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## LAMPIRAN

### A. Uji daya hambat ekstrak daun kelor terhadap bakteri *E. aerogenes*

#### Lampiran 1. Hasil uji Statistik daya hambat ekstrak daun kelor

##### 1. Hasil uji normalitas

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

		Unstandardized Residual
N		40
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	3.00579502
Most Extreme Differences	Absolute	.127
	Positive	.127
	Negative	-.104
Test Statistic		.127
Asymp. Sig. (2-tailed)		.100 <sup>c</sup>

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

##### 2. Hasil Uji Homogenitas

##### Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Hasil	Based on Mean	,667	7	32	,698
	Based on Median	,370	7	32	,913
	Based on Median and with adjusted df	,370	7	25,256	,911
	Based on trimmed mean	,622	7	32	,734

##### 3. Hasil Uji ANOVA

##### ANOVA

Hasil					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	227,154	7	32,451	7,698	,000
Within Groups	134,891	32	4,215		
Total	362,045	39			

#### 4. Hasil Uji DUNCAN

Duncan<sup>a</sup>

Estrak Daun kelor	N	Subset for alpha = 0.05		
		1	2	3
Etanol 10 %	5	7,0067		
Etanol 20 %	5	7,1733		
Aquades 10 %	5	7,9000	7,9000	
Aquades 20 %	5	8,1260	8,1260	
Etanol 30 %	5	8,1733	8,1733	
Aquades 30 %	5	9,5660	9,5660	
Etanol 40 %	5		10,5733	
Aquades 40 %	5			14,7327
Sig.		,091	,073	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 5.000.

## B. Efektifitas ekstrak daun kelor terhadap pertumbuhan histamin pada ikan cakalang

### Lampiran 2. Hasil uji statistik kandungan histamin daging ikan cakalang

#### Suhu Ruang

##### 1. Hasil Uji Normalitas

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

		Unstandardized Residual
N		30
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	141.25667137
Most Extreme Differences	Absolute	.273
	Positive	.273
	Negative	-.183
Test Statistic		.273
Asymp. Sig. (2-tailed)		.000 <sup>c</sup>

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

##### 2. Hasil uji Homogenitas

###### Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Histamin	Based on Mean	7.338	9	20	.000
	Based on Median	1.982	9	20	.097
	Based on Median and with adjusted df	1.982	9	4.178	.259
	Based on trimmed mean	6.778	9	20	.000

Data tidak homogen

##### 3. Hasil uji Mann Whitney

###### Test Statistics<sup>a</sup>

	Histamin_0jam	Histamin_3jam	Histamin_6jam	Histamin_9jam	Histamin_12jam
Mann-Whitney U	3.000	4.000	4.500	.000	2.000
Wilcoxon W	9.000	10.000	10.500	6.000	8.000
Z	-.655	-.221	.000	-1.964	-1.091
Asymp. Sig. (2-tailed)	.513	.825	1.000	.050	.275
Exact Sig. [2*(1-tailed Sig.)]	.700 <sup>b</sup>	1.000 <sup>b</sup>	1.000 <sup>b</sup>	.100 <sup>b</sup>	.400 <sup>b</sup>

a. Grouping Variable: Perlakuan

b. Not corrected for ties.

## Suhu Rendah

### 1. Hasil Uji Normalitas

#### One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		30
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	7.53239821
Most Extreme Differences	Absolute	.194
	Positive	.145
	Negative	-.194
Test Statistic		.194
Asymp. Sig. (2-tailed)		.005 <sup>c</sup>

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

### 2. Hasil Uji Homogenitas

#### Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Histamin	Based on Mean	5.711	9	20	.001
	Based on Median	1.047	9	20	.440
	Based on Median and with adjusted df	1.047	9	5.158	.506
	Based on trimmed mean	5.103	9	20	.001

Data tidak Homogen

### 3. Hasil uji Mann Whitney

	Test Statistics <sup>a</sup>				
	Histamin_ 0jam	Histamin_ _12jam	Histamin_ 24jam	Histamin_ 36jam	Histamin_ 48jam
Mann-Whitney U	3.000	4.000	.000	.000	1.000
Wilcoxon W	9.000	10.000	6.000	6.000	7.000
Z	-.655	-.218	-1.964	-1.964	-1.528
Asymp. Sig. (2-tailed)	.513	.827	.050	.050	.127
Exact Sig. [2*(1-tailed Sig.)]	.700 <sup>b</sup>	1.000 <sup>b</sup>	.100 <sup>b</sup>	.100 <sup>b</sup>	.200 <sup>b</sup>

a. Grouping Variable: Perlakuan

b. Not corrected for ties.

### C. Hasil uji TPC daging ikan cakalang

#### Lampiran 3. Hasil uji statistik TPC daging ikan cakalang

#### Suhu Ruang

##### 1. Hasil Uji Normalitas

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

		Unstandardized Residual
N		30
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	362.09885341
Most Extreme Differences	Absolute	.173
	Positive	.173
	Negative	-.105
Test Statistic		.173
Asymp. Sig. (2-tailed)		.023 <sup>c</sup>

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Data tidak berdistribusi Normal

##### 2. Hasil Uji Homogenitas

##### Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
TPC	Based on Mean	6.244	9	20	.000
	Based on Median	.752	9	20	.660
	Based on Median and with adjusted df	.752	9	8.157	.662
	Based on trimmed mean	5.351	9	20	.001

Data Tidak Homogen

##### 3. Hasil Uji Mann Whitney

##### Test Statistics<sup>a</sup>

	TPC_0jam	TPC_3jam	TPC_6jam	TPC_9jam	TPC_12jam
Mann-Whitney U	3.000	4.000	.000	.000	.000
Wilcoxon W	9.000	10.000	6.000	6.000	6.000
Z	-.655	-.218	-1.964	-1.964	-1.964
Asymp. Sig. (2-tailed)	.513	.827	.050	.050	.050
Exact Sig. [2*(1-tailed Sig.)]	.700 <sup>b</sup>	1.000 <sup>b</sup>	.100 <sup>b</sup>	.100 <sup>b</sup>	.100 <sup>b</sup>

a. Grouping Variable: Perlakuan

b. Not corrected for ties.

#### Suhu Rendah

## 1. Hasil Uji Normalitas

### One-Sample Kolmogorov-Smirnov Test

Unstandardized

Residual

xN		30
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	4860.03225514
Most Extreme Differences	Absolute	.147
	Positive	.147
	Negative	-.104
Test Statistic		.147
Asymp. Sig. (2-tailed)		.099 <sup>c</sup>

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

## 2. Hasil Uji Homogentitas

### Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
TPC	Based on Mean	2.947	9	20	.021
	Based on Median	.342	9	20	.949
	Based on Median and with adjusted df	.342	9	8.070	.935
	Based on trimmed mean	2.548	9	20	.039

Data tidak Homogen

## 3. Hasil uji Mann Whitney

### Test Statistics<sup>a</sup>

	TPC_0jam	TPC_12jam	TPC_24jam	TPC_36jam	TPC_48jam
Mann-Whitney U	3.000	.000	.000	.000	2.000
Wilcoxon W	9.000	6.000	6.000	6.000	8.000
Z	-.655	-1.964	-1.964	-1.964	-1.091
Asymp. Sig. (2-tailed)	.513	.050	.050	.050	.275
Exact Sig. [2*(1-tailed Sig.)]	.700 <sup>b</sup>	.100 <sup>b</sup>	.100 <sup>b</sup>	.100 <sup>b</sup>	.400 <sup>b</sup>

a. Grouping Variable: Perlakuan

b. Not corrected for ties.



**Lampiran 4. Hasil uji daya hambat ekstrak daun kelor terhadap bakteri *E. aerogenes***

**Hasil uji daya hambat ekstrak aquades daun kelor terhadap bakteri *E. aerogenes***

Konsentrasi	Diameter Zona Hambat Ekstrak Aquades (mm)					
	Ulangan 1	Ulangan 2	Ulangan 3	Ulangan 4	Ulangan 5	Rata-Rata
DMSO	0	0	0	0	0	0
10 %	8,5	6	9	10	6	7,9
20 %	8,3	6	8,83	10,167	7,33	8,126
30 %	11,5	7,67	10,83	9,5	8,33	9,56
40 %	14	12	18,83	15,83	13	14,73
Amoxicilin	12,33	11,67	17	14,67	15	14,13

**Hasil uji daya hambat ekstrak aquades daun kelor terhadap bakteri *E. aerogenes***

Konsentrasi	Diameter Zona Hambat Ekstrak Etanol (mm)					
	Ulangan 1	Ulangan 2	Ulangan 3	Ulangan 4	Ulangan 5	Rata-Rata
DMSO	0	0	0	0	0	0
10 %	6	6	7,83	6	9,2	7,01
20 %	6	6	8,66	6	9,2	7,17
30 %	7,83	6	9,99	6	11,03	8,17
40 %	10,83	6	10,16	13	12,87	10,57
Amoxicilin	13,33	14,67	13,99	13,3	13,87	13,84

### Lampiran 5. Hasil uji histamin daging ikan cakalang

#### Hasil uji histamin pada penyimpanan suhu ruang

Jam Penyimpanan	Histamin Ikan cakalang dengan ekstrak (ppm)				Histamin Ikan cakalang tanpa ekstrak (ppm)			
	Ulangan 1	Ulangan 2	Ulangan 3	Rata-rata	Ulangan 1	Ulangan 2	Ulangan 3	Rata-rata
0 Jam	0,2	1,4	1,7	1,10	3,3	0	0,1	1,13
3 Jam	2,6	2,8	5,4	3,60	2,4	3,4	3,4	3,07
6 Jam	5,2	7,7	14,1	9	4,6	8,6	17,5	10,23
9 Jam	15,4	13,7	23,5	17,53	155	265,2	188	202,73
12 Jam	431	159	31	207	552,2	349	307,6	402,93

#### Hasil uji histamin pada penyimpanan suhu rendah

Jam Penyimpanan	Histamin Ikan cakalang dengan ekstrak (ppm)				Histamin Ikan cakalang tanpa ekstrak (ppm)			
	Ulangan 1	Ulangan 2	Ulangan 3	Rata-rata	Ulangan 1	Ulangan 2	Ulangan 3	Rata-rata
0 Jam	0,2	1,4	1,7	1,10	3,3	0	0,1	1,13
12 Jam	1,5	2,5	1,4	1,80	0,3	2,3	2,9	1,83
24 Jam	4,3	1,3	6	3,87	15,5	14,4	14,1	14,67
36 Jam	2,9	5,4	8,7	5,67	15,4	15,7	21	17,37
48 Jam	8,5	11,3	21,1	13,63	21	25	39,7	28,57

**Lampiran 6. Hasil uji TPC daging ikan cakalang**

**Hasil uji TPC pada penyimpanan suhu ruang**

Jam Penyimpanan	Hasil uji TPC Ikan cakalang dengan ekstrak				Hasil uji TPC Ikan cakalang tanpa ekstrak			
	Ulangan 1	Ulangan 2	Ulangan 3	Rata-rata	Ulangan 1	Ulangan 2	Ulangan 3	Rata-rata
0 Jam	$1,3 \times 10^3$	$1,2 \times 10^4$	$3,0 \times 10^2$	$4,5 \times 10^3$	$3,1 \times 10^3$	$8,6 \times 10^3$	$5,8 \times 10^3$	$5,8 \times 10^3$
3 Jam	$1,1 \times 10^3$	$5,7 \times 10^3$	$8,0 \times 10^3$	$4,9 \times 10^3$	$9,6 \times 10^3$	$5,2 \times 10^3$	$4,0 \times 10^3$	$6,2 \times 10^3$
6 Jam	$5,0 \times 10^3$	$8,3 \times 10^3$	$1,1 \times 10^4$	$8,1 \times 10^3$	$2,5 \times 10^4$	$1,9 \times 10^4$	$1,5 \times 10^4$	$1,9 \times 10^4$
9 Jam	$1,3 \times 10^4$	$2,0 \times 10^4$	$5,6 \times 10^4$	$2,9 \times 10^4$	$8,2 \times 10^4$	$1,2 \times 10^5$	$8,9 \times 10^4$	$9,7 \times 10^4$
12 Jam	$1,7 \times 10^4$	$1,9 \times 10^4$	$6,2 \times 10^4$	$3,3 \times 10^4$	$9,7 \times 10^4$	$8,5 \times 10^4$	$1,4 \times 10^5$	$1,0 \times 10^5$

**Hasil uji TPC pada penyimpanan suhu rendah**

Jam Penyimpanan	Hasil uji TPC Ikan cakalang dengan ekstrak				Hasil uji TPC Ikan cakalang tanpa ekstrak			
	Ulangan 1	Ulangan 2	Ulangan 3	Rata-rata	Ulangan 1	Ulangan 2	Ulangan 3	Rata-rata
0 Jam	$3,0 \times 10^2$	$1,3 \times 10^3$	$1,2 \times 10^4$	$4,5 \times 10^3$	$3,1 \times 10^3$	$8,6 \times 10^3$	$5,8 \times 10^3$	$5,8 \times 10^3$
12 Jam	$6,3 \times 10^3$	$3,7 \times 10^3$	$5,0 \times 10^3$	$5,0 \times 10^3$	$1,1 \times 10^4$	$1,3 \times 10^4$	$1,5 \times 10^4$	$1,3 \times 10^4$
24 Jam	$5,8 \times 10^3$	$4,6 \times 10^3$	$5,2 \times 10^3$	$5,2 \times 10^3$	$1,4 \times 10^4$	$2,1 \times 10^4$	$1,9 \times 10^4$	$1,8 \times 10^4$
36 Jam	$8,8 \times 10^3$	$1,6 \times 10^4$	$6,1 \times 10^3$	$1,0 \times 10^4$	$2,3 \times 10^4$	$1,8 \times 10^4$	$1,6 \times 10^4$	$1,9 \times 10^4$
48 Jam	$7,8 \times 10^3$	$6,9 \times 10^3$	$2,0 \times 10^4$	$1,1 \times 10^4$	$2,4 \times 10^4$	$1,8 \times 10^4$	$1,9 \times 10^4$	$2,0 \times 10^4$