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LAMPIRAN

Lampiran 1. Rata-rata Laju Konsumsi Oksigen dan Konsumsi Pakan Alami Larva bandeng (*C. chanos*) yang diberikan pakan jenis *B. plicatilis* dengan Kepadatan yang Berbeda

Perlakuan (ind/mL)	LKO ($\mu\text{L O}_2/\text{mg BB}/\text{jam}$)	Konsumsi Pakan alami (%)
A1	32,25	99,0
A2	31,00	100,0
A3	31,89	97,0
Rata-rata \pm SD	31,71 \pm 0,6	98,67 \pm 1,53
B1	26,17	99,0
B2	26,93	99,0
B3	27,10	100,0
Rata-rata \pm SD	26,73 \pm 0,5	99,33 \pm 0,58
C1	31,17	100,0
C2	30,20	99,0
C3	30,93	100,0
Rata-rata \pm SD	30,77 \pm 0,5	99,67 \pm 0,58

Lampiran 2. Hasil Analisis Ragam (Anova) Laju konsumsi Oksigen Larva bandeng (*C. chanos*) yang diberikan Pakan Jenis *B. plicatilis* dengan Kepadatan yang Berbeda

	JK	db	KT	F _{Hitung}	F _{Tabel}
Perlakuan	41.964	2	20.982	68.832**	.000
Galat	1.829	6	.305		
Total	43.793	8			

Keterangan: **berpengaruh sangat nyata ($P < 0,01$)

Lampiran 3. Hasil Uji Lanjut (W-Tuckey) Laju konsumsi Oksigen Larva bandeng (*C. chanos*) yang diberikan Pakan Jenis *B. plicatilis* dengan Kepadatan yang Berbeda

Variabel Tak Bebas	(I) Kepadatan	(J) Kepadatan	Selisih (I-J)	SD	F _{Tabel}	Tingkat Kepercayaan 95% Batas Bawah Batas Atas	
Laju Konsumsi Oksigen	25	50	4.98000*	.45080	.000	3.5968	6.3632
		75	.94667	.45080	.170	-.4365	2.3299
	50	25	-4.98000*	.45080	.000	-6.3632	-3.5968
		75	-4.03333*	.45080	.000	-5.4165	-2.6501
	75	25	-.94667	.45080	.170	-2.3299	.4365
		50	4.03333*	.45080	.000	2.6501	5.4165

Keterangan: * berpengaruh nyata ($P < 0,05$)

Laju Konsumsi Oksigen			
Kepadatan	N	Subset for alpha = 0.05	
		1	2
75	3	26.7333	
50	3		30.7667
25	3		31.7133
Sig.		1.000	.170

Lampiran 4. Hasil analisis ragam (Anova) konsumsi pakan larva bandeng (*C. chanos*) yang diberikan pakan jenis *B. plicatilis* dengan kepadatan yang berbeda

	JK	db	KT	F _{Hitung}	F _{Tabel}
Perlakuan	1,556	2	,778	,778	,501
Galat	6,000	6	1,000		
Total	7,556	8			

Keterangan: tidak berpengaruh nyata ($P > 0,05$)

Lampiran 5. Perbandingan jumlah sisa pakan alami pada SRC dan Image J

Pakan Alami	Sisa Jumlah Pakan Alami		
	SRC	IMAGEJ	
		Count	Area
<i>B. plicatilis</i>	1	2	0.145 29.878 26.375 0.132
	1	2	22.263
	1	1	20.915
	1	1	13.746
	1	1	19.115
	1	1	35.972
	2	2	21.097

Lampiran 6. Rata-rata Pertumbuhan Bobot Harian Larva bandeng (*C. chanos*) yang diberikan Pakan Jenis *B. plicatilis* dengan Kepadatan yang Berbeda

Perlakuan (ind/mL)	Bobot Basah (mg)						
	D1	D2	D3	D4	D5	D6	D7
A1	19,0	31,0	20,0	34,0	71,0	51,0	54,0
A2	25,0	26,0	17,0	61,0	51,0	59,0	50,0
A3	22,0	14,0	69,0	28,0	16,0	30,0	60,0
Rata-rata ± SD	22,0 ± 3,0	23,7 ± 8,7	35,3 ± 29,2	41,0 ± 17,6	46,0 ± 27,8	46,7 ± 15,0	54,7 ± 5,0
B1	20,0	25,0	28,0	50,0	60,0	38,0	42,0
B2	23,0	20,0	43,0	30,0	21,0	71,0	72,0
B3	4,0	5,0	20,0	16,0	30,0	57,0	73,0
Rata-rata ± SD	15,7 ± 10,2	16,7 ± 10,4	30,3 ± 11,7	32,0 ± 17,1	37,0 ± 20,4	55,3 ± 16,6	62,3 ± 17,6
C1	6,0	37,0	25,0	17,0	17,0	37,0	10,0
C2	10,0	11,0	17,0	39,0	10,0	21,0	55,0
C3	22,0	12,0	26,0	16,0	53,0	30,0	66,0
Rata-rata ± SD	12,7 ± 8,3	20,0 ± 14,7	22,7 ± 4,9	24,0 ± 13,0	26,7 ± 23,1	29,3 ± 8,0	43,7 ± 29,7

Lampiran 7. Rata-rata Pertumbuhan Bobot mutlak dan laju pertumbuhan spesifik Larva bandeng (*C. chanos*) yang diberikan Pakan Jenis *B. plicatilis* dengan Kepadatan yang Berbeda

Perlakuan (ind/mL)	W ₀ (mg)	W _t (mg)	W (mg)	SGR (%/hari)
A1	1,0	54,0	53,0	56,99
A2	1,8	50,0	48,2	47,49
A3	1,8	60,0	58,0	48,59
Rata-rata ± SD			53,07 ± 4,90	51,02 ± 5,19
B1	1,3	50,0	48,7	52,14
B2	1,6	68,0	66,4	53,56
B3	1,8	69,0	67,2	52,09
Rata-rata ± SD			60,77 ± 10,46	52,60 ± 0,84
C1	1,2	37,0	35,8	28,59
C2	1,7	21,0	19,3	17,90
C3	1,8	30,0	28,2	28,78
Rata-rata ± SD			27,77 ± 8,26	25,09 ± 6,23

Lampiran 8. Rata-Rata Bobot Larva bandeng (*C. chanos*) yang diberikan Pakan Jenis *B. plicatilis* dengan Kepadatan yang Berbeda

Perlakuan (ind/mL)	Bobot (mg)
A1	40,0
A2	45,3
A3	41,8
Rata-rata ± SD	
42,38 ± 2,71	
B1	37,6
B2	40,0
B3	39,2
Rata-rata ± SD	
38,92 ± 1,24	
C1	26,6
C2	25,5
C3	34,8
Rata-rata ± SD	
28,98 ± 5,10	

Lampiran 9. Hasil Analisis Ragam (Anova) Pertumbuhan Bobot Larva bandeng (*C. chanos*) yang diberikan Pakan Jenis *B. plicatilis* dengan Kepadatan yang Berbeda

		JK	db	KT	F _{Hitung}	F _{Tabel}
Pertumbuhan Spesifik	Perlakuan	1431.630	2	715.815	32.302**	,001
	Galat	132.962	6	22.160		
	Total	1564.592	8			
Pertumbuhan Mutlak	Perlakuan	1939.282	2	969.641	16.541**	,004
	Galat	351.733	6	58.622		
	Total	2291.016	8			

Keterangan:** berpengaruh sangat nyata (P<0,01)

Lampiran 10. Uji Lanjut (W-Tuckey) Pertumbuhan Bobot Larva bandeng (*C. chanos*) yang diberikan Pakan Jenis *B. plicatilis* dengan Kepadatan yang Berbeda

Variabel Tak Bebas	(I) Kepadatan	(J) Kepadatan	Selisih (I-J)	SD	F _{Tabel}	Tingkat Kepercayaan 95%	
						Batas Bawah	Batas Atas
Pertumbuhan Spesifik	25	50	-1.57333	3.84364	.913	-13.3667	10.2200
		75	25.93333*	3.84364	.001	14.1400	37.7267
	50	25	1.57333	3.84364	.913	-10.2200	13.3667
		75	27.50667*	3.84364	.001	15.7133	39.3000
	75	25	-25.93333*	3.84364	.001	-37.7267	-14.1400
		50	-27.50667*	3.84364	.001	-39.3000	-15.7133
Pertumbuhan Mutlak	25	50	-7.70000	6.25152	.479	-26.8814	11.4814
		75	26.56667*	6.25152	.013	7.3853	45.7480
	50	25	7.70000	6.25152	.479	-11.4814	26.8814
		75	34.26667*	6.25152	.004	15.0853	53.4480
	75	25	-26.56667*	6.25152	.013	-45.7480	-7.3853
		50	-34.26667*	6.25152	.004	-53.4480	-15.0853

Keterangan: * berpengaruh nyata (P<0,05)

Pertumbuhan Bobot Spesifik			
Kepadatan	N	Subset for alpha = 0.05	
		1	2
75	3	25.0900	
50	3		51.0233
25	3		52.5967
Sig.		1.000	.913

Pertumbuhan Bobot Mutlak			
Kepadatan	N	Subset for alpha = 0.05	
		1	2
75	3	26.5000	
25	3		53.0667
50	3		60.7667
Sig.		1.000	.479

Lampiran 11. Rata-rata Pertumbuhan Panjang Harian Larva bandeng (*C. chanos*) yang diberikan Pakan Jenis *B. plicatilis* dengan Kepadatan yang Berbeda

Kepadatan (ind/mL)	Panjang (mm)						
	D1	D2	D3	D4	D5	D6	D7
A1	0,359	0,490	0,465	0,455	0,502	0,513	0,518
A2	0,356	0,488	0,447	0,517	0,428	0,539	0,515
A3	0,356	0,399	0,484	0,433	0,424	0,421	0,519
Rata-rata ± SD	0,357 ± 0,002	0,459 ± 0,052	0,465 ± 0,019	0,468 ± 0,043	0,451 ± 0,044	0,491 ± 0,062	0,517 ± 0,002
B1	0,375	0,485	0,480	0,485	0,522	0,459	0,464
B2	0,404	0,483	0,503	0,478	0,391	0,491	0,471
B3	0,400	0,415	0,417	0,449	0,507	0,481	0,505
Rata-rata ± SD	0,393 ± 0,016	0,461 ± 0,040	0,467 ± 0,045	0,471 ± 0,019	0,473 ± 0,072	0,477 ± 0,017	0,480 ± 0,022
C1	0,409	0,480	0,495	0,479	0,508	0,526	0,492
C2	0,416	0,427	0,397	0,494	0,452	0,470	0,501
C3	0,423	0,460	0,508	0,471	0,517	0,528	0,548
Rata-rata ± SD	0,416 ± 0,007	0,456 ± 0,027	0,466 ± 0,061	0,481 ± 0,012	0,492 ± 0,035	0,508 ± 0,033	0,514 ± 0,030

Lampiran 12. Rata-rata Pertumbuhan Panjang Mutlak dan Spesifik Larva bandeng (*C. chanos*) yang diberikan Pakan Jenis *B. plicatilis* dengan Kepadatan yang Berbeda

Perlakuan (ind/mL)	L ₀ (mm)	L _t (mm)	L (mm)	SLR (%/hari)
A1	0,354	0,518	0,164	5,43
A2	0,362	0,515	0,153	5,05
A3	0,355	0,519	0,164	5,43
Rata-rata ± SD			0,160 ± 0,01	5,30 ± 0,22
B1	0,359	0,464	0,105	3,65
B2	0,367	0,471	0,104	3,55
B3	0,362	0,505	0,143	4,75
Rata-rata ± SD			0,117 ± 0,02	3,99 ± 0,66
C1	0,382	0,492	0,110	3,62
C2	0,363	0,501	0,138	4,61
C3	0,381	0,548	0,167	5,19
Rata-rata ± SD			0,139 ± 0,03	4,48 ± 0,79

Lampiran 13. Rata-rata Panjang Larva bandeng (*C. chanos*) yang diberikan Pakan Jenis *B. plicatilis* dengan Kepadatan yang Berbeda

Perlakuan (ind/mL)	Panjang (mm)
A1	0,472
A2	0,470
A3	0,465
Rata-rata ± SD	0,469 ± 0,00
B1	0,467
B2	0,472
B3	0,473
Rata-rata ± SD	0,471 ± 0,00
C1	0,483
C2	0,471
C3	0,484
Rata-rata ± SD	0,479 ± 0,01

Lampiran 14. Hasil Analisis Ragam (Anova) Pertumbuhan Panjang Larva bandeng (*C. chanos*) yang diberikan Pakan Jenis *B. plicatilis* dengan Kepadatan yang Berbeda

		JK	db	KT	F _{Hitung}	F _{Tabel}
Pertumbuhan Mutlak	Perlakuan	,003	2	,001	3,089 ^a	,120
	Galat	,003	6	,000		
	Total	,005	8			
Pertumbuhan Spesifik	Perlakuan	2,671	2	1,336	3,572 ^a	,095
	Galat	2,243	6	,374		
	Total	4,915	8			

Keterangan: huruf yang sama tidak berpengaruh nyata ($P > 0,05$)

Lampiran 15. Rata-rata Sintasan Harian Larva bandeng (*C. chanos*) yang diberikan Pakan Jenis *B. plicatilis* dengan Kepadatan Berbeda

Perlakuan (ind/mL)	Sintasan (%)						
	D1	D2	D3	D4	D5	D6	D7
A1	100,0	97,5	95,8	87,5	75,4	2,1	0,0
A2	100,0	96,7	95,0	90,0	77,5	6,7	0,8
A3	100,0	97,5	95,4	91,7	78,8	6,7	0,4
Rata-rata ± SD	100 ± 0,00	97,2 ± 0,48	95,4 ± 0,42	89,7 ± 2,10	77,2 ± 1,68	5,1 ± 2,65	0,4 ± 0,42
B1	100,0	97,9	97,1	85,4	75,8	2,9	1,7
B2	100,0	98,3	96,7	88,8	79,2	1,7	0,8
B3	100,0	98,3	97,5	89,2	80,4	1,7	1,7
Rata-rata ± SD	100,0 ± 0,00	98,2 ± 0,24	97,1 ± 0,42	87,8 ± 2,06	78,5 ± 2,37	2,1 ± 0,72	1,4 ± 0,48
C1	100,0	96,7	95,0	93,8	77,1	3,3	2,1
C2	100,0	97,5	95,8	93,3	79,2	5,8	1,3
C3	100,0	97,1	95,4	93,3	80,4	8,8	0,4
Rata-rata ± SD	100,0 ± 0,00	97,1 ± 0,42	95,4 ± 0,42	93,5 ± 0,24	78,9 ± 1,68	6,0 ± 2,71	1,3 ± 0,83

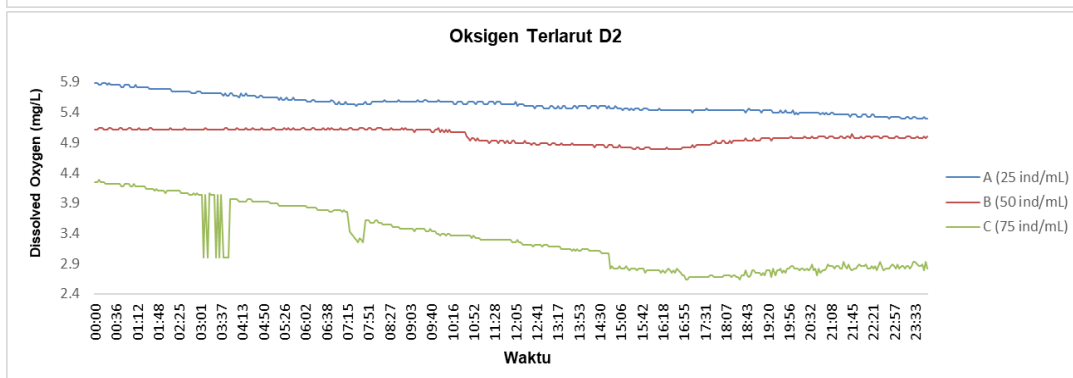
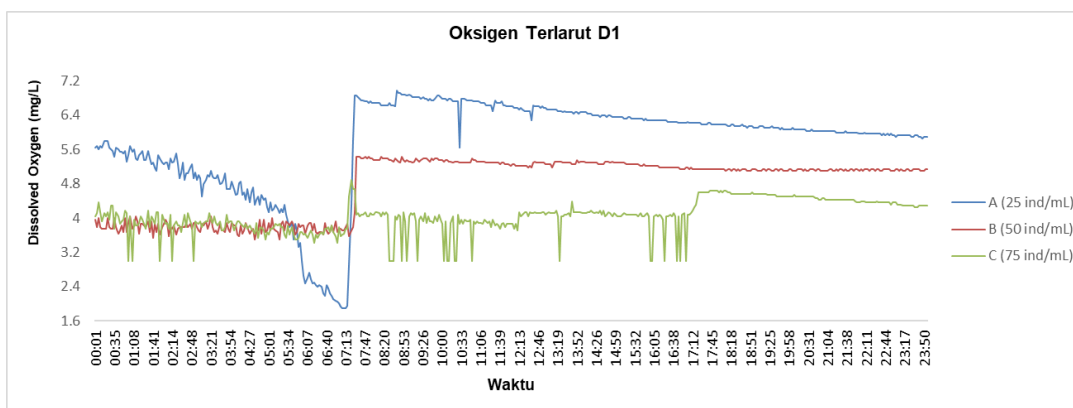
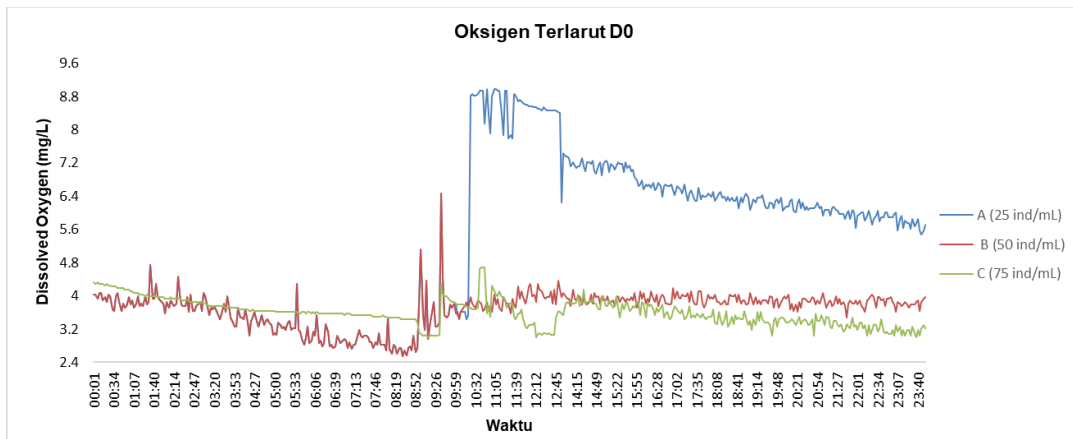
Lampiran 16. Rata-Rata Sintasan Larva bandeng (*C. chanos*) yang diberikan Pakan Jenis *B. plicatilis* dengan Kepadatan yang Berbeda

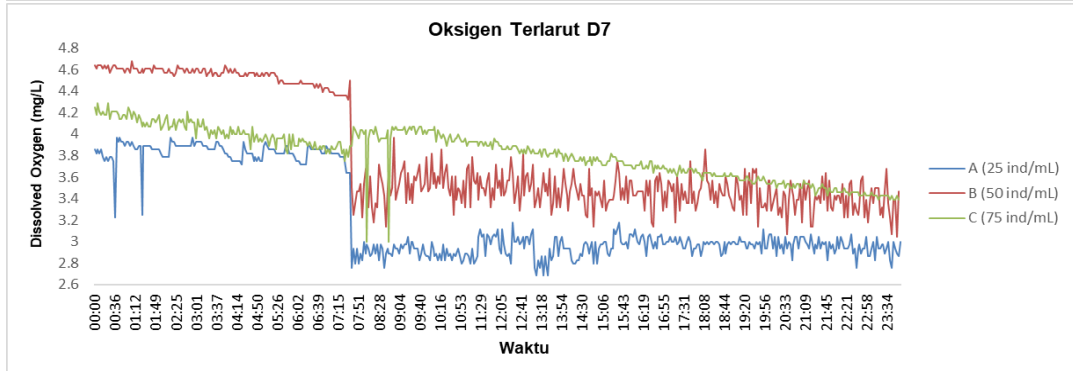
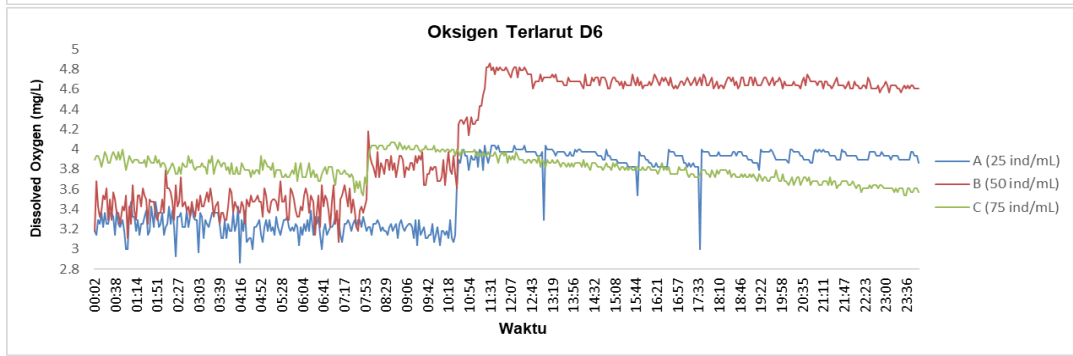
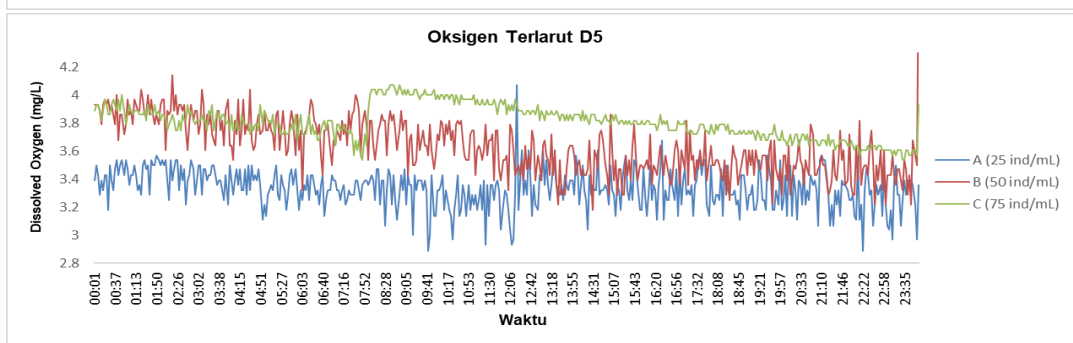
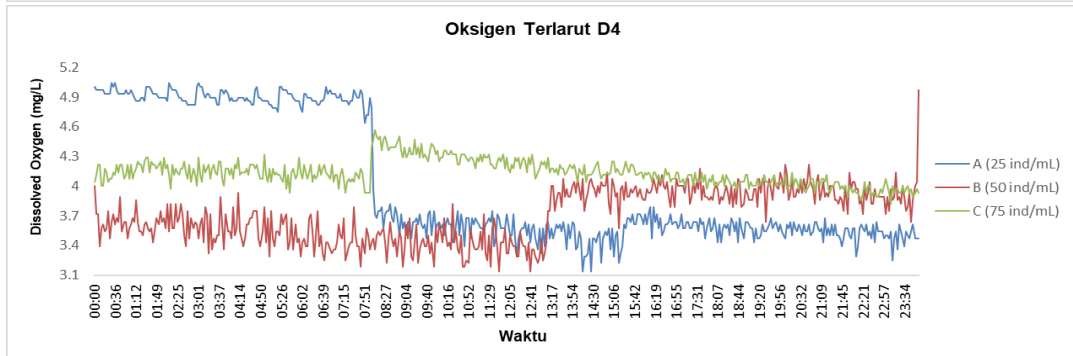
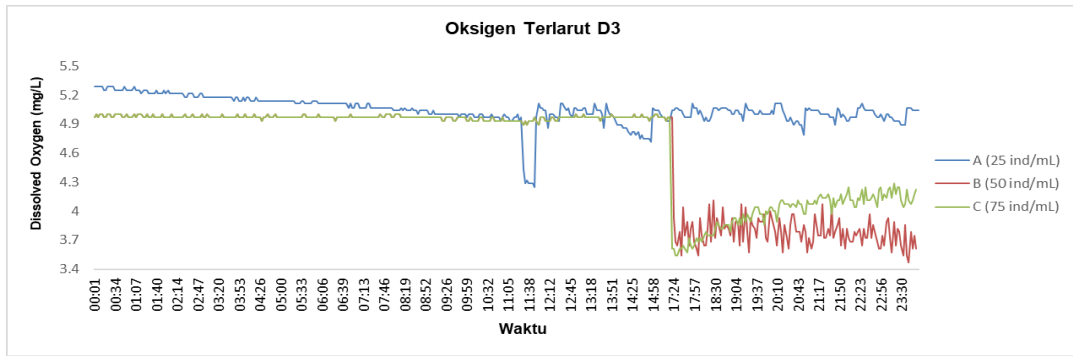
Perlakuan (ind/mL)	Sintasan (%)
A1	0,00
A2	0,83
A3	0,42
Rata-rata ± SD	0,42 ± 0,4
B1	1,67
B2	0,83
B3	1,67
Rata-rata ± SD	1,39 ± 0,5
C1	2,08
C2	1,25
C3	0,42
Rata-rata ± SD	1,25 ± 0,8

Lampiran 17. Hasil Analisis Ragam (Anova) Sintasan Larva bandeng (*C. chanos*) yang diberikan Pakan Jenis *B. plicatilis* dengan Kepadatan yang Berbeda

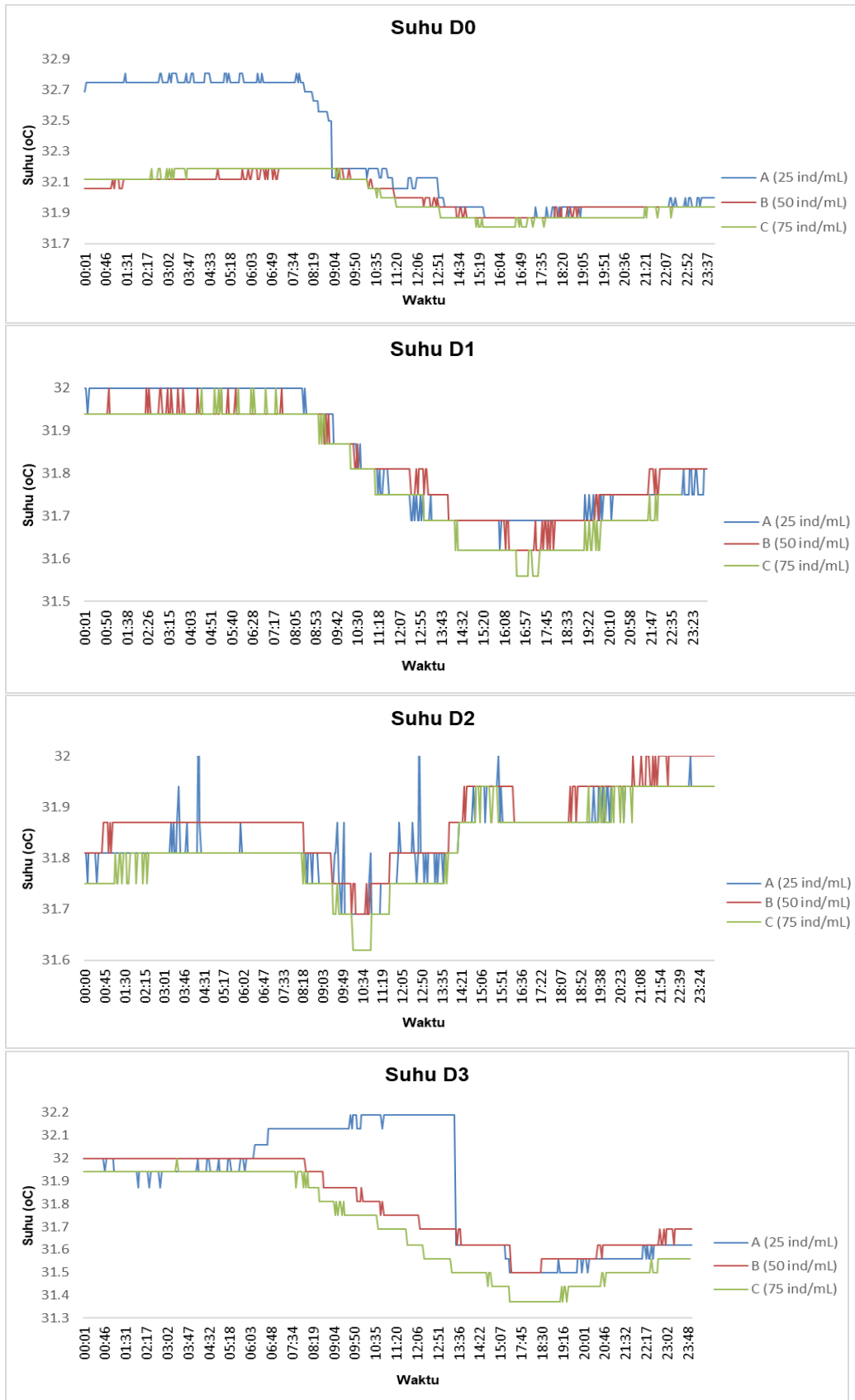
	JK	db	KT	F _{Hitung}	F _{Tabel}
Perlakuan	1,661	2	,831	2,273	,184
Galat	2,193	6	,365		
Total	3,854	8			

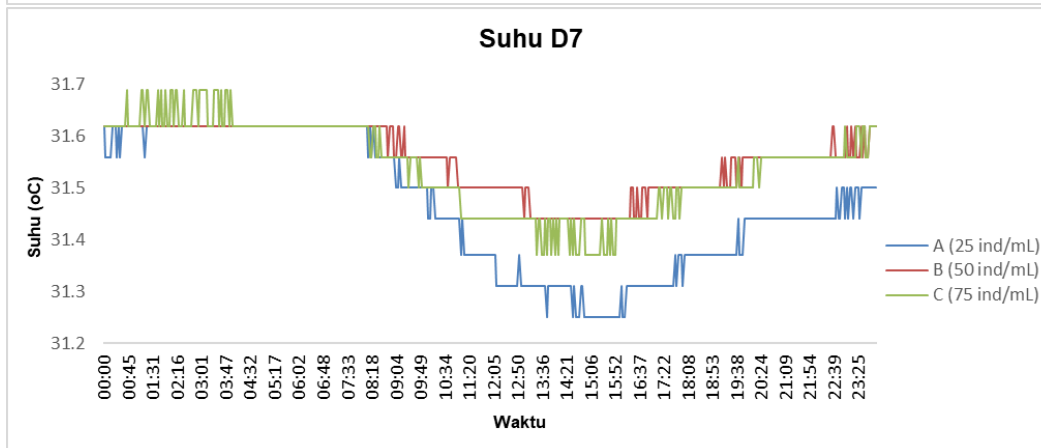
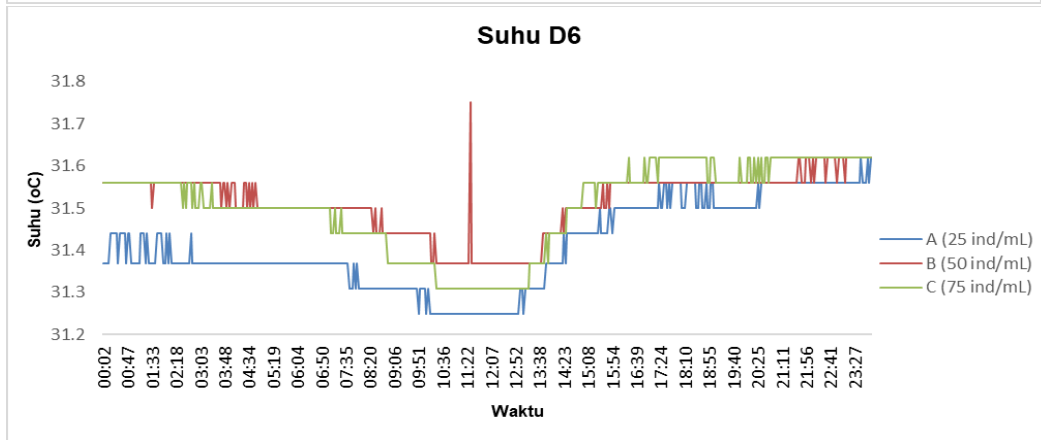
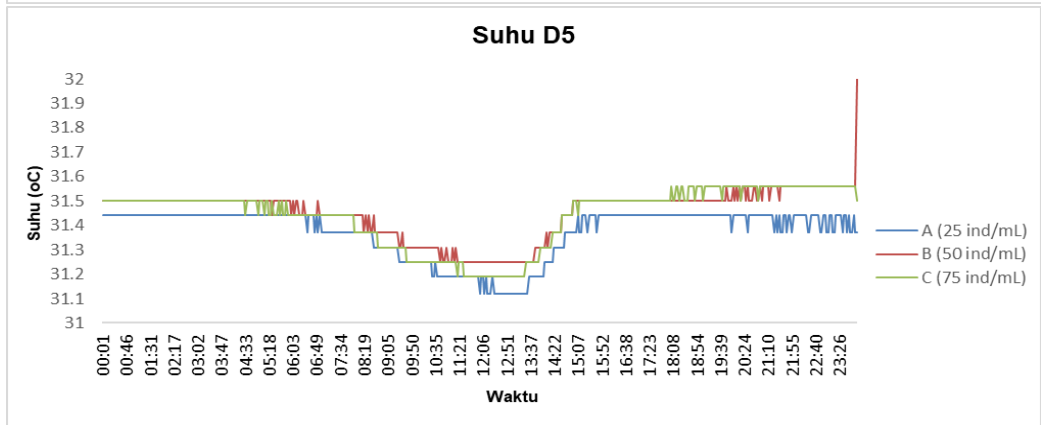
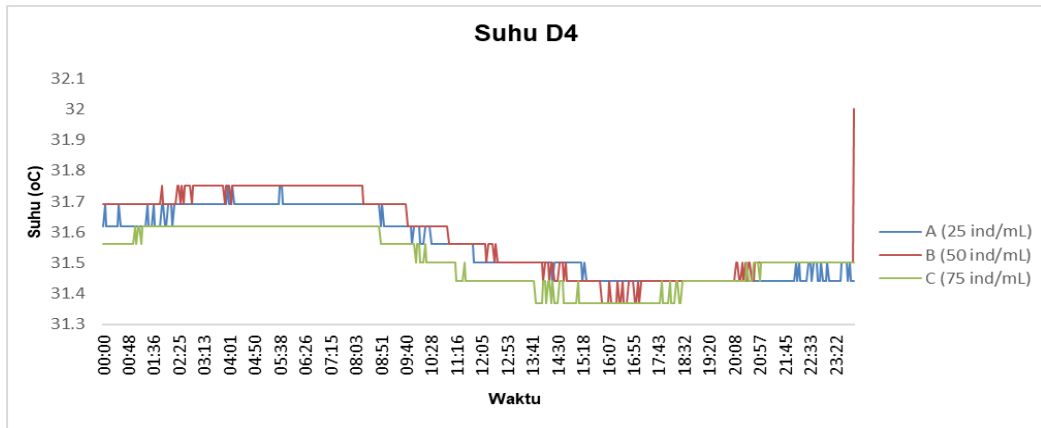
Lampiran 18. Hasil Pengukuran Oksigen Terlarut (DO) Secara *Realtime*



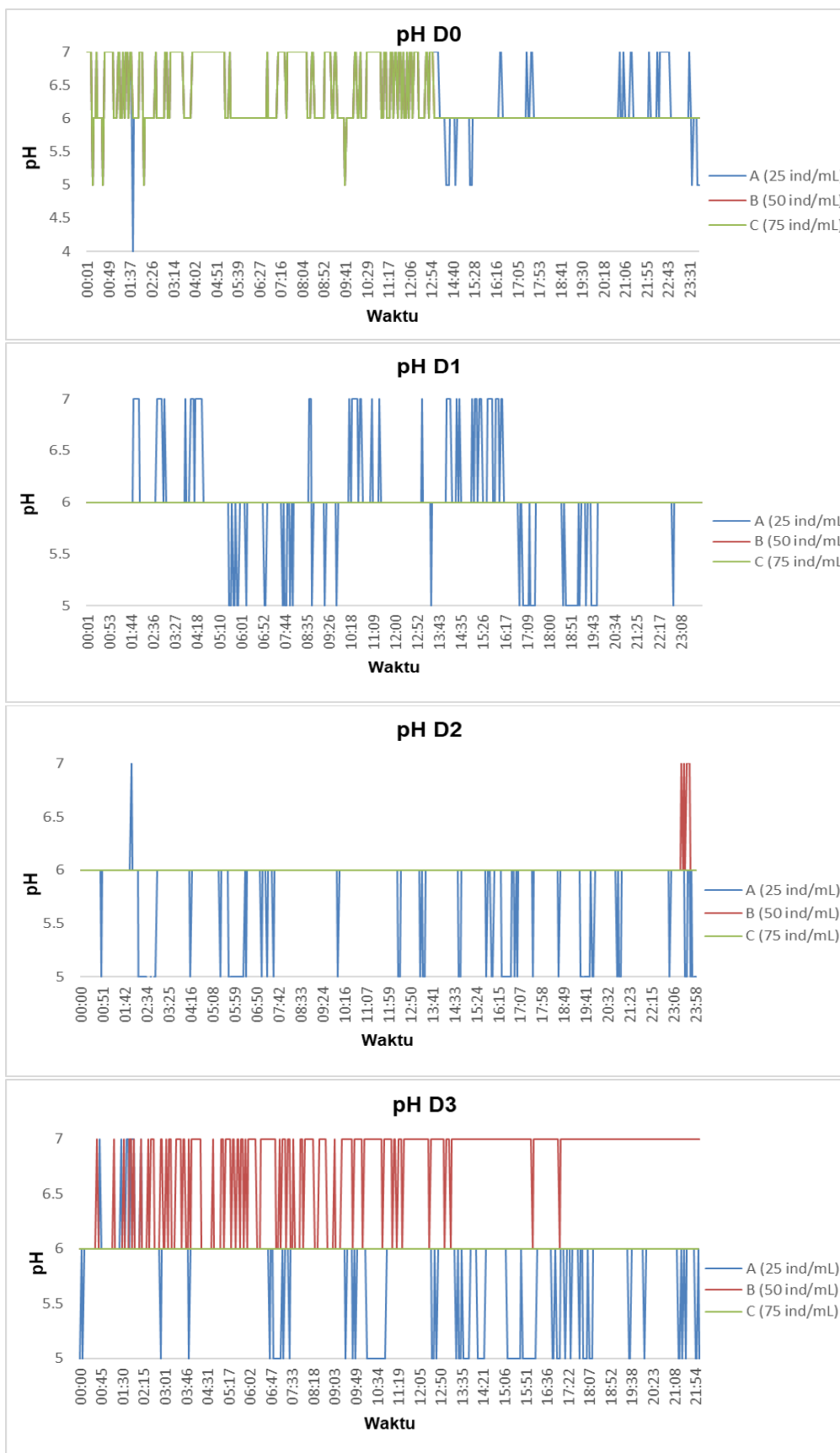


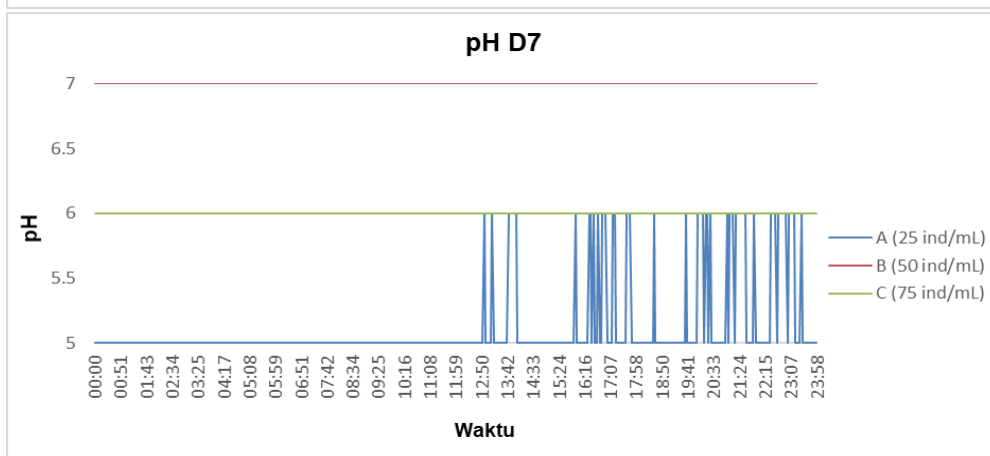
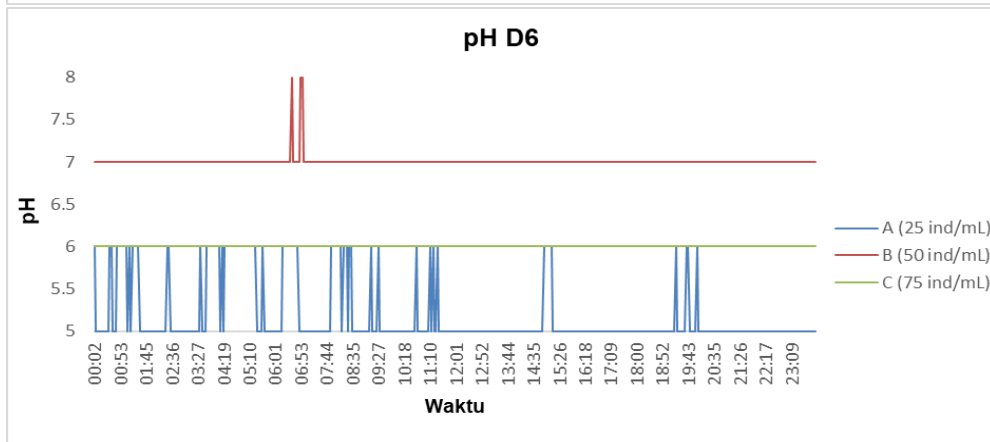
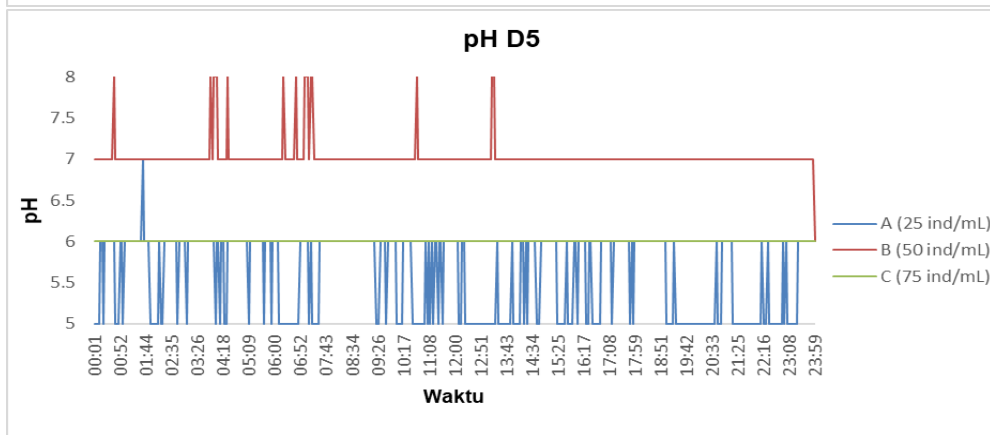
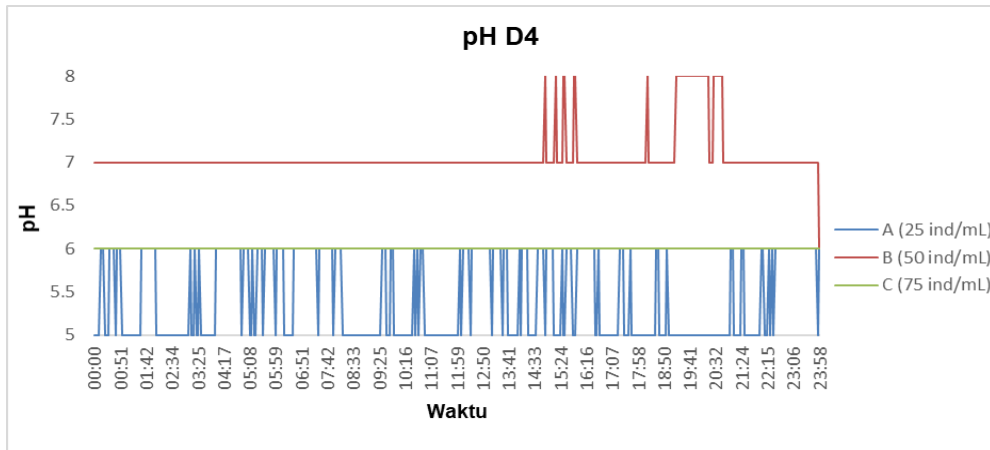
Lampiran 19. Hasil Pengukuran Suhu Secara *Realtime*



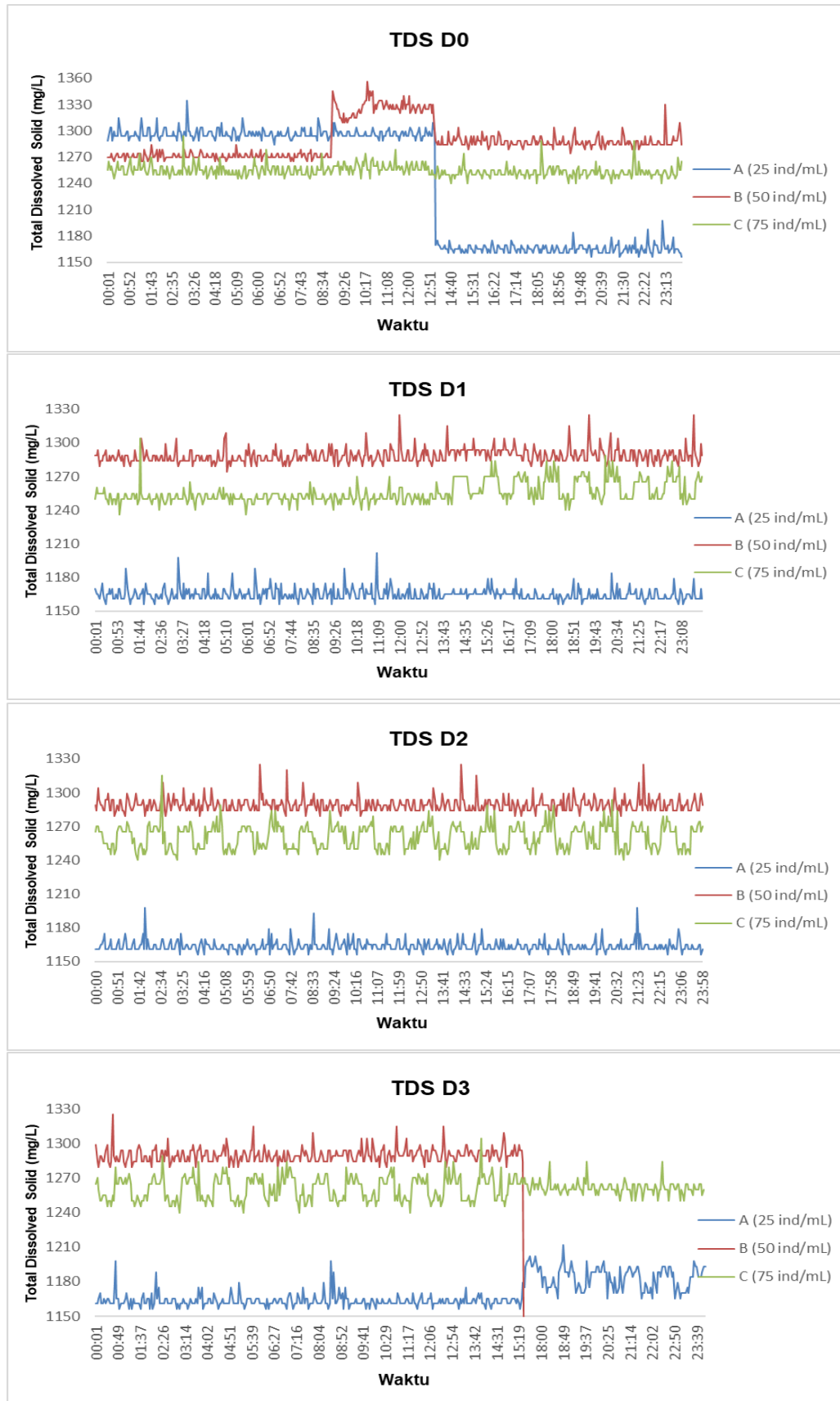


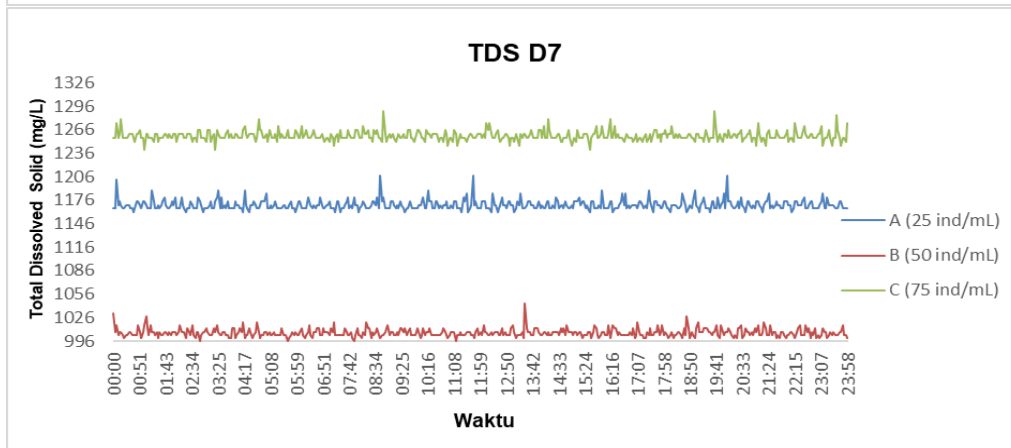
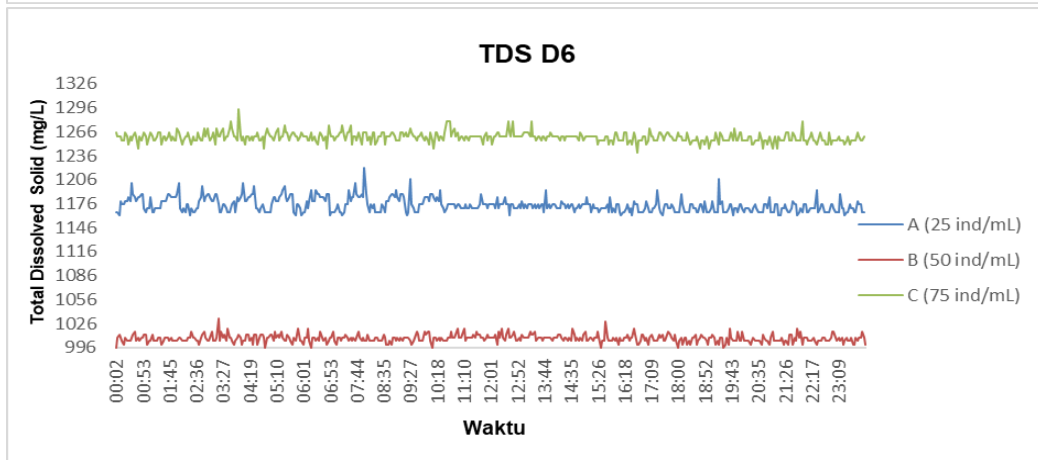
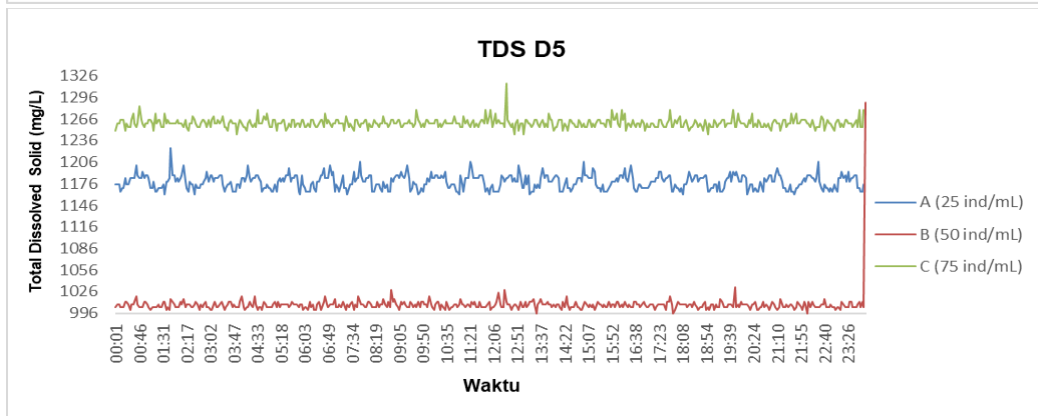
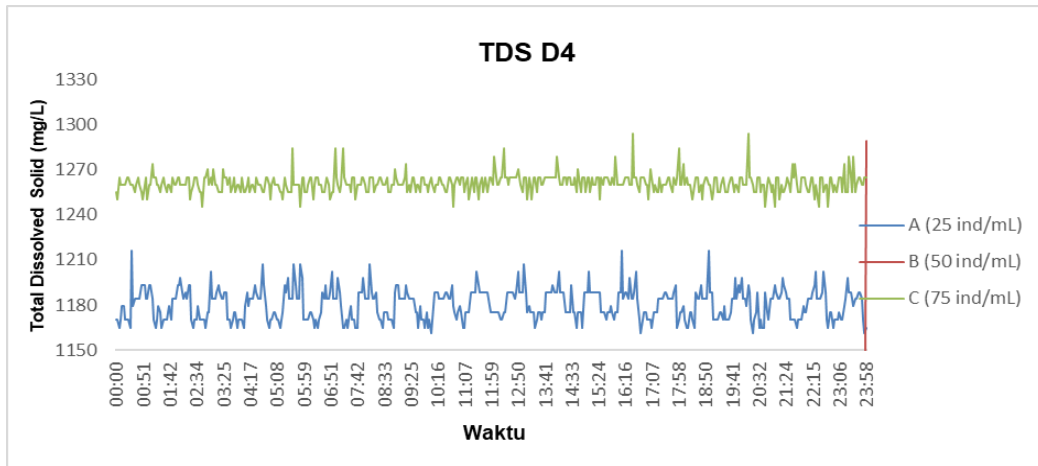
Lampiran 20. Hasil Pengukuran pH Secara *Realtime*








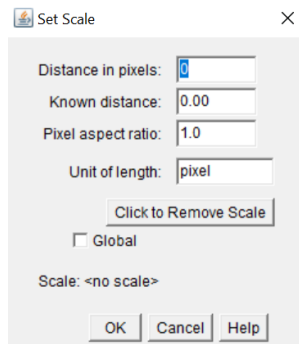
Lampiran 21. Hasil Pengukuran *Total Dissolved Solid (TDS)* Secara *Realtime*








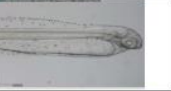























Lampiran 22. Prosedur Perhitungan Kepadatan Pakan Alami Pada Aplikasi Image J

1. Membuka aplikasi image J 
2. Masukkan gambar pakan alami yang ingin dihitung pada aplikasi image J
3. Crop gambar pada bagian yang akan dihitung menggunakan salah satu tool tersebut 
4. Klik "image" dan pilih "crop" atau dengan menekan tombol (ctrl+shift+x)
5. Menentukan skala dengan tool  pada garis atau ukuran yang akan dijadikan sebagian acuan skala
6. Pada tab "Analyze" terdapat "set scale" klik kemudian akan muncul tabel seperti pada gambar. Pada "know distance" ketik ukuran skala dan untuk satuan pada "unit of length". Selanjutnya centang pada "global" dan "ok".



7. Pada tahap pengolahan gambar pada tab "image" pilih "type" kemudian "8 bit" maka gambar akan berubah menjadi warna hitam putih.
8. Selanjutnya pada tab "Process" pilih "Binary" kemudian "Fill Holes"
9. Untuk menghitung jumlah yakni pada tab "Analyze" kemudian "Analyze particles"

Lampiran 23. Perkembangan Larva Bandeng (*C. chanos*) Setiap Hari Pengamatan

Day	A (25 ind/mL)	B (50 ind/mL)	C (75 ind/mL)
Egg			
0			
1			
2			
3			
4			
5			
6			
7			

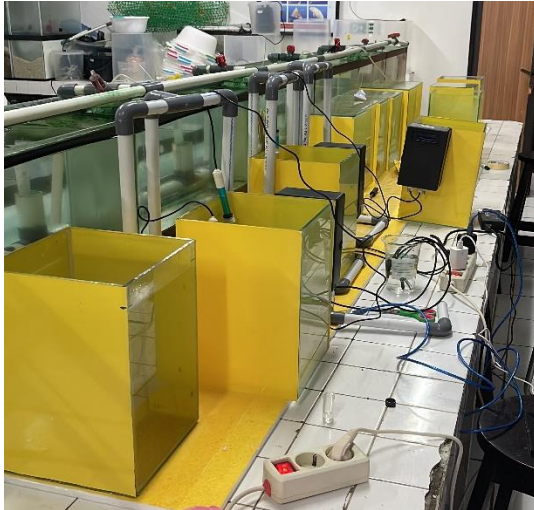
Lampiran 23. Dokumentasi Penelitian



Sterilisasi Alat dan Bahan



Pemasangan Stiker Kuning



Design Prototype



Instalasi Device



Kalibrasi Alat



Uji Collecting Data



Kultur *Chlorella* sp.



Kultur *Brachionus plicatilis*



Perhitungan Kepadatan *Chlorella* sp



Perhitungan Kepadatan *Brachionus plicatilis*



Penyettingan Alat



Pengenceran Air Laut



Pengisian air



Menyeleksi Telur Bandeng



Menghitung Kepadatan Telur



Penebaran Telur Bandeng



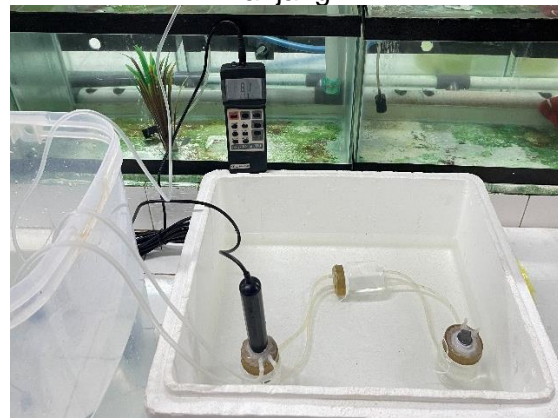
Penyiponan



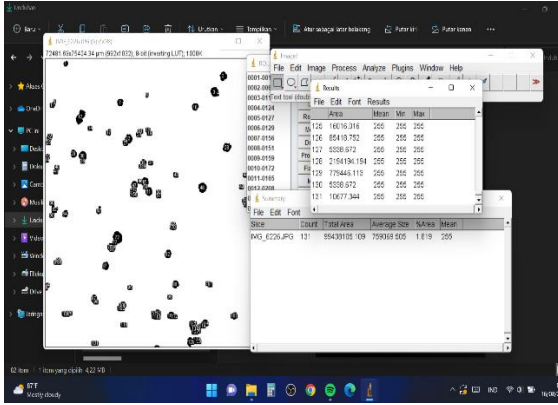
Pengambilan Gambar dan Pengukuran Panjang



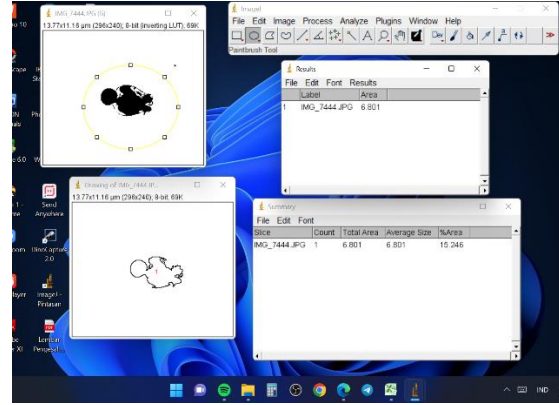
Pengukuran KO



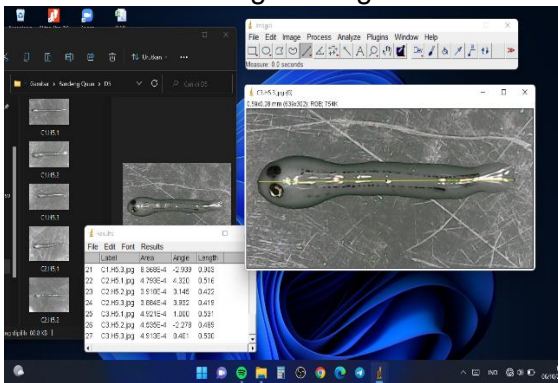
Pengukuran KO



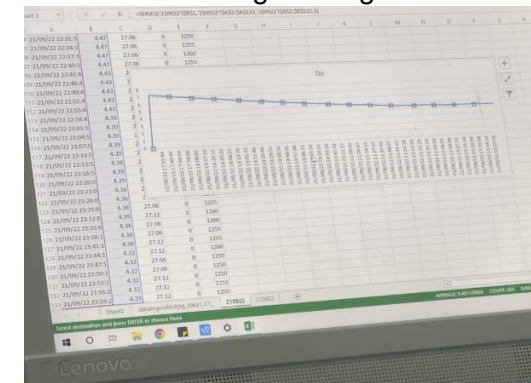
Perhitungan Image J



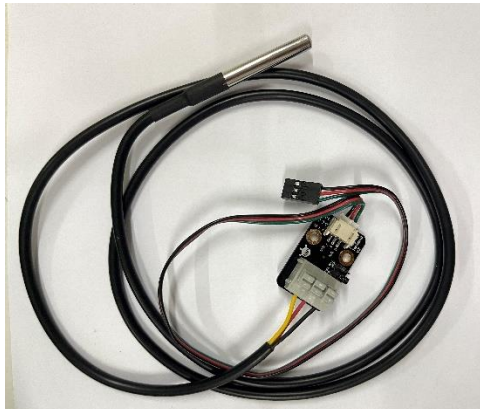
Perhitungan Image J



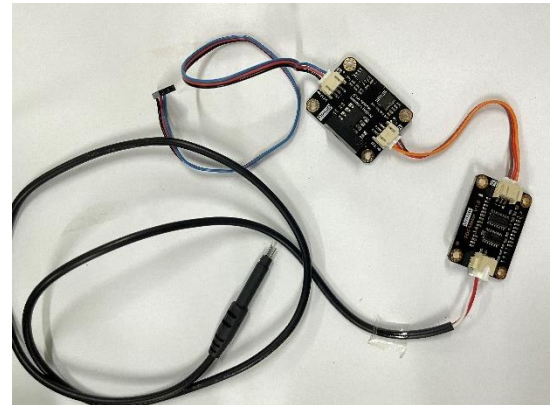
Perhitungan Panjang di Image J



Pemantauan Kualitas Air di Komputer



TDS Sensor



Suhu Sensor



DO Sensor



pH Sensor