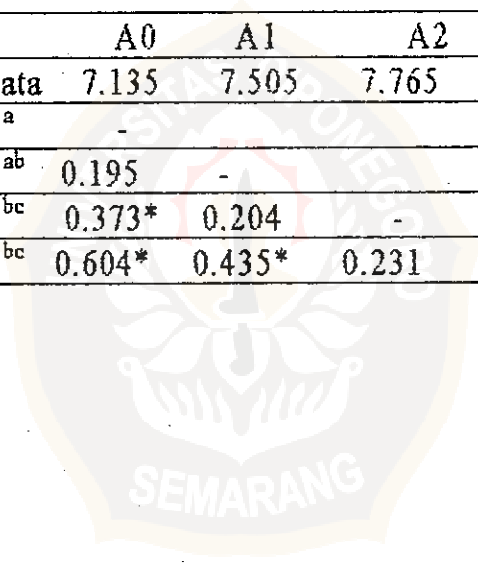
Keterangan : \* Contoh perhitungan statistik berasal dari data panjang tulang tibia  
 \* Perhitungan Uji Jarak Ganda Duncan untuk parameter lainnya dilakukan seperti cara perhitungan di atas

Lampiran 12

**Hasil Uji Jarak Ganda Duncan Panjang Tulang Femur**

p	2	3	4
q ( $\alpha$ , p)	3.00	3.15	3.23
Rp	0.318	0.334	0.342

Perlakuan	A0    A1    A2    A3				
	Rata - rata	7.135	7.505	7.765	7.650
A0	7.135 <sup>a</sup>	-			
A1	7.505 <sup>ab</sup>	0.195	-		
A2	7.765 <sup>bc</sup>	0.373*	0.204	-	
A3	7.650 <sup>bc</sup>	0.604*	0.435*	0.231	-

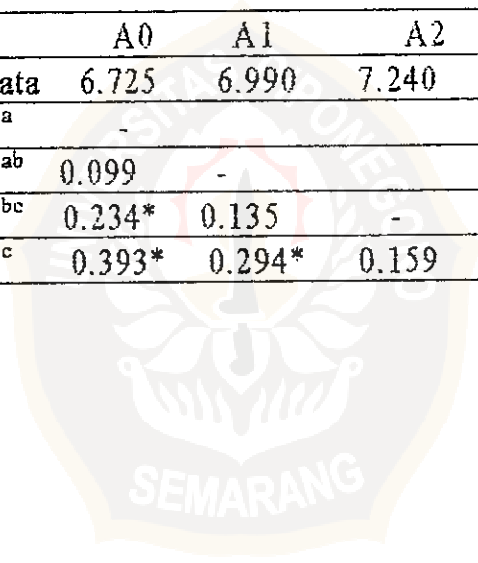


Lampiran 13

**Hasil Uji Jarak Ganda Duncan Panjang Tulang Humerus**

p	2	3	4
q ( $\alpha, p$ )	3.00	3.15	3.23
Rp	0.183	0.192	0.197

Perlakuan	A0    A1    A2    A3				
	Rata – rata	6.725	6.990	7.240	7.065
A0	6.725 <sup>a</sup>	-			
A1	6.990 <sup>ab</sup>	0.099	-		
A2	7.240 <sup>bc</sup>	0.234*	0.135	-	
A3	7.065 <sup>c</sup>	0.393*	0.294*	0.159	-

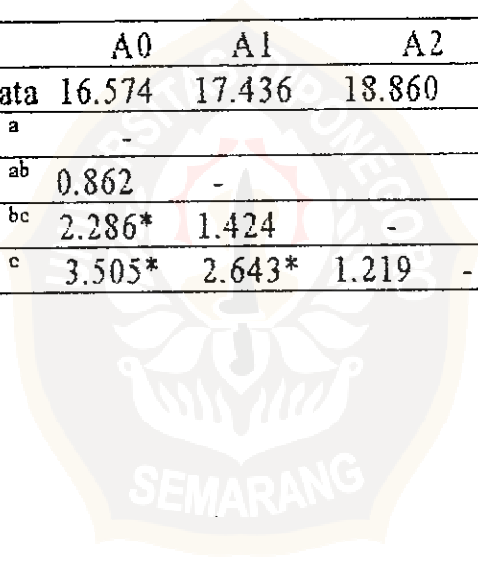


Lampiran 14

**Hasil Uji Jarak Ganda Duncan Berat Tulang Tibia**

P	2	3	4
q( $\alpha$ , p)	3.00	3.15	3.23
Rp	1.446	1.578	1.557

Perlakuan	A0    A1    A2    A3				
	Rata - rata	16.574	17.436	18.860	20.079
A0	16.574 <sup>a</sup>	-			
A1	17.436 <sup>ab</sup>	0.862	-		
A2	18.860 <sup>bc</sup>	2.286*	1.424	-	
A3	20.079 <sup>c</sup>	3.505*	2.643*	1.219	-

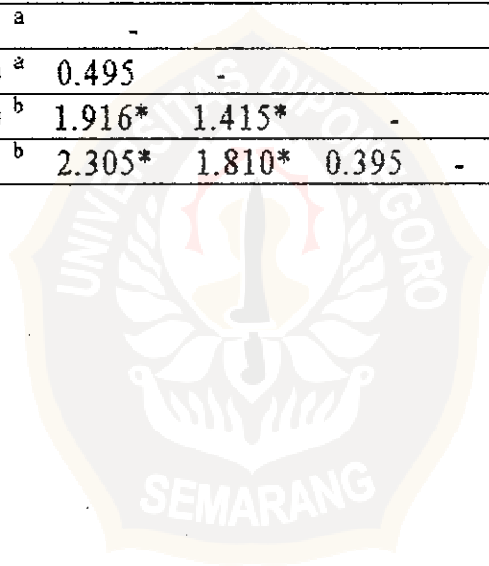


Lampiran 15

**Hasil Uji Jarak Ganda Duncan Berat Tulang Femur**

P	2	3	4
q ( $\alpha$ , p)	3.00	3.15	3.23
Rp	1.050	1.103	1.131

Perlakuan	A0    A1    A2    A3				
	Rata - rata	10.345	11.640	13.930	12.475
A0	10.345 <sup>a</sup>	-			
A1	11.640 <sup>a</sup>	0.495	-		
A2	13.930 <sup>b</sup>	1.916*	1.415*	-	
A3	12.475 <sup>b</sup>	2.305*	1.810*	0.395	-



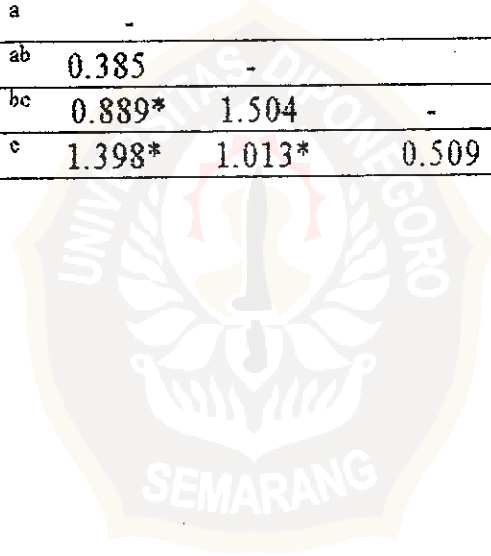


Lampiran 16

Hasil Uji Jarak Ganda Duncan Berat Tulang Humerus

P	2	3	4
$q(\alpha, p)$	3.00	3.15	3.23
Rp	0.705	0.740	0.759

Perlakuan	A0	A1	A2	A3
	Rata - rata	7.360	7.746	8.249
A0	7.360 <sup>a</sup>	-		
A1	7.446 <sup>ab</sup>	0.385	-	
A2	8.249 <sup>bc</sup>	0.889*	1.504	-
A3	8.758 <sup>c</sup>	1.398*	1.013*	0.509



Lampiran 17.

Data Temperatur

No.	Tanggal	Temperatur <sup>o</sup> (C)
1.	30 April 1998	32
2.	1 Mei 1998	32
3.	2 Mei 1998	32
4.	3 Mei 1998	30
5.	4 Mei 1998	32
6.	5 Mei 1998	32
7.	6 Mei 1998	32
8.	7 Mei 1998	31
9.	8 Mei 1998	31
10.	9 Mei 1998	31
11.	10 Mei 1998	31
12.	11 Mei 1998	31
13.	12 Mei 1998	31
14.	13 Mei 1998	32
15.	14 Mei 1998	32

