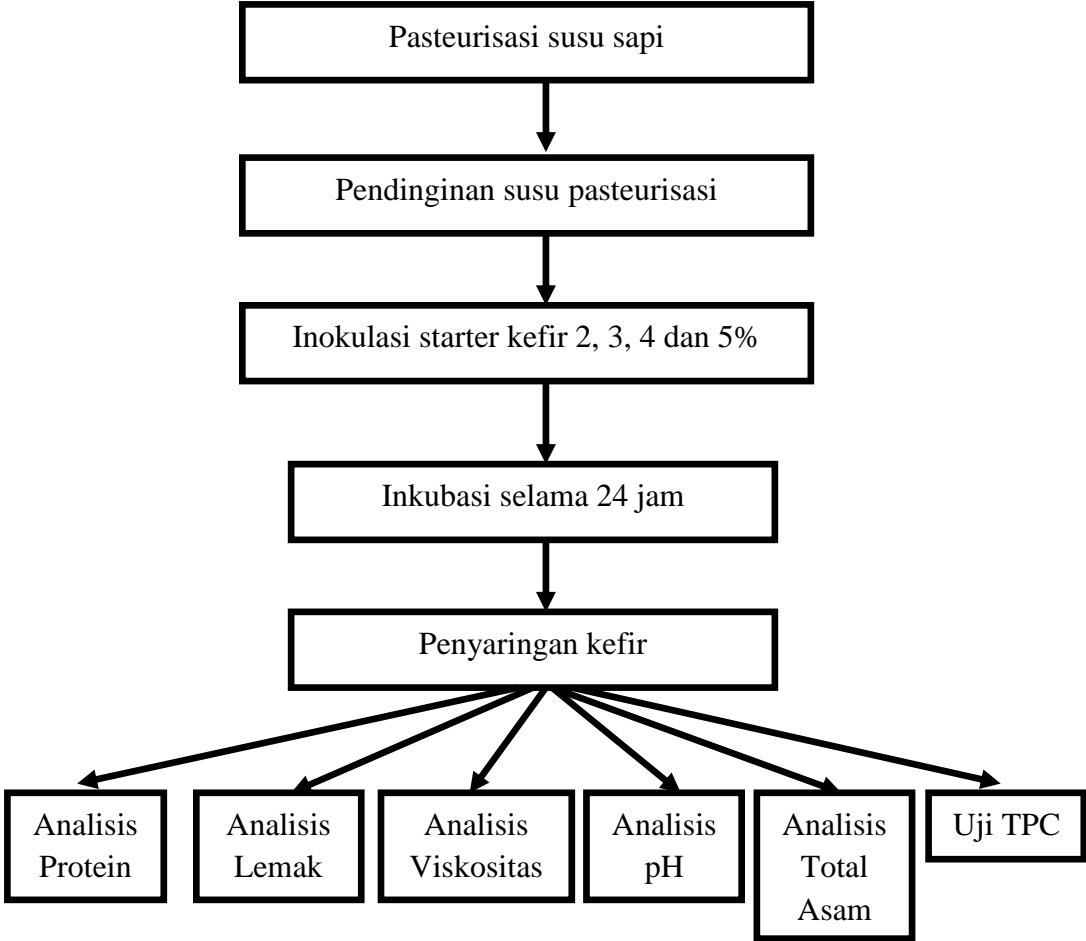
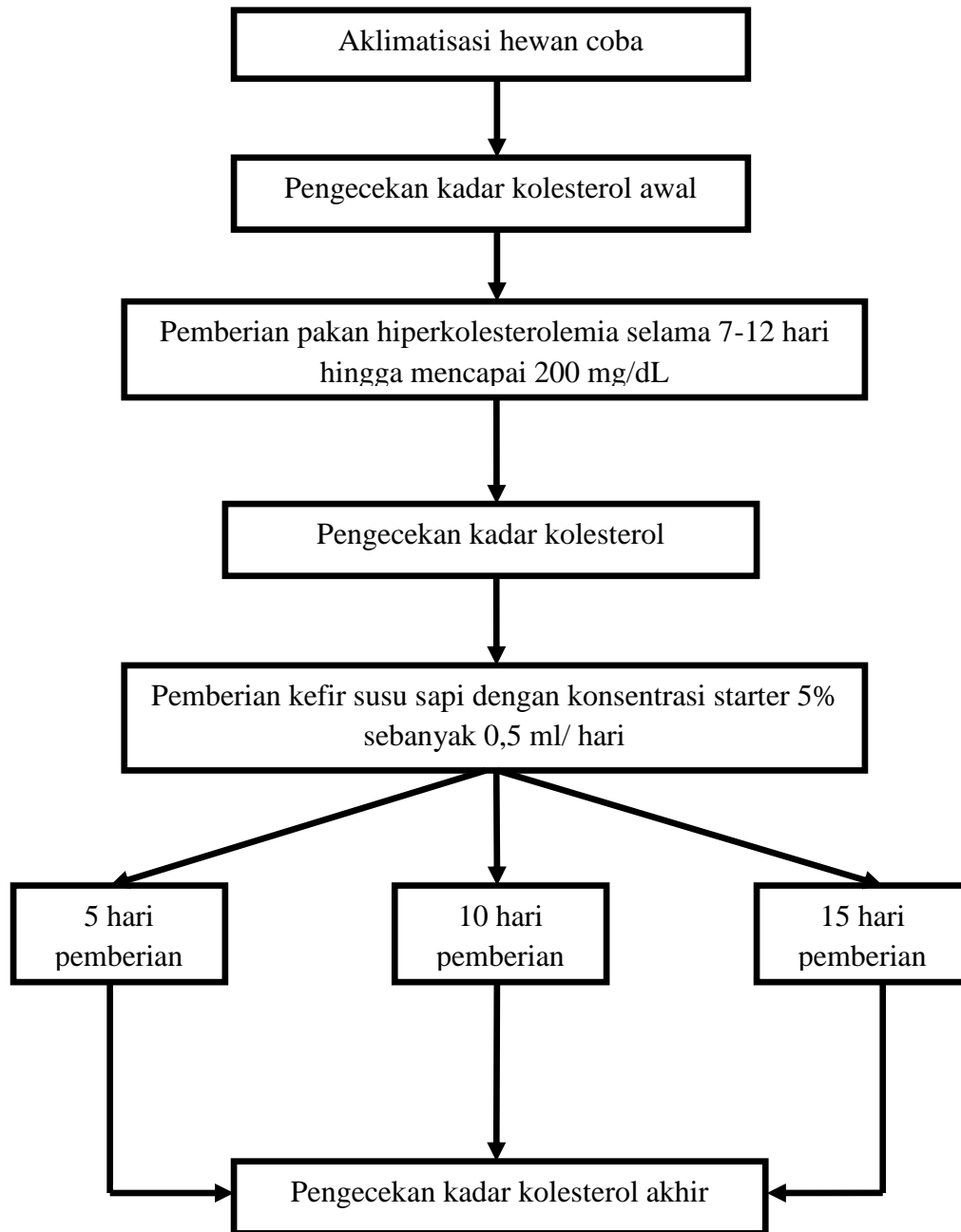


**LAMPIRAN**

**Lampiran 1. Diagram Alir Pembuatan Kefir dan Uji Kualitas Susu Sapi**



**Lampiran 2. Diagram Alir Perlakuan Hewan Coba**

**Lampiran 3. Data Pengaruh Konsentrasi Kefir Terhadap Kualitas Kefir dan Data Kadar Kolesterol Mencit (*Mus musculus*)**

1. Analisis total asam (%)

PERLAKUAN	ULANGAN			
	1	2	3	4
C1	0.81	0.387	0.378	0.288
C2	0.747	0.387	0.261	0.261
C3	0.792	0.414	0.45	0.279
C4	0.729	0.432	0.513	0.405

2. Analisis protein (%)

PERLAKUAN	ULANGAN			
	1	2	3	4
C1	4.72	4.369	4.719	4.718
C2	5.071	4.896	5.069	5.244
C3	5.42	5.417	5.245	5.417
C4	5.942	6.113	6.126	6.114

3. Analisis pH

PERLAKUAN	ULANGAN			
	1	2	3	4
C1	5.32	5.65	5.23	5.8
C2	5.18	5.59	4.99	5.4
C3	5.04	5.39	4.67	5.35
C4	4.9	5.33	4.68	4.71

4. Analisis lemak (%)

PERLAKUAN	ULANGAN			
	1	2	3	4
C1	3.25	3.194	3.194	3.167
C2	3.028	2.972	3.028	2.972
C3	2.917	2.889	2.917	2.889
C4	2.806	2.75	2.722	2.75

## 5. Analisis viskositas (cP)

PERLAKUAN	ULANGAN			
	1	2	3	4
<b>C1</b>	304.5	311.5	318.5	311.5
<b>C2</b>	318.5	325.5	332.5	325.5
<b>C3</b>	339.5	339.5	346.5	343
<b>C4</b>	353.5	360.5	360.5	360.5

6. Uji *Total Plate Count* /TPC (CFU)

PERLAKUAN	ULANGAN			
	1	2	3	4
<b>C1</b>	$8 \times 10^8$	$1 \times 10^8$	$8 \times 10^8$	$9 \times 10^7$
<b>C2</b>	$4 \times 10^8$	$3 \times 10^8$	$3 \times 10^8$	$14 \times 10^8$
<b>C3</b>	$1 \times 10^9$	$2,7 \times 10^9$	$5,7 \times 10^9$	$8 \times 10^8$
<b>C4</b>	$1 \times 10^8$	$9,9 \times 10^8$	$6,2 \times 10^9$	$1,1 \times 10^9$

7. Kadar Kolesterol Darah Mencit (*Mus musculus*)

Perlakuan	Kondisi Kolesterol	Kadar Kolesterol (mg/dL) Ulangan Ke-		Rata-rata	Jumlah Mencit Hiperkolesterolemia		
		1	2		7 hari	10 hari	12 hari
<b>K-</b>	Awal	90	90		3 ekor		
	Akhir	90	90				
	<b>Selisih</b>	<b>0</b>	<b>0</b>	0			
<b>K+</b>	Awal	241	215		3 ekor		
	Akhir	90	90				
	<b>Selisih</b>	<b>151</b>	<b>125</b>	138			
<b>T1</b>	Awal	248	400		5 ekor		
	Akhir	90	90				
	<b>Selisih</b>	<b>158</b>	<b>310</b>	158			
<b>T2</b>	Awal	233	387		5 ekor		
	Akhir	154	90				
	<b>Selisih</b>	<b>79</b>	<b>297</b>	188			
<b>T3</b>	Awal	266	233		2 ekor		
	Akhir	100	162				
	<b>Selisih</b>	<b>166</b>	<b>71</b>	118.5			

**Lampiran 4. Perhitungan *One Way* ANOVA dalam Rancangan Acak Kelompok (RAK) Analisis Kadar Total Asam**

**a. Hasil Analisis Kadar Total Asam**

PERLAKUAN	ULANGAN				Total	Rata-rata
	I	II	III	IV		
<b>C1</b>	0.81	0.387	0.378	0.288	1.863	0.46575
<b>C2</b>	0.747	0.387	0.261	0.261	1.656	0.414
<b>C3</b>	0.792	0.414	0.45	0.279	1.935	0.48375
<b>C4</b>	0.729	0.432	0.513	0.405	2.079	0.51975
<b>TOTAL</b>	3.078	1.62	1.602	1.233	7.533	

$$X = \frac{7,533}{16}$$

$$= 0,47081$$

**b. Menghitung Faktor Koreksi (FK)**

$$FK = \frac{(\sum X)^2}{t.r}$$

$$= \frac{(7.533)^2}{4 \times 4}$$

$$= \frac{56,74609}{16}$$

$$= 3,546631$$

**c. Menghitung Jumlah Kuadrat (JK)**

$$JK \text{ Total} = \sum X^2 - FK$$

$$= (0.81^2 + 0.387^2 + \dots + 2.079^2) - 3,546631$$

$$= 4,099977 - 3,546631$$

$$= 0,553346$$

$$JK \text{ Perlakuan} = \frac{1,863^2 + 1,656^2 + \dots + 2,079^2}{4} - FK$$

$$= \frac{14,27957}{4} - 3,546631$$

$$\begin{aligned}
 &= 3,869893 - 3,546631 = 0,023262 \\
 \text{JK Ulangan} &= \frac{3.078^2 + 1.62^2 + \dots + 1.233^2}{4} - \text{FK} \\
 &= \frac{16,18518}{4} - 3,546631 \\
 &= 4,046294 - 3,546631 = 0,499664 \\
 \text{JK Galat} &= \text{JK Total} - (\text{JK Ulangan} + \text{JK Perlakuan}) \\
 &= 0,553346 - (0,499664 + 0,023262) \\
 &= 0,030421
 \end{aligned}$$

**d. Tabel ANOVA**

SK	db	JK	KT	F <sub>hitung</sub>	F <sub>tabel (5%)</sub>
PERLAKUAN	3	0.023	0.00767	2.3	3.88
ULANGAN	3	0.499	0.16633	49.9	3.88
GALAT	9	0.03	0.00333		
TOTAL	15	0.553			

**e. Kesimpulan**

Karena  $F_{hitung} < F_{tabel(5\%)}$  maka  $H_0$  diterima pada taraf 5% tidak berbeda nyata, sehingga tidak dilakukan uji lanjut dengan Uji Beda Nyata Jujur (BNJ).

**Lampiran 5. Perhitungan *One Way* ANOVA dalam Rancangan Acak Kelompok  
(RAK) Analisis Protein**

**a. Tabel Hasil Analisis Protein**

PERLAKUAN	ULANGAN				Total	Rata-rata
	I	II	III	IV		
C1	4.72	4.369	4.719	4.718	18.526	4.6315
C2	5.071	4.896	5.069	5.244	20.28	5.07
C3	5.42	5.417	5.245	5.417	21.499	5.37475
C4	5.942	6.113	6.126	6.114	24.295	6.07375
<b>TOTAL</b>	21.153	20.795	21.16	21.493	84.6	

$$X = \frac{84,6}{16} = 5,2875$$

**b. Menghitung Faktor Koreksi (FK)**

$$FK = \frac{84,6^2}{16} - \frac{7157,16}{16} = 447,3225$$

**c. Menghitung Jumlah Kuadrat (JK)**

$$\begin{aligned} JK \text{ Total} &= 4,72^2 + 5,071^2 + \dots + 5,417^2 + 6,114^2 - FK \\ &= 451,9344 - 447,3225 \\ &= 4,611908 \end{aligned}$$

$$\begin{aligned} JK \text{ Ulangan} &= \frac{21,153^2 + 20,795^2 + \dots + 21,493^2}{4} - FK \\ &= \frac{1789,534}{4} - 447,3225 \\ &= 447,3834 - 447,3225 = 0,060941 \end{aligned}$$

$$\begin{aligned} JK \text{ Perlakuan} &= \frac{18,526^2 + 20,28^2 + \dots + 24,295^2}{4} - FK \\ &= \frac{1806,945}{4} - 447,3225 \\ &= 451,7363 - 447,3225 = 4,413776 \end{aligned}$$

$$\begin{aligned}
 \text{JK Galat} &= \text{JK Total} - (\text{JK Ulangan} + \text{JK Perlakuan}) \\
 &= 4,611908 - (0,060941 + 4,413776) \\
 &= 0,137191
 \end{aligned}$$

**d. Tabel ANOVA**

SK	db	JK	KT	F <sub>hitung</sub>	F <sub>Tabel (5%)</sub>
PERLAKUAN	3	4.413	1.471	96.635036	3.88
ULANGAN	3	0.061	0.02	1.3357664	3.88
GALAT	9	0.137	0.015		
TOTAL	15	4.611			

**e. Kesimpulan**

Karena  $F_{hitung} > F_{tabel}$  maka  $H_0$  ditolak dan  $H_1$  diterima pada taraf 5% yaitu berbeda nyata. Sehingga dilakukan uji lanjut dengan Uji BNJ.

**f. Uji Lanjut Beda Nyata Jujur (BNJ)**

$$\text{BNJ}_{5\%} = 4,42 \times \sqrt{\frac{0,015}{4}} = 0,270504$$

No.	PERLAKUAN	RATA-RATA	NOTASI
1	C1	4.6315	a
2	C2	5.07	b
3	C3	5.37475	c
4	C4	6.07375	d
Nilai BNJ=0.270504			

Keterangan: Notasi yang berbeda menunjukkan berbeda nyata

**Lampiran 6. Perhitungan *One Way* ANOVA dalam Rancangan Acak Kelompok  
(RAK) Analisis Lemak**

**a. Tabel Hasil Analisis Lemak**

PERLAKUAN	ULANGAN				Total	Rata-rata
	1	2	3	4		
C1	3.25	3.194	3.194	3.167	12.805	3.20125
C2	3.028	2.972	3.028	2.972	12	3
C3	2.917	2.889	2.917	2.889	11.612	2.903
C4	2.806	2.75	2.722	2.75	11.028	2.757
<b>TOTAL</b>	12.001	11.805	11.861	11.778	47.445	

$$X = \frac{47,445}{16} = 2,96531$$

**b. Menghitung Faktor Koreksi (FK)**

$$FK = \frac{47,445^2}{16} - \frac{2251,028}{16} = 140,6893$$

**c. Menghitung Jumlah Kuadrat (JK)**

$$\begin{aligned} JK \text{ Total} &= 3,25^2 + 3,028^2 + \dots + 2,889^2 + 2,75^2 - FK \\ &= 141,1171 - 140,6893 \\ &= 0,427885 \end{aligned}$$

$$\begin{aligned} JK \text{ Ulangan} &= \frac{12,001^2 + 11,805^2 + \dots + 11,778^2}{4} - FK \\ &= \frac{562,7866}{4} - 140,6893 \\ &= 140,6967 - 140,6893 = 0,007406 \end{aligned}$$

$$\begin{aligned} JK \text{ Perlakuan} &= \frac{12,805^2 + 12^2 + \dots + 11,028^2}{4} - FK \\ &= \frac{564,4234}{4} - 140,6893 \\ &= 141,1058 - 140,6893 = 0,416587 \end{aligned}$$

$$\begin{aligned}
 \text{JK Galat} &= \text{JK Total} - (\text{JK Ulangan} + \text{JK Perlakuan}) \\
 &= 0,427885 - (0,007406 + 0,416587) \\
 &= 0,003893
 \end{aligned}$$

**d. Tabel ANOVA**

SK	db	JK	KT	F <sub>hitung</sub>	F <sub>tabel (5%)</sub>
PERLAKUAN	3	0.416	0.1387	312	3.88
ULANGAN	3	0.007	0.0023	5.25	3.88
GALAT	9	0.004	0.0004		
TOTAL	15	0.427			

**e. Kesimpulan**

Karena  $F_{hitung} > F_{tabel}$  maka  $H_0$  ditolak dan  $H_1$  diterima pada taraf signifikansi 5% yaitu berbeda nyata. Sehingga dilakukan Uji Lanjut dengan Uji BNJ 5%.

**f. Uji Lanjut dengan BNJ**

$$\text{BNJ}_{5\%} = 4,42 \times \frac{\sqrt{0,0004}}{4} = 0,04597$$

No.	PERLAKUAN	RATA-RATA	NOTASI
1	C4	2.757	a
2	C3	2.903	b
3	C2	3	c
4	C1	3.20125	d
Nilai BNJ=0.0442			

Keterangan: Notasi yang berbeda menunjukkan berbeda nyata

**Lampiran 7. Perhitungan *One Way* ANOVA dalam Rancangan Acak Kelompok  
(RAK) Analisis pH**

**a. Hasil Analisis pH**

PERLAKUAN	ULANGAN				Total	Rata-rata
	1	2	3	4		
C1	5.32	5.65	5.23	5.8	22	5.5
C2	5.18	5.59	4.99	5.4	21.16	5.29
C3	5.04	5.39	4.67	5.35	20.45	5.1125
C4	4.9	5.33	4.68	4.71	19.62	4.905
<b>TOTAL</b>	20.44	21.96	19.57	21.26	83.23	

$$X = \frac{83,23}{16} = 5,20188$$

**b. Menghitung Faktor Koreksi (FK)**

$$FK = \frac{83,23^2}{16} = \frac{6927,233}{16} = 432,9521$$

**c. Menghitung Jumlah Kuadrat (JK)**

$$\begin{aligned} JK \text{ Total} &= 5,32^2 + 5,18^2 + \dots + 5,35^2 + 4,71^2 - FK \\ &= 434,7489 - 432,9521 \\ &= 1,796844 \end{aligned}$$

$$\begin{aligned} JK \text{ Ulangan} &= \frac{20,44^2 + 21,96^2 + \dots + 21,26^2}{4} - FK \\ &= \frac{1735,008}{4} - 432,9521 \\ &= 0,799869 \end{aligned}$$

$$\begin{aligned} JK \text{ Perlakuan} &= \frac{22^2 + 21,16^2 + \dots + 19,62^2}{4} - FK \\ &= \frac{1734,893}{4} - 432,9521 \\ &= 433,7231 - 432,9521 = 0,771069 \end{aligned}$$

$$\begin{aligned}
 \text{JK Galat} &= \text{JK Total} - (\text{JK Ulangan} + \text{JK Perlakuan}) \\
 &= 1,796844 - (0,799869 + 0,771069) \\
 &= 0,225906
 \end{aligned}$$

**d. Tabel ANOVA**

SK	db	JK	KT	F <sub>hitung</sub>	F <sub>tabel 5%</sub>
PERLAKUAN	3	0.771	0.257	10.28	3.88
ULANGAN	3	0.799	0.26633333	10.65333	3.88
GALAT	9	0.225	0.025		
TOTAL	15	1.796			

**e. Kesimpulan**

Karena  $F_{hitung} > F_{tabel}$  pada taraf 5% maka  $H_0$  ditolak dan  $H_1$  diterima, sehingga dilakukan Uji Lanjut dengan Uji BNJ 5%.

**f. Uji Lanjut BNJ 5%**

$$\text{BNJ}_{5\%} = 4,42 \times \frac{\sqrt{0,025}}{4} = 0,34918$$

No.	PERLAKUAN	RATA-RATA	NOTASI
1	C4	4.905	a
2	C3	5.1125	ab
3	C2	5.29	bc
4	C1	5.5	c
Nilai BNJ=0.34918			

Keterangan: Notasi yang berbeda menunjukkan beda secara nyata

**Lampiran 8. Perhitungan *One Way* ANOVA dalam Rancangan Acak Kelompok  
(RAK) Analisis Viskositas**

**a. Hasil Analisis Viskositas**

PERLAKUAN	ULANGAN				Total	Rata-rata
	1	2	3	4		
<b>C1</b>	304.5	311.5	318.5	311.5	1246	311.5
<b>C2</b>	318.5	325.5	332.5	325.5	1302	325.5
<b>C3</b>	339.5	339.5	346.5	343	1368.5	342.125
<b>C4</b>	353.5	360.5	360.5	360.5	1435	358.75
<b>TOTAL</b>	1316	1337	1358	1340.5	5351.5	

$$\bar{X} = \frac{5351,5}{16} = 334,46875$$

16

**b. Menghitung Faktor Koreksi (FK)**

$$FK = \frac{5351,5^2}{16} - \frac{28638552,3}{16} = 1789909,52$$

**c. Menghitung Jumlah Kuadrat (JK)**

$$\begin{aligned} JK \text{ Total} &= 304,5^2 + 318,5^2 + \dots + 343^2 + 360,5^2 - FK \\ &= 1795200,75 - 1789909,52 \\ &= 5291,23438 \end{aligned}$$

$$\begin{aligned} JK \text{ Ulangan} &= \frac{1316^2 + 1337^2 + \dots + 1340,5^2}{4} - FK \\ &= \frac{7160529,25}{4} - 1789909,52 \\ &= 222,796875 \end{aligned}$$

$$\begin{aligned} JK \text{ Perlakuan} &= \frac{1246^2 + 1302^2 + \dots + 1435^2}{4} - FK \\ &= \frac{7179737,25}{4} - 1789909,52 = 5024,79688 \end{aligned}$$

$$\begin{aligned}
 \text{JK Galat} &= \text{JK Total} - (\text{JK Ulangan} + \text{JK Perlakuan}) \\
 &= 5291,23438 - (222,796875 + 5024,79688) \\
 &= 43,64063
 \end{aligned}$$

**d. Tabel ANOVA**

SK	Db	JK	KT	F <sub>hitung</sub>	F <sub>tabel 5%</sub>
PERLAKUAN	3	5024.8	1674.9	345.43	3.88
ULANGAN	3	222.8	74.266	15.316	3.88
GALAT	9	43.64	4.8489		
TOTAL	15	5291.2			

**e. Kesimpulan**

Karena  $F_{hitung} > F_{tabel}$  pada taraf 5% maka  $H_0$  ditolak dan  $H_1$  diterima, sehingga dilakukan Uji Lanjut dengan Uji BNJ 5%.

**f. Uji Lanjut BNJ 5%**

$$\text{BNJ}_{5\%} = 4,42 \times \sqrt{\frac{4,8489}{4}} = 4,862$$

No.	PERLAKUAN	RATA-RATA	NOTASI
1	C1	311.5	a
2	C2	325.5	b
3	C3	342.125	c
4	C4	358.75	d
Nilai BNJ=4.862			

Keterangan: Notasi berbeda menunjukkan beda secara nyata

**Lampiran 9. Perhitungan *One Way* ANOVA dalam Rancangan Acak Kelompok  
(RAK) Uji TPC (*Total Plate Count*)**

**a. Hasil Uji TPC**

PERLAKUAN	ULANGAN				TOTAL	RATA-RATA
	1	2	3	4		
C1	$8 \times 10^8$	$1 \times 10^8$	$8 \times 10^8$	$9 \times 10^7$	$17,9 \times 10^8$	$4,5 \times 10^8$
C2	$4 \times 10^8$	$3 \times 10^8$	$3 \times 10^8$	$1,4 \times 10^9$	$24 \times 10^8$	$6 \times 10^8$
C3	$1 \times 10^9$	$2,7 \times 10^9$	$5,7 \times 10^9$	$8 \times 10^8$	$10,2 \times 10^9$	$2,6 \times 10^9$
C4	$1 \times 10^8$	$9,9 \times 10^9$	$6,2 \times 10^9$	$1,1 \times 10^8$	$16,3 \times 10^9$	$4,1 \times 10^9$
TOTAL	$2,3 \times 10^9$	$13 \times 10^9$	$13 \times 10^9$	$3,4 \times 10^9$	$3,07 \times 10^9$	

$$X = \frac{3,07 \times 10^9}{16} = 0,2 \times 10^9$$

**b. Menghitung Faktor Koreksi (FK)**

$$FK = \frac{(3,07 \times 10^9)^2}{16} = 0,6 \times 10^{18}$$

**c. Menghitung Jumlah Kuadrat (JK)**

$$\begin{aligned} JK \text{ Total} &= (8 \times 10^8)^2 + (4 \times 10^8)^2 + \dots + (1,1 \times 10^8)^2 - FK \\ &= 182,7 \times 10^{18} - 0,6 \times 10^{18} \\ &= 182,1 \times 10^{18} \end{aligned}$$

$$\begin{aligned} JK \text{ Ulangan} &= \frac{(2,3 \times 10^9)^2 + (13 \times 10^9)^2 + \dots + (3,4 \times 10^9)^2}{4} - FK \\ &= \frac{187,54 \times 10^{18} - 0,6 \times 10^{18}}{4} = 46,3 \times 10^{18} \end{aligned}$$

$$\begin{aligned} JK \text{ Perlakuan} &= \frac{(17,9 \times 10^8)^2 + (24 \times 10^8)^2 + \dots + (16,3 \times 10^8)^2}{4} - FK \\ &= \frac{379,02 \times 10^{18} - 0,6 \times 10^{18}}{4} \\ &= 94,15 \times 10^{18} \end{aligned}$$

$$\begin{aligned}
 \text{JK Galat} &= \text{JK Total} - (\text{JK Ulangan} + \text{JK Perlakuan}) \\
 &= 182,1 \times 10^{18} - (46,3 \times 10^{18} + 94,15 \times 10^{18}) \\
 &= 41,65 \times 10^{18}
 \end{aligned}$$

**d. Tabel ANOVA**

SK	db	JK	KT	F <sub>hitung</sub>	F <sub>tabel 5%</sub>
PERLAKUAN	3	94,15x 10 <sup>18</sup>	31,38x 10 <sup>18</sup>	6,78	3.88
ULANGAN	3	46,3x 10 <sup>18</sup>	15,43x 10 <sup>18</sup>	3,33	3.88
GALAT	9	41,65x 10 <sup>18</sup>	4,63x 10 <sup>18</sup>		
TOTAL	15	182,1x 10 <sup>18</sup>			

**e. Kesimpulan**

Karena  $F_{hitung} > F_{tabel}$  pada taraf 5% maka  $H_1$  diterima, yang artinya ada pengaruh. Oleh karena itu dilakukan Uji Lanjut dengan Uji BNJ 5%.

**f. Uji BNJ 5%**

$$\text{BNJ}_{5\%} = 4,42 \times \sqrt{4,63 \times 10^{18}} = 4,86 \times 10^9$$

4

Perlakuan	Rata-rata	Notasi
C1	0,45x10 <sup>9</sup>	a
C2	0,6x10 <sup>9</sup>	a
C3	2,6x10 <sup>9</sup>	a
C4	4,1x10 <sup>9</sup>	a
Nilai BNJ: 4,86x 10 <sup>9</sup>		

## Lampiran 10. Hasil Analisis Statistik dengan SPSS

1. Pengaruh konsentrasi starter terhadap kadar total asam laktat kefir susu sapi

### Test of Homogeneity of Variances

data

Levene Statistic	df1	df2	Sig.
.280	3	12	.839

### NPar Tests

#### One-Sample Kolmogorov-Smirnov Test

		data
N		16
Normal Parameters <sup>a</sup>	Mean	.47081
	Std. Deviation	.192067
Most Extreme Differences	Absolute	.231
	Positive	.231
	Negative	-.161
Kolmogorov-Smirnov Z		.923
Asymp. Sig. (2-tailed)		.362

a. Test distribution is Normal.

### Oneway

#### ANOVA

data					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.023	3	.008	.176	.911
Within Groups	.530	12	.044		
Total	.553	15			

## Post Hoc Tests

data

Duncan

perlakuan	N	Subset for alpha = 0.05	
		1	
2	4		.41400
1	4		.46575
3	4		.48375
4	4		.51975
Sig.			.522

Means for groups in homogeneous subsets are displayed.

2. Pengaruh konsentrasi starter terhadap kadar protein kefir susu sapi

### Test of Homogeneity of Variances

data

Levene Statistic	df1	df2	Sig.
.719	3	12	.560

## NPar Tests

### One-Sample Kolmogorov-Smirnov Test

		data
N		16
Normal Parameters <sup>a</sup>	Mean	5.28750
	Std. Deviation	.554491
Most Extreme Differences	Absolute	.156
	Positive	.156
	Negative	-.131
Kolmogorov-Smirnov Z		.622
Asymp. Sig. (2-tailed)		.833

a. Test distribution is Normal.

## Oneway

### ANOVA

data					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.414	3	1.471	89.108	.000
Within Groups	.198	12	.017		
Total	4.612	15			

## Post Hoc Tests

### data

#### Duncan

konsent rasistart er	N	Subset for alpha = 0.05			
		1	2	3	4
1	4	4.63150			
2	4		5.07000		
3	4			5.37475	
4	4				6.07375

Sig.		1.000	1.000	1.000	1.000
------	--	-------	-------	-------	-------

Means for groups in homogeneous subsets are displayed.

### 3. Pengaruh konsentrasi starter terhadap kadar lemak kefir susu sapi

#### Test of Homogeneity of Variances

data

Levene Statistic	df1	df2	Sig.
.676	3	12	.583

#### NPar Tests

##### One-Sample Kolmogorov-Smirnov Test

		data
N		16
Normal Parameters <sup>a</sup>	Mean	2.96531
	Std. Deviation	.168896
Most Extreme Differences	Absolute	.134
	Positive	.113
	Negative	-.134
Kolmogorov-Smirnov Z		.535
Asymp. Sig. (2-tailed)		.937
a. Test distribution is Normal.		

#### Oneway

##### ANOVA

data					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.417	3	.139	147.481	.000
Within Groups	.011	12	.001		
Total	.428	15			

## Post Hoc Tests

data

Duncan

konsent rasistart er	N	Subset for alpha = 0.05			
		1	2	3	4
4	4	2.75700			
3	4		2.90300		
2	4			3.00000	
1	4				3.20125
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

#### 4. Pengaruh konsentrasi starter terhadap nilai pH kefir susu sapi

### Test of Homogeneity of Variances

data

Levene Statistic	df1	df2	Sig.
.123	3	12	.945

## NPar Tests

### One-Sample Kolmogorov-Smirnov Test

		data
N		16
Normal Parameters <sup>a</sup>	Mean	2.96531
	Std. Deviation	.168896
Most Extreme Differences	Absolute	.134
	Positive	.113
	Negative	-.134
Kolmogorov-Smirnov Z		.535
Asymp. Sig. (2-tailed)		.937

### One-Sample Kolmogorov-Smirnov Test

		data
N		16
Normal Parameters <sup>a</sup>	Mean	2.96531
	Std. Deviation	.168896
Most Extreme Differences	Absolute	.134
	Positive	.113
	Negative	-.134
Kolmogorov-Smirnov Z		.535
Asymp. Sig. (2-tailed)		.937
a. Test distribution is Normal.		

### Oneway

#### ANOVA

data					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.771	3	.257	3.007	.072
Within Groups	1.026	12	.085		
Total	1.797	15			

### Post Hoc Tests

data

Duncan

konsent rasistart er	N	Subset for alpha = 0.05	
		1	2
4	4	4.9050	
3	4	5.1125	5.1125
2	4	5.2900	5.2900
1	4		5.5000
Sig.		.101	.099

## data

Duncan

konsent rasistart er	N	Subset for alpha = 0.05	
		1	2
4	4	4.9050	
3	4	5.1125	5.1125
2	4	5.2900	5.2900
1	4		5.5000
Sig.		.101	.099

Means for groups in homogeneous subsets are displayed.

## 5. Pengaruh konsentrasi starter terhadap viskositas kefir susu sapi

## Test of Homogeneity of Variances

data

Levene Statistic	df1	df2	Sig.
6.961	3	12	.006

## NPar Tests

## One-Sample Kolmogorov-Smirnov Test

		data
N		16
Normal Parameters <sup>a</sup>	Mean	328.219
	Std. Deviation	28.5890
Most Extreme Differences	Absolute	.154
	Positive	.129
	Negative	-.154
Kolmogorov-Smirnov Z		.617
Asymp. Sig. (2-tailed)		.840

### One-Sample Kolmogorov-Smirnov Test

		data
N		16
Normal Parameters <sup>a</sup>	Mean	328.219
	Std. Deviation	28.5890
Most Extreme Differences	Absolute	.154
	Positive	.129
	Negative	-.154
Kolmogorov-Smirnov Z		.617
Asymp. Sig. (2-tailed)		.840
a. Test distribution is Normal.		

### Oneway

#### ANOVA

data					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5368.547	3	1789.516	3.116	.066
Within Groups	6891.438	12	574.286		
Total	12259.984	15			

### Post Hoc Tests

#### data

#### Duncan

Konsent rasistart er	N	Subset for alpha = 0.05	
		1	2
1	4	311.500	
3	4	317.125	
2	4	325.500	325.500
4	4		358.750

Sig.		.447	.073
------	--	------	------

Means for groups in homogeneous subsets are displayed.

## 6. Pengaruh konsentrasi starter terhadap viabilitas bakteri

### Test of Homogeneity of Variances

data

Levene Statistic	df1	df2	Sig.
9.924	3	12	.001

### NPar Tests

#### One-Sample Kolmogorov-Smirnov Test

		data
N		16
Normal Parameters <sup>a</sup>	Mean	1.98E9
	Std. Deviation	2.828E9
Most Extreme Differences	Absolute	.331
	Positive	.331
	Negative	-.252
Kolmogorov-Smirnov Z		1.325
Asymp. Sig. (2-tailed)		.060

a. Test distribution is Normal.

### Oneway

#### ANOVA

data					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.031E19	3	1.344E19	2.025	.164
Within Groups	7.961E19	12	6.635E18		
Total	1.199E20	15			

## Post Hoc Tests

data

Duncan

Perlakuan	N	Subset for alpha = 0.05	
		1	
1	4	4.48E8	
2	4	6.00E8	
3	4	2.55E9	
4	4	4.32E9	
Sig.			.071

Means for groups in homogeneous subsets are displayed.

### Lampiran 11. Perhitungan Kadar Total Asam Laktat

#### 1. Ulangan 1

##### a. C1

$$\begin{aligned} \% \text{ asam laktat} &= \frac{V \times N \times 90}{V_{\text{sampel}} \times 1000} \times 100\% \\ &= \frac{9 \times 0,1 \times 90}{10 \times 1000} \times 100\% \\ &= 0,81\% \end{aligned}$$

##### b. C2

$$\begin{aligned} \% \text{ asam laktat} &= \frac{V \times N \times 90}{V_{\text{sampel}} \times 1000} \times 100\% \\ &= \frac{8,3 \times 0,1 \times 90}{10 \times 1000} \times 100\% \\ &= 0,747\% \end{aligned}$$

##### c. C3

$$\begin{aligned} \% \text{ asam laktat} &= \frac{V \times N \times 90}{V_{\text{sampel}} \times 1000} \times 100\% \\ &= \frac{8,8 \times 0,1 \times 90}{10 \times 1000} \times 100\% \\ &= 0,792\% \end{aligned}$$

##### d. C4

$$\begin{aligned} \% \text{ asam laktat} &= \frac{V \times N \times 90}{V_{\text{sampel}} \times 1000} \times 100\% \\ &= \frac{8,1 \times 0,1 \times 90}{10 \times 1000} \times 100\% \\ &= 0,729\% \end{aligned}$$

#### 2. Ulangan 2

##### a. C1

$$\begin{aligned} \% \text{ asam laktat} &= \frac{V \times N \times 90}{V_{\text{sampel}} \times 1000} \times 100\% \\ &= \frac{4,3 \times 0,1 \times 90}{10 \times 1000} \times 100\% \\ &= 0,387\% \end{aligned}$$

b. C2

$$\begin{aligned}
 \% \text{ asam laktat} &= \frac{V \times N \times 90}{V_{\text{sampel}} \times 1000} \times 100\% \\
 &= \frac{4,3 \times 0,1 \times 90}{10 \times 1000} \times 100\% \\
 &= 0,387\%
 \end{aligned}$$

c. C3

$$\begin{aligned}
 \% \text{ asam laktat} &= \frac{V \times N \times 90}{V_{\text{sampel}} \times 1000} \times 100\% \\
 &= \frac{4,6 \times 0,1 \times 90}{10 \times 1000} \times 100\% \\
 &= 0,414\%
 \end{aligned}$$

d. C4

$$\begin{aligned}
 \% \text{ asam laktat} &= \frac{V \times N \times 90}{V_{\text{sampel}} \times 1000} \times 100\% \\
 &= \frac{4,8 \times 0,1 \times 90}{10 \times 1000} \times 100\% \\
 &= 0,432\%
 \end{aligned}$$

3. Ulangan 3

a. C1

$$\begin{aligned}
 \% \text{ asam laktat} &= \frac{V \times N \times 90}{V_{\text{sampel}} \times 1000} \times 100\% \\
 &= \frac{4,2 \times 0,1 \times 90}{10 \times 1000} \times 100\% \\
 &= 0,378\%
 \end{aligned}$$

b. C2

$$\begin{aligned}
 \% \text{ asam laktat} &= \frac{V \times N \times 90}{V_{\text{sampel}} \times 1000} \times 100\% \\
 &= \frac{2,9 \times 0,1 \times 90}{10 \times 1000} \times 100\% \\
 &= 0,261\%
 \end{aligned}$$

c. C3

$$\begin{aligned} \% \text{ asam laktat} &= \frac{V \times N \times 90}{V_{\text{sampel}} \times 1000} \times 100\% \\ &= \frac{5 \times 0,1 \times 90}{10 \times 1000} \times 100\% \\ &= 0,45\% \end{aligned}$$

d. C4

$$\begin{aligned} \% \text{ asam laktat} &= \frac{V \times N \times 90}{V_{\text{sampel}} \times 1000} \times 100\% \\ &= \frac{5,7 \times 0,1 \times 90}{10 \times 1000} \times 100\% \\ &= 0,513\% \end{aligned}$$

4. Ulangan 4

a. C1

$$\begin{aligned} \% \text{ asam laktat} &= \frac{V \times N \times 90}{V_{\text{sampel}} \times 1000} \times 100\% \\ &= \frac{3,2 \times 0,1 \times 90}{10 \times 1000} \times 100\% \\ &= 0,288\% \end{aligned}$$

b. C2

$$\begin{aligned} \% \text{ asam laktat} &= \frac{V \times N \times 90}{V_{\text{sampel}} \times 1000} \times 100\% \\ &= \frac{2,9 \times 0,1 \times 90}{10 \times 1000} \times 100\% \\ &= 0,261\% \end{aligned}$$

c. C3

$$\begin{aligned} \% \text{ asam laktat} &= \frac{V \times N \times 90}{V_{\text{sampel}} \times 1000} \times 100\% \\ &= \frac{2,9 \times 0,1 \times 90}{10 \times 1000} \times 100\% \\ &= 0,261\% \end{aligned}$$

d. C4

$$\begin{aligned}\% \text{ asam laktat} &= \frac{V \times N \times 90}{V_{\text{sampel}} \times 1000} \times 100\% \\ &= \frac{4,5 \times 0,1 \times 90}{10 \times 1000} \times 100\% \\ &= 0,405\%\end{aligned}$$

**Lampiran 12. Alat, Bahan dan Kegiatan Penelitian****a. Alat-alat**

Autoklaf



pH meter



Timbangan Analitik



Buret dan penyangga

*Hot Plate*

Kandang Mencit



Inkubator



Alat Pengukur Kolesterol



Sonde

**b. Bahan-bahan**

Phenoltallein



Aquadec



Alkohol 70%



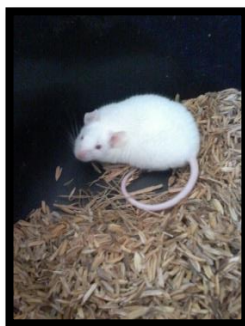
NaOH 0,1 N



Lemak Sapi



Starter Kefir



Mencit



Media PCA



Susu Sapi

**c. Kegiatan Penelitian**

Pasteurisasi Susu



Inkubasi Kefir



Uji TPC



Hasil TPC



Uji Titrasi



Pembuatan Media



Pencekakan



Hasil Pembuatan Kefir



Aklimatisasi Mencit



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 NIM : 10620105  
 Judul Skripsi : Pengaruh Konsentrasi Starter Terhadap Kualitas Kefir Susu Sapi dan Pemanfaatannya Sebagai Penurun Kadar Kolesterol Darah Mencit (*Mus musculus*).  
 Pembimbing : Mujahidin Ahmad, M.Sc.

No.	Tanggal	Materi Konsultasi	Tanda Tangan
1	13 April 2014	Pengajuan BAB I,II,III	1.
2	15 April 2014	Revisi BAB I,II,III	2.
3	18 April 2014	Revisi kajian Keislaman	3.
4	06 Mei 2014	ACC BAB I,II,III	4.
5	28 Desember 2014	Pengajuan BAB IV dan V	5.
6	06 Januari 2015	Revisi Kajian Keislaman	6.
7	07 Januari 2015	ACC BAB IV dan V	7.
8	16 Januari 2015	ACC Keseluruhan	8.

Malang, 16 Januari 2015

Mengetahui,  
 Ketua Jurusan Biologi



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 Pembimbing : Anik Ma'unatin, M.P.

No	Tanggal	Materi Konsultasi	Tanda Tangan
1	25 Maret 2014	Pengajuan Judul Penelitian	1.
2	15 April 2014	Pengajuan BAB I, II dan III	2.
3	21 April 2014	Revisi BAB I, II dan III	3.
4	05 Mei 2014	ACC BAB I, II, dan III	4.
5	12 Desember 2014	Pengajuan BAB IV	5.
6	15 Desember 2014	Revisi BAB IV	6.
7	17 Desember 2014	ACC BAB IV	7.
8	05 Januari 2015	Pengajuan BAB I, II, III, IV dan V	8.
9	08 Januari 2015	ACC BAB I, II, III, IV, dan V	9.
10	15 Januari 2015	Perbaikan Seminar Hasil	10.
11	16 Januari 2015	ACC Keseluruhan	11.

**Malang, 16 Januari 2015**  
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**Dr. Eyika Sandi Savitri, M.P**  
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