

# PERLAKUAN FISIK

Kode	Ulangan	Br. Segar	Panjang	Lebar	Br. E.P Basah	Br. E.P. Kering	Kdr. Air	Br. Kering	Br. Abu	Kdr. Abu
A1	1	126.50 gr	19.32 cm	5.18 cm	51.07 gr	10.65 gr	79.15%	10 gr	1.16 gr	11.60%
A2	2	159.50 gr	20.34 cm	5.76 cm	62.17 gr	12.39 gr	80.07%	10 gr	1.17 gr	11.70%
A3	3	163.50 gr	20.24 cm	5.97 cm	65.73 gr	12.80 gr	80.52%	10 gr	1.04 gr	10.40%
A4	4	163.50 gr	20.57 cm	6.02 cm	63.99 gr	13.98 gr	78.15%	10 gr	1.05 gr	10.50%
PS1	1	91.18 gr	16.94 cm	4.96 cm	48.78 gr	10.34 gr	78.80%	10 gr	0.96 gr	9.60%
PS2	2	92.10 gr	17.00 cm	5.37 cm	49.48 gr	10.42 gr	78.94%	10 gr	0.91 gr	9.10%
PS3	3	91.47 gr	16.85 cm	5.13 cm	48.43 gr	10.29 gr	78.75%	10 gr	0.88 gr	8.80%
PS4	4	91.79 gr	17.24 cm	5.27 cm	45.56 gr	10.41 gr	77.15%	10 gr	1.01 gr	10.10%
RB1	1	307.01 gr	24.80 cm	7.62 cm	157.15 gr	37.13 gr	76.64%	10 gr	0.80 gr	8.00%
RB2	2	223.50 gr	21.65 cm	7.64 cm	108.10 gr	19.75 gr	81.72%	10 gr	0.78 gr	7.80%
RB3	3	275.00 gr	23.36 cm	7.54 cm	138.79 gr	26.49 gr	80.09%	10 gr	1.24 gr	12.40%
RB4	4	153.50 gr	19.35 cm	6.57 cm	66.45 gr	12.06 gr	81.80%	10 gr	0.84 gr	8.40%
CR1	1	165.50 gr	19.85 cm	6.57 cm	75.36 gr	14.65 gr	80.56%	10 gr	0.75 gr	7.50%
CR2	2	156.50 gr	19.03 cm	6.38 cm	75.36 gr	15.43 gr	79.52%	10 gr	0.90 gr	9.00%
CR3	3	120.50 gr	18.84 cm	5.64 cm	55.36 gr	10.75 gr	80.58%	10 gr	0.85 gr	8.50%
CR4	4	157.50 gr	19.68 cm	6.64 cm	77.49 gr	14.58 gr	81.17%	10 gr	0.84 gr	8.40%

Keterangan:

Kadar air :  $\frac{\text{Berat basah} - \text{berat kering}}{\text{Berat basah}}$

Kadar abu :  $\frac{\text{Berat abu}}{\text{berat kering}}$

Lampiran 2. Data kandungan logam Fe ( $\mu\text{g/g}$ ) dalam ikan mujair di empat desa di sekitar Rawa Pening

Kode	Berat utuh (gram)	Berat basah (gram)	Berat kering (gram)	Berat abu (gram)	Kadar air (%)	Logam Fe (ppm)	Pengenceran	Konsentrasi Logam ( $\mu\text{g/g}$ )		
								d/m brt krg	d/m brt bsh	d/m brt abu
A1	126.50	47.96	10	1.16	79.15	5,4	2	10.68	2.2	92.06
A2	159.50	50.17	10	1.17	80.07	6,4	2	12.68	2.53	108.38
A3	163.50	51.33	10	1.04	80.52	6,0	2	11.88	2.31	114.23
A4	163.50	45.77	10	1.05	78.15	6,1	2	12.08	2.63	115.05
							Average	11.83	2.4175	107.43
							Std	0.83864971	0.197209702	10.66839257
PS1	91.18	47.17	10	0.96	78.8	6,2	2	12.28	2.6	127.92
PS2	92.10	47.48	10	0.91	78.94	6,6	2	13.08	2.75	143.74
PS3	91.47	47.06	10	0.88	78.75	6,9	2	13.68	2.9	155.45
PS4	91.79	43.76	10	1.01	77.15	6,8	2	13.48	3.08	133.46
							Average	13.13	2.8325	140.1425
							Std	0.61913919	0.205487226	12.12857336
RB1	307.01	42.81	10	0.8	76.64	6,1	2	12.08	2.82	151
RB2	223.50	54.7	10	0.78	81.72	5,1	2	10.08	1.84	129.23
RB3	275.00	50.23	10	1.24	80.09	5,6	2	11.08	2.2	89.35
RB4	153.50	54.94	10	0.84	81.8	6,3	2	12.48	2.27	148.57
							Average	11.43	2.2825	129.5375
							Std	1.07548439	0.404835357	28.50733634
CR1	165.50	51.44	10	0.75	80.56	4,7	2	9.28	1.8	123.73
CR2	156.50	48.83	10	0.9	79.72	4,1	2	8.08	1.65	89.73
CR3	120.50	51.49	10	0.85	80.8	4,4	2	8.68	1.68	102.12
CR4	157.50	53.11	10	0.84	81.17	4,8	2	9.48	1.78	112.85
							Average	8.88	1.7275	107.1075
							Std	0.63245553	0.073654599	14.56178189

Lampiran 3. Data kandungan Zn ( $\mu\text{g/g}$ ) dalam ikan mujair di empat desa di sekitar Rawa Pening

Kode	Berat utuh (gram)	Berat basah (gram)	Berat kering (gram)	Berat abu (gram)	Kadar air (%)	Logam Zn	Pengenceran	Konsentrasi Logam ( $\mu\text{g/g}$ )		
								dlm brt krg	dlm brt bsh	dlm brt abu
A1	126.50	47.96	10	1.16	79.15	1.2	40	48	10	413.79
A2	159.50	50.17	10	1.17	80.07	1.3	40	52	10.36	444.44
A3	163.50	51.33	10	1.04	80.52	1.1	40	44	8.57	423.07
A4	163.50	45.77	10	1.05	78.15	1.1	40	44	9.61	419.05
							average	47	9.635	425.0875
							std	3.82970843	0.77323994	13.4495908
PS1	91.18	47.17	10	0.96	78.8	1.8	40	72	15.26	750
PS2	92.10	47.48	10	0.91	78.94	1.7	40	68	14.32	747.25
PS3	91.47	47.06	10	0.88	78.75	1.7	40	68	14.44	772.73
PS4	91.79	43.76	10	1.01	77.15	1.7	40	68	15.54	673.27
							average	69	14.89	735.8125
							std	2	0.60188592	43.2302659
RB1	307.01	42.81	10	0.8	76.64	1.6	40	64	14.95	800
RB2	223.50	54.7	10	0.78	81.72	1.4	40	56	10.24	717
RB3	275.00	50.23	10	1.24	80.09	1.2	40	48	9.56	387.09
RB4	153.50	54.94	10	0.84	81.8	1.4	40	56	10.19	666.66
							average	56	11.235	642.6875
							std	6.53197265	2.49592334	179.04779
CR1	165.50	51.44	10	0.75	80.56	1.4	40	56	10.89	746.66
CR2	156.50	48.83	10	0.9	79.52	1.4	40	56	11.47	622.22
CR3	120.50	51.49	10	0.85	80.58	1.5	40	60	11.65	765.88
CR4	157.50	53.11	10	0.84	81.17	1.6	40	64	12.05	761.9
							average	59	11.515	724.165
							std	3.82970843	0.48204426	68.4662435

Lampiran 4. Data kandungan logam Cu ( $\mu\text{g/g}$ ) pada ikan mujair di empat desa di sekitar Rawa Pening

Kode	Berat utuh (gram)	Berat basah (gram)	Berat kering (gram)	Berat abu (gram)	Kadar air (%)	Logam Cu (ppm)	Pengenceran	Konsentrasi Logam ( $\mu\text{g/g}$ )		
								d/m brt krg	d/m brt bsh	d/m brt abu
A1	126.50	47.96	10	1.16	79.15	0.21	1	0.21	0.04	1.18
A2	159.50	50.17	10	1.17	80.07	0.2	1	0.2	0.04	0.195
A3	163.50	51.33	10	1.04	80.52	0.21	1	0.21	0.04	2.02
A4	163.50	45.77	10	1.05	78.15	0.41	1	0.41	0.09	3.9
							average	0.2575	0.0525	1.8275
							std	0.101775898	0.025	1.572319809
PS1	91.18	47.17	10	0.96	78.8	0.27	1	0.26	0.06	2.81
PS2	92.10	47.48	10	0.91	78.94	0.24	1	0.24	0.05	2.64
PS3	91.47	47.06	10	0.88	78.75	0.21	1	0.21	0.04	2.39
PS4	91.79	43.76	10	1.01	77.15	0.31	1	0.31	0.07	3.07
							average	0.255	0.055	2.7275
							std	0.042031734	0.012909944	0.286167201
RB1	307.01	42.81	10	0.8	76.64	0.33	1	0.33	0.08	4.125
RB2	223.50	54.7	10	0.78	81.72	0.4	1	0.4	0.07	3.225
RB3	275.00	50.23	10	1.24	80.09	0.43	1	0.43	0.08	3.47
RB4	153.50	54.94	10	0.84	81.8	0.29	1	0.29	0.05	3.45
							average	0.3625	0.07	3.5675
							std	0.063966137	0.014142136	0.387911072
CR1	165.50	51.44	10	0.75	80.56	0.19	1	0.19	0.04	2.53
CR2	156.50	48.83	10	0.9	79.52	0.14	1	0.14	0.03	1.55
CR3	120.50	51.49	10	0.85	80.58	0.18	1	0.18	0.03	2.12
CR4	157.50	53.11	10	0.84	81.17	0.24	1	0.24	0.04	2.86
							average	0.1875	0.035	2.265
							std	0.041129876	0.005773503	0.564653286

Lampiran 5. Hasil One Way Anova Logam Fe pada ikan mujair di empat desa di sekitar Rawa Peñing

Oneway

ANOVA

KADAR_FE					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	38.003	3	12.669	19.172	.000
Within Groups	7.937	12	.661		
Total	45.937	15			

Post Hoc Tests

Homogeneous Subsets

KADAR_FE				
Duncan <sup>a</sup>				
LOKASI	N	Subset for alpha = .05		
		1	2	3
Candorejo	4	8.8800		
Rowoboni	4		11.4300	
Asinan	4		11.8300	
Pojoksari	4			13.1300
Sig.		1.000	.500	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4.000.

# Hasil oneway anova kandungan logam Fe

## Oneway

### ANOVA

KDR\_FE

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.498	3	.833	13.300	.000
Within Groups	.751	12	6.261E-02		
Total	3.249	15			

## Post Hoc Tests

### Homogeneous Subsets

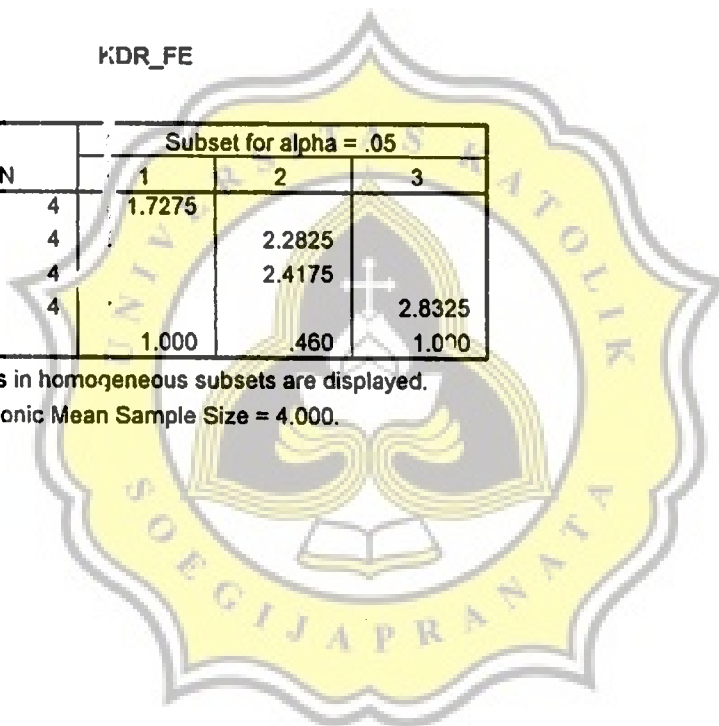
KDR\_FE

Duncan<sup>a</sup>

LOKASI	N	Subset for alpha = .05		
		1	2	3
candirejo	4	1.7275		
rowoboni	4		2.2825	
asinan	4		2.4175	
pojoksari	4			2.8325
Sig.		1.000	.460	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4.000.



**Lampiran 6. Hasil One Way Anova Logam Zn pada ikan mujair di empat desa di sekitar Rawa Pening**

**Oneway**

**ANOVA**

KADAR\_ZN

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	987.000	3	329.000	17.316	
Within Groups	228.000	12	19.000		
Total	1215.000	15			

**Post Hoc Tests**

**Homogeneous Subsets**

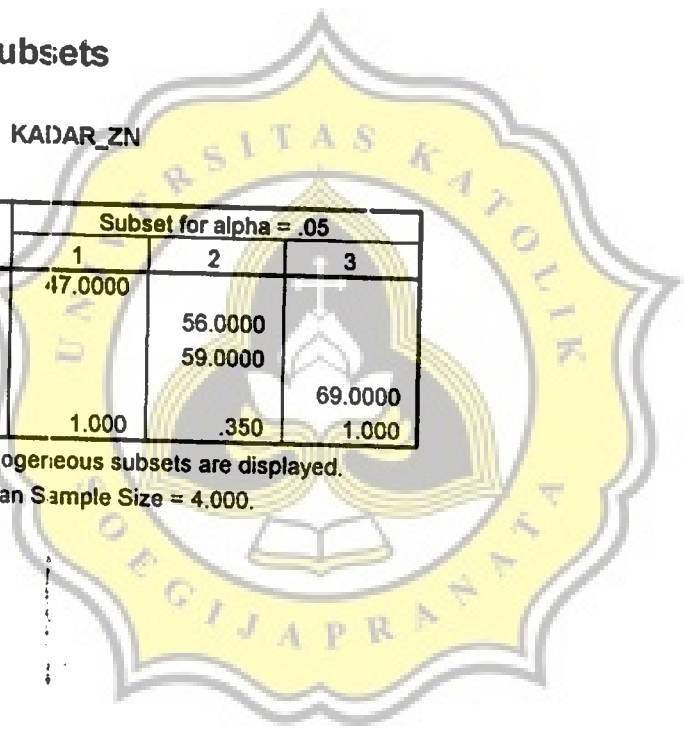
KADAR\_ZN

Duncan<sup>a</sup>

LOKASI	N	Subset for alpha = .05		
		1	2	3
Asinan	4	47.0000		
Rowoboni	4		56.0000	
Candorejo	4		59.0000	
Pojoksari	4			69.0000
Sig.		1.000	.350	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4.000.



# Hasil uji way anova kandungan logam Zn

## One-way

### ANOVA

KDR\_ZN

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	58.537	3	19.512	10.516	.001
Within Groups	22.266	12	1.856		
Total	80.804	15			

## Post Hoc Tests

### Homogeneous Subsets

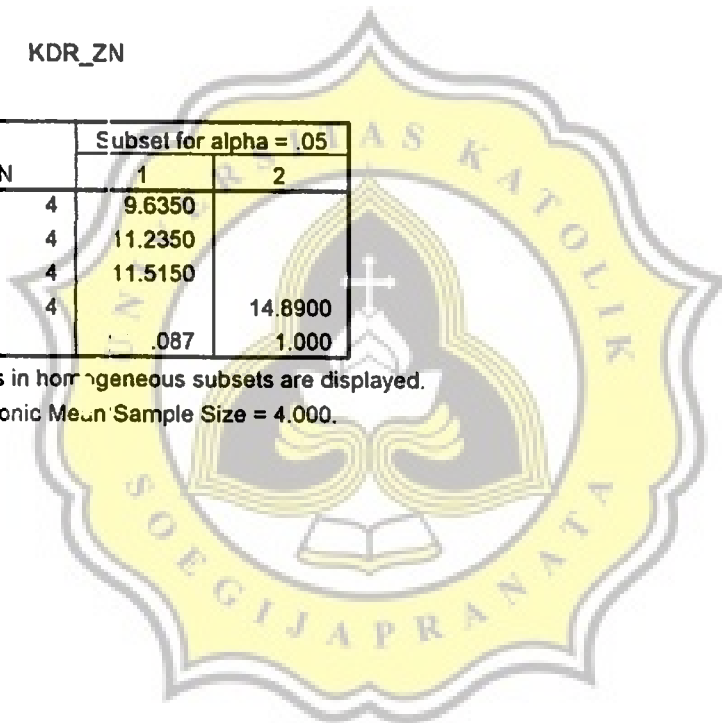
KDR\_ZN

Duncan<sup>a</sup>

LOKASI	N	Subset for alpha = .05	
		1	2
asinan	4	9.6350	
rowoboni	4	11.2350	
candirejo	4	11.5150	
pojoksari	4		14.8900
Sig.		.087	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4.000.





Lampiran 7. Hasil One Way Anova Logam Cu pada ikan mujair di empat desa di sekitar Rawa Pening

Oneway

ANOVA

KADAR\_CU

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.267E-02	3	2.089E-02	4.666	.022
Within Groups	5.372E-02	12	4.477E-03		
Total	.110	15			

Post Hoc Tests

Homogeneous Subsets

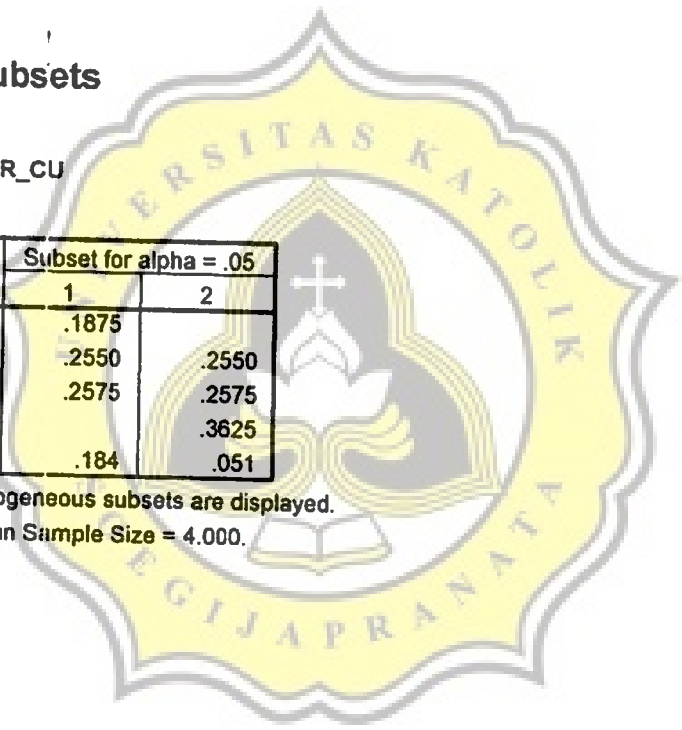
KADAR\_CU

Duncan<sup>a</sup>

LOKASI	N	Subset for alpha = .05	
		1	2
Candorejo	4	.1875	
Pojoksari	4	.2550	.2550
Asinan	4	.2575	.2575
Rowoboni	4		.3625
Sig.		.184	.051

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4.000.



# Hasil oneway anova kandungan logam Cu

## Oneway

### ANOVA

KDR\_CU

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.469E-03	3	8.229E-04	3.211	.062
Within Groups	3.075E-03	12	2.563E-04		
Total	5.544E-03	15			

## Post Hoc Tests

### Homogeneous Subsets

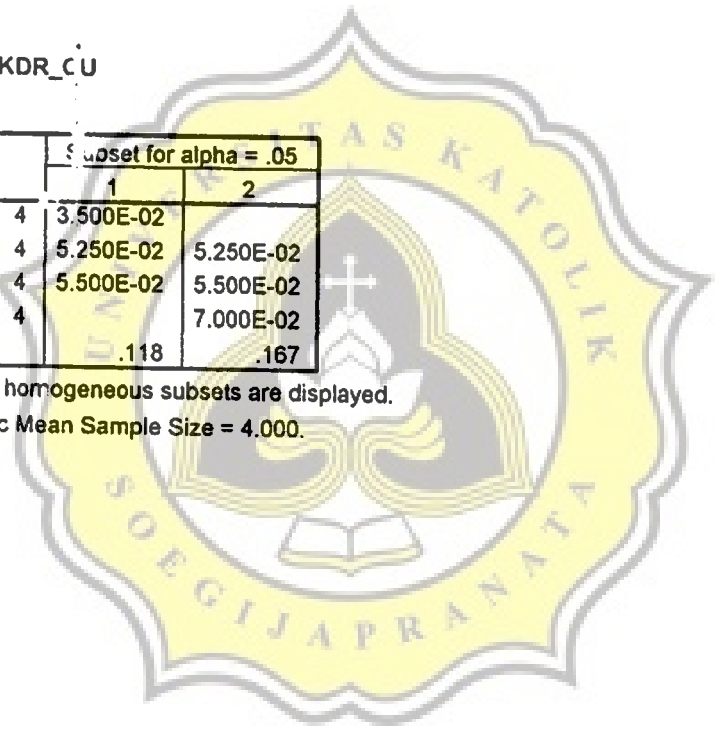
KDR\_CU

Duncan<sup>a</sup>

LOKASI	N	Subset for alpha = .05	
		1	2
ca.direjo	4	3.500E-02	
asinan	4	5.250E-02	5.250E-02
pojoksari	4	5.500E-02	5.500E-02
rowoboni	4		7.000E-02
Sig.		.118	.167

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4.000.



Lampiran 8. Data tingkat asupan logam-logam beracun (mg/orang/minggu) pada ikan mujair di empat desa di sekitar Rawa Pening

Lokasi	Umur	Tingkat Konsumsi (g / hari)	Tingkat Konsumsi (g / minggu)	Konsentrasi logam ikan mujahir segar ( $\mu\text{g} / \text{g}$ )			Asupan logam (mg/orang/minggu)		
				Fe	Zn	Cu	Fe	Zn	Cu
Asinan	Balita	24.04	168.28				0.41	1.62	0.0084
	Anak-anak	39.45	276.15	2.42	0.65	0.05	0.67	2.66	0.0138
	Remaja	31.61	221.27				0.54	2.14	0.0111
	Dewasa	33.78	236.46				0.57	2.28	0.0118
Pojoksari	Balita	40.72	285.04				0.81	4.24	0.0143
	Anak-anak	26.83	187.81	2.83	14.89	0.05	0.53	2.80	0.0094
	Remaja	42.13	294.91				0.83	4.39	0.0147
	Dewasa	37.91	265.37				0.75	3.95	0.0133
Rowoboni	Balita	67.84	474.88				1.08	5.33	0.0332
	Anak-anak	48.65	340.55	2.28	11.23	0.07	0.78	3.82	0.0238
	Remaja	42.59	298.13				0.68	3.35	0.0209
	Dewasa	56.82	397.74				0.91	4.47	0.0278
Candirejo	Balita	47.15	330.05				0.57	3.80	0.0132
	Anak-anak	51	357	1.73	11.51	0.04	0.62	4.11	0.0143
	Remaja	55.08	385.56				0.67	4.44	0.0154
	Dewasa	75.49	528.43				0.91	6.08	0.0211

Asupan logam = (tingkat konsumsi (g/hari) x konsentrasi logam ( $\mu\text{g/g}$ )) / 1000

Lampiran 9. Risiko keamanan logam Zn dan batas tertinggi konsumsi ikan mujair oleh masyarakat di empat desa di sekitar Rawa Pening

Logam	Desa	Tingkat Umur	Tingkat Konsumsi (g/orang/minggu)	Asupan Zn (mg/orang/minggu)	ULSR Pria	ULSR Wanita	HQ Pria	HQ Wanita	MCL Pria (kg/org/minggu)	MCL Wnt (kg/org/minggu)
Zn	Asinan	Balita	168.28	1.623902	161	161	0.0100863	0.0100863	16.68393782	16.68393782
		Anak-anak	276.15	2.6648475	196	196	0.0135962	0.0135962	20.31088083	20.31088083
		Remaja	221.27	2.1352555	280	252	0.0076259	0.0084732	29.01554404	26.11398964
		Dewasa	236.46	2.281839	315	245	0.0072439	0.0093136	32.64248705	25.38860104
	Pojoksari	Balita	285.04	4.2442456	161	161	0.0263618	0.0263618	10.81262592	10.81262592
		Anak-anak	187.81	2.7964909	196	196	0.0142678	0.0142678	13.16319678	13.16319678
		Remaja	294.91	4.3912099	280	252	0.0156829	0.0174254	18.80456682	16.92411014
		Dewasa	265.37	3.9513593	315	245	0.0125440	0.0161280	21.15513768	16.45399597
	Rowoboni	Balita	474.88	5.3329024	161	161	0.0331236	0.0331236	14.3365984	14.3365984
		Anak-anak	340.55	3.8243765	196	196	0.0195121	0.0195121	17.45325022	17.45325022
		Remaja	298.13	3.3479999	280	252	0.0119571	0.0132857	24.9332146	22.43989314
		Dewasa	397.74	4.4666202	315	245	0.0141797	0.0182311	28.04986643	21.81656278
	Candirejo	Balita	330.05	3.7988755	161	161	0.0235955	0.0235955	13.98783666	13.98783666
		Anak-anak	357	4.10907	196	196	0.0209646	0.0209646	17.02867072	17.02867072
		Remaja	385.56	4.4377956	280	252	0.0158493	0.0176103	24.32667246	21.89400521
		Dewasa	528.43	6.0822293	315	245	0.0193087	0.0248254	27.36750652	21.2858384

Keterangan :

ULSR : *upper limit of safe range* (mg/orang/minggu)

HQ : *Hazard Quotient*

MCL : *Maximum Consumption Level* (kg/orang/minggu)

HQ = Asupan logam (mg/orang/minggu) / ULSR (mg/orang/minggu)

MCL = Tingkat konsumsi (g/orang/minggu) / HQ

Lampiran 10. Risiko keamanan logam Cu dan batas tertinggi konsumsi ikan mujair oleh masyarakat di empat desa di sekitar Rawa Pening

Logam	Desa	Tingkat Umur	Tingkat Konsumsi (g/orang/minggu)	Asupan Cu (mg/orang/minggu)	ULSR Pria	ULSR Wanita	HQ Pria	HQ Wanita	MCL Pria (kg/org/minggu)	MCL Wnt (kg/org/minggu)
Cu	Asinan	Balita	168.28	0.008414	161	161	0.0008013	0.0008013	210	210
		Anak-anak	276.15	0.0138075	196	196	0.0006575	0.0006575	420	420
		Remaja	221.27	0.0110635	280	252	0.0001976	0.0001976	1120	1120
		Dewasa	236.46	0.011823	315	245	0.0001408	0.0001689	1680	1400
	Pojoksari	Balita	285.04	0.014252	161	161	0.0013573	0.0013573	210	210
		Anak-anak	187.81	0.0093905	196	196	0.0004472	0.0004472	420	420
		Remaja	294.91	0.0147455	280	252	0.0002633	0.0002633	1120	1120
		Dewasa	265.37	0.0132685	315	245	0.000158	0.0001896	1680	1400
	Rowoboni	Balita	474.88	0.0332416	161	161	0.0031659	0.0031659	150	150
		Anak-anak	340.55	0.0238385	196	196	0.0011352	0.0011352	300	300
		Remaja	298.13	0.0208691	280	252	0.0003727	0.0003727	800	800
		Dewasa	397.74	0.0278418	315	245	0.0003315	0.0003977	1200	1000
	Candirejo	Balita	330.05	0.013202	161	161	0.0012573	0.0012573	262.5	262.5
		Anak-anak	357	0.01428	196	196	0.00068	0.00068	525	525
		Remaja	385.56	0.0154224	280	252	0.0002754	0.0002754	1400	1400
		Dewasa	528.43	0.0211372	315	245	0.0002516	0.000302	2100	1750

Keterangan :

ULSR : *upper limit of safe range* (mg/orang/minggu)

HQ : *Hazard Quotient*

MCL : *Maximum Consumption Level* (kg/orang/minggu)

$HQ = \text{Asupan logam (mg/orang/minggu)} / \text{ULSR (mg/orang/minggu)}$

$MCL = \text{Tingkat konsumsi (g/orang/minggu)} / HQ$