

## Lampiran 4

ONEWAY pengaruh BY diameter  
/STATISTICS DESCRIPTIVES HOMOGENEITY  
/MISSING ANALYSIS

/POSTHOC=LSD ALPHA(0.05).

## Oneway

### Descriptives

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	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
100%	4	4.25	.957	.479	2.73	5.77	3	5
80%	4	3.75	.957	.479	2.23	5.27	3	5
60%	4	3.00	.816	.408	1.70	4.30	2	4
40%	4	2.25	.957	.479	.73	3.77	1	3
20%	4	.25	.500	.250	-.55	1.05	0	1
0%	4	.00	.000	.000	.00	.00	0	0
Total	24	2.25	1.800	.367	1.49	3.01	0	5

### Test of Homogeneity of Variances

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Levene Statistic	df1	df2	Sig.
2.414	5	18	.077

### ANOVA

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	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	63.500	5	12.700	20.782	.000
Within Groups	11.000	18	.611		
Total	74.500	23			

## Post Hoc Tests

### Multiple Comparisons

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LSD

(I) zona hambat	(J) zona hambat	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
100%	80%	.500	.553	.378	-.66	1.66
	60%	1.250*	.553	.036	.09	2.41
	40%	2.000*	.553	.002	.84	3.16
	20%	4.000*	.553	.000	2.84	5.16
	0%	4.250*	.553	.000	3.09	5.41
80%	100%	-.500	.553	.378	-1.66	.66
	60%	.750	.553	.192	-.41	1.91
	40%	1.500*	.553	.014	.34	2.66
	20%	3.500*	.553	.000	2.34	4.66
	0%	3.750*	.553	.000	2.59	4.91
60%	100%	-1.250*	.553	.036	-2.41	-.09
	80%	-.750	.553	.192	-1.91	.41
	40%	.750	.553	.192	-.41	1.91
	20%	2.750*	.553	.000	1.59	3.91
	0%	3.000*	.553	.000	1.84	4.16
40%	100%	-2.000*	.553	.002	-3.16	-.84
	80%	-1.500*	.553	.014	-2.66	-.34
	60%	-.750	.553	.192	-1.91	.41
	20%	2.000*	.553	.002	.84	3.16
	0%	2.250*	.553	.001	1.09	3.41
20%	100%	-4.000*	.553	.000	-5.16	-2.84
	80%	-3.500*	.553	.000	-4.66	-2.34
	60%	-2.750*	.553	.000	-3.91	-1.59

	40%	-2.000*	.553	.002	-3.16	-.84
	0%	.250	.553	.656	-.91	1.41
0%	100%	-4.250*	.553	.000	-5.41	-3.09
	80%	-3.750*	.553	.000	-4.91	-2.59
	60%	-3.000*	.553	.000	-4.16	-1.84
	40%	-2.250*	.553	.001	-3.41	-1.09
	20%	-.250	.553	.656	-1.41	.91

\*. The mean difference is significant at the 0.05 level.

NPAR TESTS

/K-S (NORMAL) =pengaruh

/MISSING ANALYSIS.

## NPar Tests

### One-Sample Kolmogorov-Smirnov Test

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N		24
Normal Parameters <sup>a</sup>	Mean	2.25
	Std. Deviation	1.800
Most Extreme Differences	Absolute	.203
	Positive	.186
	Negative	-.203
Kolmogorov-Smirnov Z		.996
Asymp. Sig. (2-tailed)		.275
a. Test distribution is Normal.		

$$\begin{aligned}
\text{Jk total} &= [\sum \text{total}^2] - \frac{T^2}{N} \\
&= (0^2+0^2+0^2+0^2+0^2+0^2+0^2+1^2+3^2+2^2+1^2+3^2+4^2+2^2+3^2+3^2+4^2+3^2+5^2+3^2+5^2+3^2 \\
&\quad +4^2+5^2 - \frac{54^2}{24} \\
&= 196 - \frac{2916}{24} \\
&= 74,5
\end{aligned}$$

$$\begin{aligned}
\text{Jkp} &= \left[ \frac{[\sum 0\%]^2}{N 0\%} + \frac{[\sum 20\%]^2}{N 20\%} \right] + \frac{[\sum 40\%]^2}{N 40\%} + \frac{[\sum 60\%]^2}{N 60\%} + \frac{[\sum 80\%]^2}{N 80\%} + \frac{[\sum 100\%]^2}{N 100\%} - \frac{T^2}{N} \\
&= \left[ \frac{[0]^2}{6} + \frac{[1]^2}{6} + \frac{[9]^2}{6} + \frac{[12]^2}{6} + \frac{[15]^2}{6} + \frac{[17]^2}{6} \right] - \frac{2916}{24} \\
&= (0 + 0,16 + 13,5 + 24 + 37,5 + 48,2) - 121,5 \\
&= 123,36 - 121,5 \\
&= 1,86
\end{aligned}$$

$$\begin{aligned}
\text{dbp} &= K - 1 \\
&= 6 - 1 \\
&= 5
\end{aligned}$$

$$\begin{aligned}
\text{dp error/ galat} &= K (n-1) \\
&= 6 \left( \frac{24}{6} - 1 \right) \\
&= 6 \times 3 \\
&= 18
\end{aligned}$$

$$\begin{aligned}
\text{db total} &= n-1 \\
&= 24 - 1 \\
&= 23
\end{aligned}$$

$$\begin{aligned}
\text{Jk error} &= \text{Jkt} - \text{Jkp} \\
&= 74,5 - 1,82 \\
&= 72,68
\end{aligned}$$

$$\begin{aligned}
 K_{tp} &= \frac{J_{kp}}{dbp} \\
 &= \frac{1,82}{5} \\
 &= 0,364
 \end{aligned}$$

$$\begin{aligned}
 \text{KT error/galat} &= \frac{JKE}{dbE} \\
 &= \frac{72,68}{18} \\
 &= 4,037
 \end{aligned}$$

$$\begin{aligned}
 \text{F Hitung} &= \frac{Kt P}{Kt E} \\
 &= \frac{0,364}{4,037} \\
 &= 0,090
 \end{aligned}$$

$$\text{F tabel} = 2,77$$

BNT (Beda Nyata Terkecil)

$$\begin{aligned}
 \text{BNT} &= t_{(\alpha/2 \cdot db \text{ galat})} \cdot \sqrt{\frac{2 \text{KT galat}}{n-1}} \\
 &= k_{0,05/2 (18)} \sqrt{\frac{2 \cdot 4,037}{24-1}} \\
 &= 0,45 \cdot \sqrt{\frac{8,074}{23}} \\
 &= 0,45 \cdot 0,3510 \\
 &= 0,15795
 \end{aligned}$$

jika selisih rata-rata  $< 0,15$  = tidak berbeda

jika selisih rata-rata  $> 0,15$  = ada perbedaan

konsentrasi	rata-rata
0	0
20	0,25
40	2,25
60	3
80	3,75
100	4,25

Notasi perlakuan	Selisih rata-rata antar perlakuan	BNT	Keterangan
0-20	0,25	0,15	Ada
20-40	2	0,15	Ada
40-60	0,75	0,15	Ada
60-80	0,75	0,15	Ada
80-100	0,5	0,15	Ada

Keterangan :

Jkt : Jumlah Kuadrat total

$T^2$  : Jumlah total

N : Banyak keseluruhan

Jkp : Jumlah kuadrat perlakuan

Db : Derajat bebas

Kt : Kuadran tengah