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LAMPIRAN

Lampiran 1. Analisis regresi hubungan panjang bobot Tuna Madidihang betina

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.882526697
R Square	0.778853371
Adjusted R Square	0.776685267
Standard Error	6.628725665
Observations	104

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	15784.67498	15784.67	359.2324	3.3757E-35
Residual	102	4481.880402	43.94		
Total	103	20266.55538			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	79.54768128	1.785425656	44.5539	1.12E-68	76.006298	83.08906461	76.00629796	83.0890646
X Variable 1	1.234452283	0.065130818	18.95343	3.38E-35	1.10526561	1.363638951	1.105265615	1.36363895

a : 0.00004
 b0 : 3
 b : 2.8449
 t_{hitung} : 0.0869
 t_{tabel} : 1.9835
 R² : 0.7761

Lampiran 2. Analisis regresi hubungan panjang bobot Tuna Madidhang jantan

SUMMARY
OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.9618535
R Square	0.92516215
Adjusted R Square	0.92475979
Standard Error	4.33692723
Observations	188

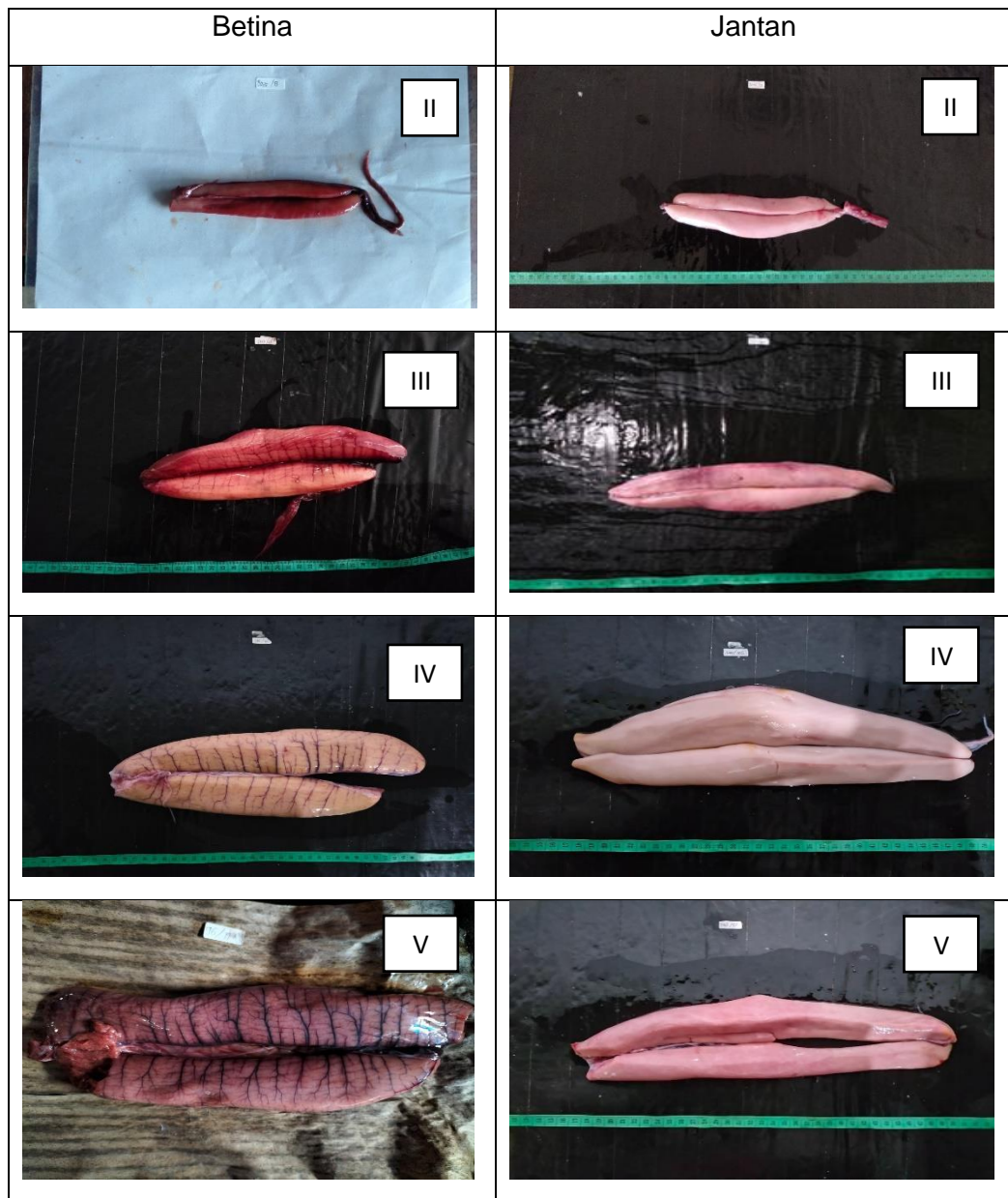
ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	43248.76969	43248.77	2299.3733	1.1929E-106
Residual	186	3498.462438	18.80894		
Total	187	46747.23213			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	82.4429069	0.859866695	95.87871	2.67E-160	80.74656178	84.13925	80.7465618	84.139252
X Variable 1	1.10332515	0.023009054	47.95178	1.19E-106	1.05793288	1.148717	1.05793288	1.14871741

a : 0.00002
 b0 : 3
 b : 2.9461
 t_{hitung} : 0.0627
 t_{tabel} : 1.9728
 R² : 0.9458

Lampiran 3. Hasil pengamatan tingkat kematangan gonad Tuna Madidihang secara morfologi



Lampiran 4. Analisis ukuran pertama kali matang gonad Tuna Madidihang betina

SK	Nt	Xi	Ni	Nb	Pi	Qi=1-Pi	X(i+1-Xi)	Pi*Qi	Ni-1	(Pi*Qi)/(Ni-1)
80-90	85	1.9294	8	6	0.75	0.25	0.0483	0.1875	7	0.026785714
90-100	95	1.9777	17	16	0.941176	0.058824	0.0435	0.055363	16	0.003460208
100-110	105	2.0212	25	25	1	0	0.0395	0	24	0
110-120	115	2.0607	31	28	0.903226	0.096774	0.0362	0.087409	30	0.002913632
120-130	125	2.0969	14	10	0.714286	0.285714	0.0334	0.204082	13	0.015698587
130-140	135	2.1303	7	4	0.571429	0.428571	0.0310	0.244898	6	0.040816327
140-150	145	2.1614	1	1	1	0	0.0290	0	0	0
150-160	155	2.1903	1	0	0	1	0	0	0	0
Jumlah			104	90	5.880117	2.119883	0.260913	0.779252	96	0.089674467
Rata-rata			13	11.25	0.735015	0.264985	0.032614	0.097406	12	0.011209308

$X_k = 2.1614$

$X = 0.0326$

$x/2 = 0.0163$

$\sum P_i = 5.8801$

$m = 1.9859$

$L_m \text{ (antilog)} = 96.8 \text{ cm}$

Lampiran 5. Analisis ukuran pertama kali matang gonad Tuna Madidihang jantan

SK	Nt	Xi	Ni	Nb	Pi	Qi=1-Pi	X(i+1-Xi)	Pi*Qi	Ni-1	(Pi*Qi)/(Ni-1)
80-90	85	1.9294	4	1	0.25	0.75	0.0483	0.1875	3	0.0625
90-100	95	1.9777	8	6	0.75	0.25	0.0435	0.1875	7	0.026785714
100-110	105	2.0212	49	49	1	0	0.0395	0	48	0
110-120	115	2.0607	31	28	0.903226	0.096774	0.0362	0.087409	30	0.002913632
120-130	125	2.0969	40	27	0.675	0.325	0.0334	0.219375	39	0.005625
130-140	135	2.1303	33	3	0.090909	0.909091	0.0310	0.082645	32	0.002582645
140-150	145	2.1614	16	0	0	1	0.0290	0	15	0
150-160	155	2.1903	7	0	0	1	0	0	6	0
Jumlah			188	114	3.669135	4.330865	0.260913	0.764429	180	0.100406991
Rata-rata			23.5	14.25	0.458642	0.541358	0.032614	0.095554	22.5	0.012550874

$X_k = 2.1303$

$X = 0.0326$

$x/2 = 0.0163$

$\sum P_i = 3.6691$

$m = 2.0270$

$L_m \text{ (antilog)} = 106.4 \text{ cm}$

Lampiran 6. Analisa ukuran pertama kali matang gonad Tuna Madidihang gabungan

SK	Nt	Xi	Ni	Nb	Pi	Qi=1-Pi	X(i+1- Xi)	Pi*Qi	Ni-1	(Pi*Qi)/(Ni-1)
80-90	85	1.9294	12	7	0.583333	0.416667	0.0483	0.243056	11	0.02209596
90-100	95	1.9777	25	22	0.88	0.12	0.0435	0.1056	24	0.0044
100-110	105	2.0212	74	74	1	0	0.0395	0	73	0
110-120	115	2.0607	62	56	0.903226	0.096774	0.0362	0.087409	61	0.001432934
120-130	125	2.0969	54	37	0.685185	0.314815	0.0334	0.215706	53	0.004069933
130-140	135	2.1303	40	7	0.175	0.825	0.0310	0.144375	39	0.003701923
140-150	145	2.1614	17	1	0.058824	0.941176	0.0290	0.055363	16	0.003460208
150-160	155	2.1903	8	0	0	1	0	0	7	0
Jumlah			292	204	4.285568	3.714432	0.2609	0.851509	284	0.039160957
Rata-rat			36.5	25.5	0.535696	0.464304	0.0326	0.106439	35.5	0.00489512

$X_k = 2.1614$

$X = 0.0326$

$x/2 = 0.0163$

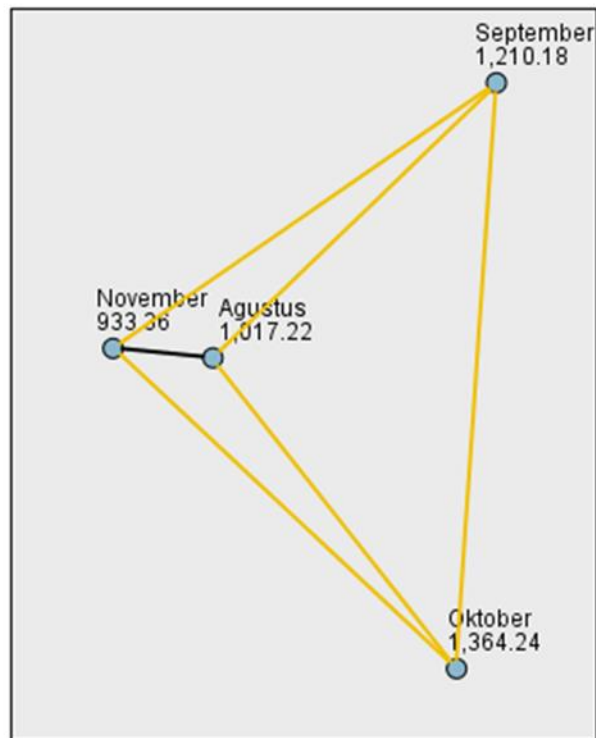
$\sum P_i = 4.2856$

$m = 2.0379$

$L_m \text{ (antilog)} = 109.1 \text{ cm}$

Lampiran 7. Analisis uji lanjut Kruskal-Wallis hubungan struktur ukuran per bulan

Pairwise Comparisons of Bulan

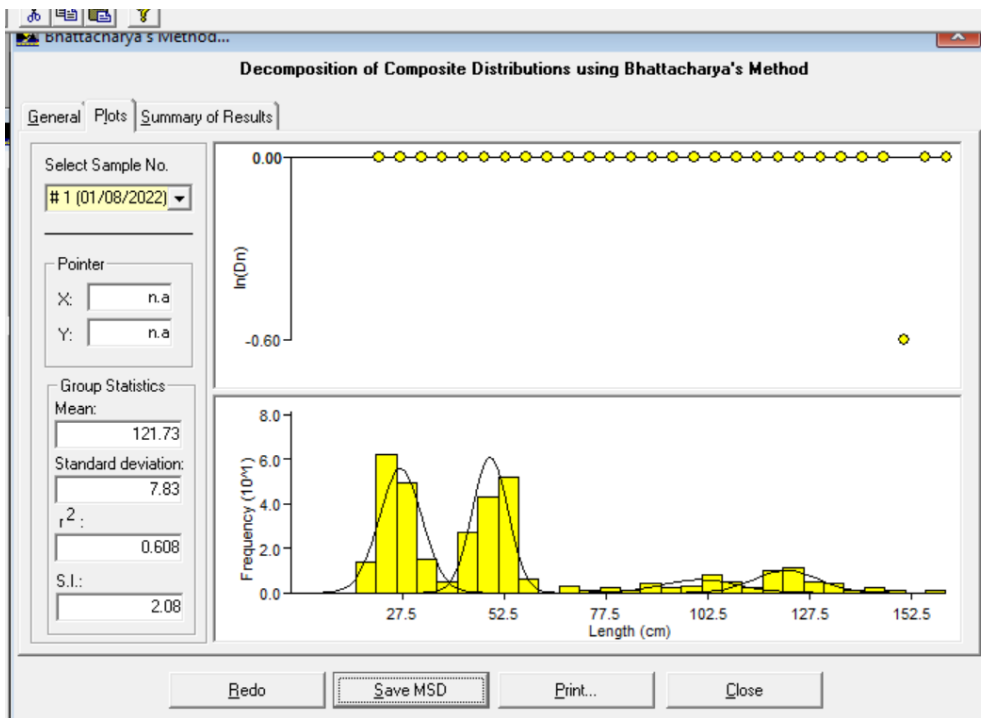


Each node shows the sample average rank of Bulan.

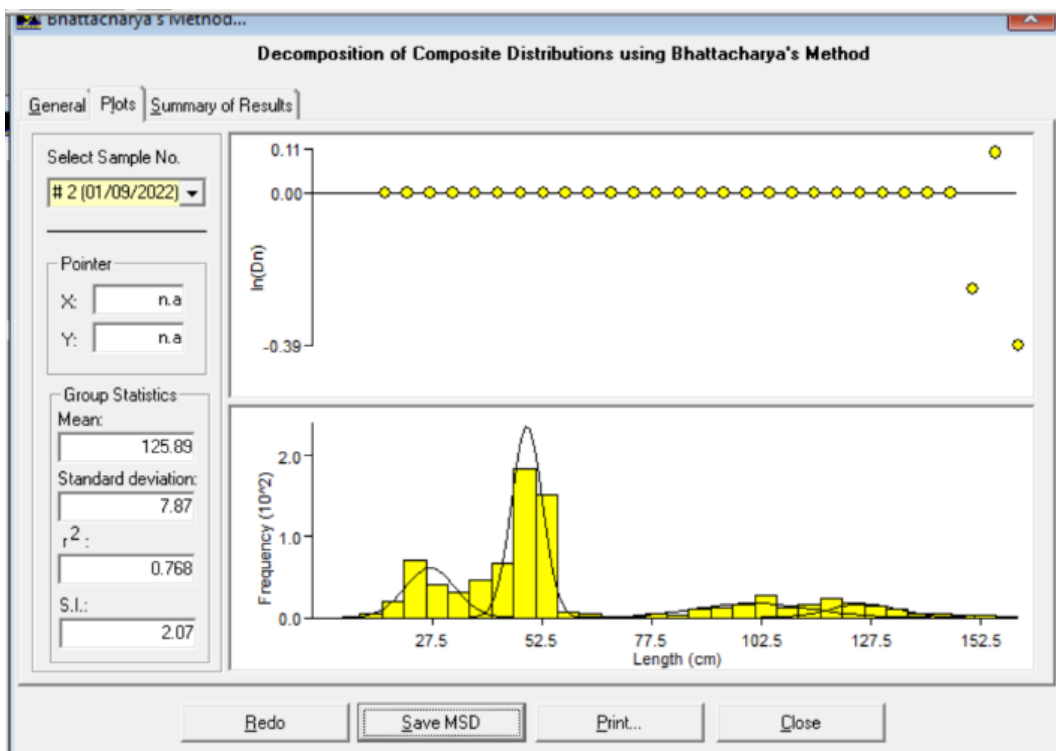
Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
November-Agustus	83.863	52.000	1.613	.107	.641
November-September	276.821	43.345	6.386	.000	.000
November-Oktober	430.880	43.010	10.018	.000	.000
Agustus-September	-192.958	44.565	-4.330	.000	.000
Agustus-Oktober	-347.017	44.240	-7.844	.000	.000
September-Oktober	-154.059	33.644	-4.579	.000	.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

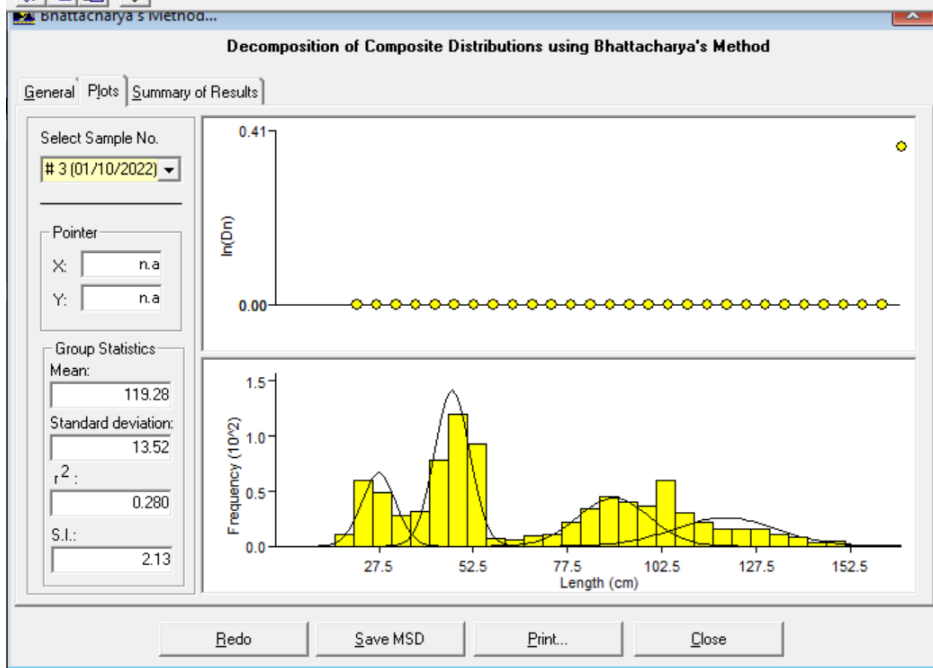
Lampiran 8. Analisis kelompok umur tuna madidihang bulan Agustus



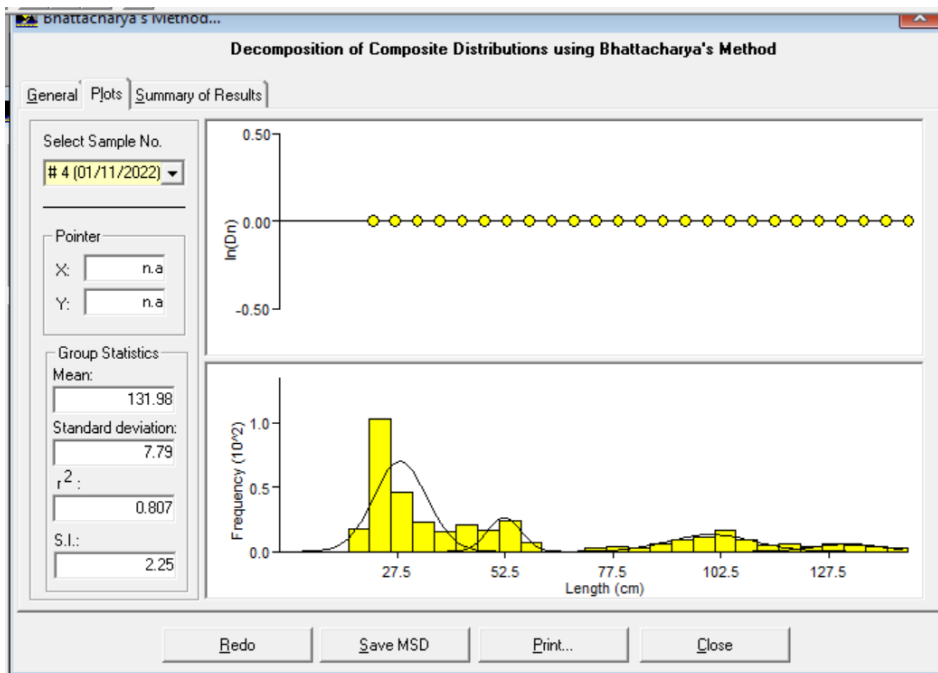
Lampiran 9. Analisis kelompok umur Tuna Madidihang bulan September



Lampiran 10. Analisis kelompok umur Tuna Madidihang bulan Oktober



Lampiran 11. Analisis Kelompok umur Tuna Madidihang bulan November



Lampiran 12. Analisis panjang rata-rata Kelompok umur Tuna Madidihang setiap bulan

Bulan	Group	Computed Mean	S.D.	Population	S.I.
Agustus	1	27.02	5.36	150.01	n.a
	2	49.14	4.34	132.97	2.77
	3	100.47	9.23	26.88	3.41
	4	121.73	7.83	39.19	2.08
September	1	26.92	5.78	179.68	n.a
	2	49.18	3.49	416.18	2.79
	3	100.52	13.35	119.25	3.31
	4	125.89	7.87	67.36	2.07
Oktober	1	27.46	4.61	154.1	n.a
	2	47.03	4.65	329.79	2.64
	3	89.73	9.48	207.9	3.11
	4	119.28	13.52	175.29	2.13
November	1	28.14	6.25	218.47	n.a
	2	52.3	3.88	50.82	2.82
	3	100.28	9.87	64.88	3.22
	4	131.98	7.79	22.42	2.25

Lampiran 13. Analisis nilai parameter pertumbuhan L_{∞} , K dan t_0 Tuna Madidihang

ELEFAN I [C:\Users\ASUS-PC\Downloads\dinamika syamsinar.lfq]...

Non-Parametric Scoring of VBGF Fit Using ELEFAN I

General | **K Scan** | Response Surface | Automatic Search

Parameters for Response Surface

Enter the lower and upper limit of any two parameters. To make a parameter constant, enter the same value for lower and upper limit.

- Starting Point _____

Starting sample: 2

Starting length: 48.50

Parameters	From	To
Loo:	190.00	230.00
K:	0.1	1.1
C:	0.00	0.00
WP:	0.00	0.00

Scores: ELEFAN I Method

K\Loo	196.00	198.00	200.00	202.00	204.00	206.00	208.00
0.10	0.059	0.056	0.074	0.093	0.108	0.144	0.152
0.15	0.274	0.310	0.387	0.441	0.366	0.303	0.251
0.20	0.090	0.115	0.121	0.149	0.156	0.139	0.150
0.25	0.142	0.167	0.114	0.134	0.124	0.126	0.120
0.30	0.111	0.111	0.111	0.089	0.108	0.145	0.170
0.35	0.165	0.202	0.197	0.193	0.131	0.144	0.124
0.40	0.127	0.144	0.140	0.147	0.134	0.139	0.153
0.45	0.145	0.129	0.127	0.111	0.108	0.136	0.115
0.50	0.119	0.119	0.145	0.154	0.151	0.131	0.114
0.55	0.131	0.134	0.114	0.109	0.113	0.101	0.097

Plot VBGF Curve | Compute | Print... | Close

Lampiran 14. Lanjutan

K\Loo	200	202	204	206	208	210	212	214	216	218	220	222	224	226	228	230
0.1	0.074	0.093	0.108	0.144	0.152	0.106	0.172	0.163	0.16	0.176	0.204	0.179	0.139	0.137	0.112	0.108
0.15	0.387	0.441	0.366	0.303	0.251	0.27	0.254	0.24	0.239	0.256	0.146	0.15	0.124	0.124	0.132	0.129
0.2	0.121	0.149	0.156	0.139	0.15	0.13	0.117	0.165	0.157	0.182	0.203	0.206	0.172	0.176	0.15	0.125
0.25	0.114	0.134	0.124	0.126	0.12	0.109	0.11	0.1	0.096	0.095	0.105	0.108	0.114	0.146	0.155	0.172
0.3	0.111	0.089	0.108	0.145	0.17	0.163	0.194	0.185	0.189	0.189	0.162	0.163	0.163	0.118	0.13	0.129
0.35	0.197	0.193	0.131	0.144	0.124	0.127	0.133	0.128	0.146	0.152	0.144	0.144	0.138	0.134	0.125	0.125
0.4	0.14	0.147	0.134	0.139	0.153	0.151	0.136	0.114	0.111	0.109	0.136	0.173	0.148	0.144	0.141	0.13
0.45	0.127	0.111	0.108	0.136	0.115	0.148	0.145	0.151	0.151	0.128	0.106	0.118	0.118	0.119	0.119	0.119
0.5	0.145	0.154	0.151	0.131	0.114	0.114	0.118	0.113	0.119	0.119	0.108	0.11	0.129	0.129	0.127	0.127
0.55	0.114	0.109	0.113	0.101	0.097	0.107	0.11	0.129	0.129	0.127	0.119	0.116	0.115	0.115	0.115	0.115
0.6	0.107	0.11	0.118	0.098	0.104	0.119	0.124	0.115	0.115	0.115	0.115	0.113	0.111	0.111	0.111	0.111
0.65	0.12	0.125	0.122	0.122	0.115	0.115	0.113	0.111	0.111	0.111	0.111	0.094	0.094	0.094	0.094	0.094
0.7	0.122	0.119	0.113	0.111	0.111	0.111	0.111	0.094	0.094	0.094	0.094	0.094	0.085	0.085	0.085	0.085
0.75	0.111	0.111	0.111	0.094	0.094	0.094	0.094	0.094	0.085	0.085	0.085	0.085	0.102	0.094	0.094	0.094
0.8	0.094	0.094	0.094	0.094	0.091	0.085	0.085	0.085	0.085	0.094	0.094	0.094	0.094	0.08	0.094	0.096
0.85	0.094	0.091	0.085	0.085	0.085	0.085	0.094	0.094	0.099	0.099	0.096	0.096	0.096	0.096	0.104	0.102
0.9	0.085	0.085	0.085	0.099	0.099	0.101	0.101	0.096	0.096	0.096	0.096	0.104	0.103	0.103	0.103	0.108
0.95	0.087	0.101	0.101	0.101	0.111	0.096	0.096	0.096	0.105	0.103	0.103	0.103	0.108	0.109	0.109	0.109
1	0.101	0.101	0.096	0.096	0.097	0.097	0.103	0.103	0.103	0.103	0.109	0.109	0.109	0.109	0.107	0.107
1.05	0.097	0.097	0.097	0.097	0.103	0.103	0.103	0.103	0.109	0.109	0.109	0.104	0.107	0.107	0.107	0.107
1.1	0.097	0.097	0.103	0.103	0.103	0.103	0.109	0.109	0.109	0.107	0.107	0.107	0.107	0.104	0.126	0.126

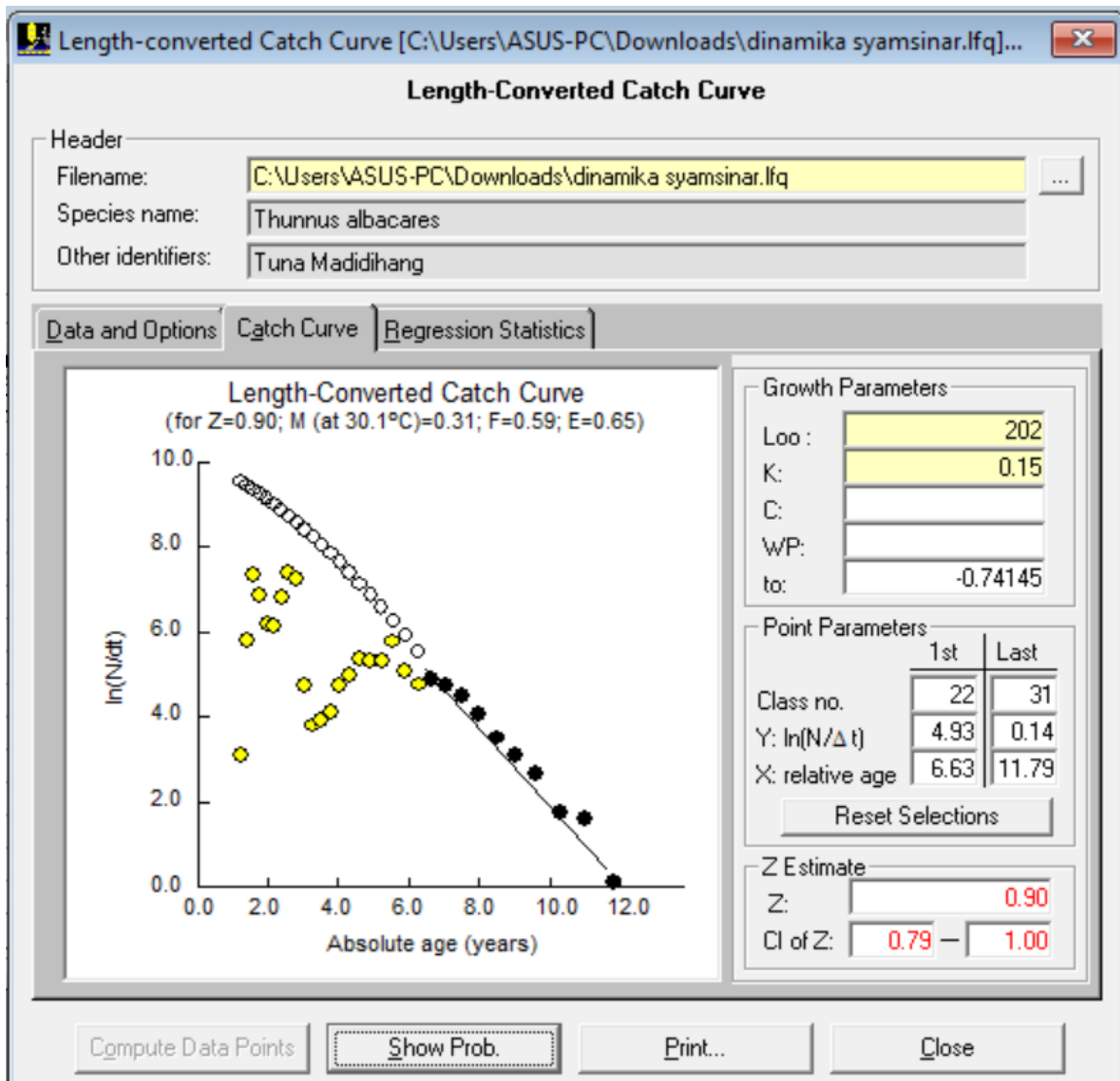
Berdasarkan skor dari ELEFAN 1 diperoleh:

L_{∞}	= 202 cm	t_0	= -0,74145
K	= 0,15	\emptyset	= 3,79
Log (- t_0)	= -0,1299	t_{max}	= 19,3

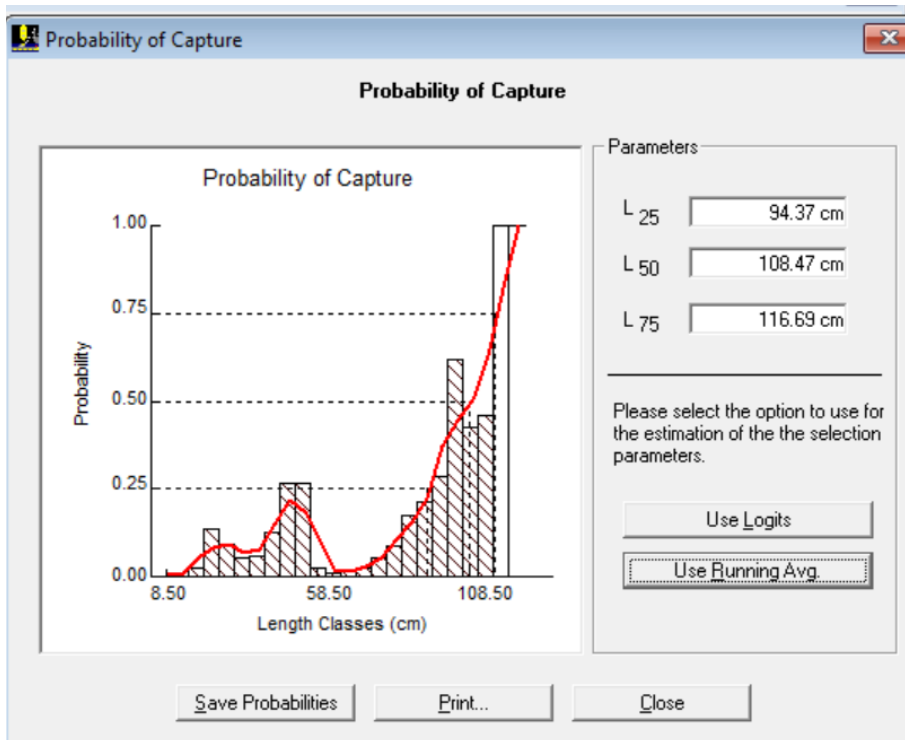
Lampiran 15. Perhitungan umur relatif dan grafik pertumbuhan

t	Lt
-0.74145	0.0000
0	21.2616
1	46.4371
2	68.1057
3	86.7561
4	102.8087
5	116.6252
6	128.5173
7	138.7528
8	147.5627
9	155.1453
10	161.6718
11	167.2892
12	172.1242
13	176.2856
14	179.8674
15	182.9503
16	185.6038
17	187.8876
18	189.8534
19	191.5453
20	193.0016
21	194.2550
22	195.3338
23	196.2623
24	197.0616
25	197.7494
26	198.3415
27	198.8511
28	199.2897
29	199.6672
30	199.9922
31	200.2719
32	200.5126
33	200.7198
34	200.8981
35	201.0516
36	201.1837

Lampiran 16. Analisis perhitungan mortalitas total, mortalitas alami, mortalitas penangkapan dan eksploitasi Tuna Madidihang



Lampiran 17. Analisis Probality Lc



Lampiran 18. Analisis yield per recruitmen Tuna Madidihang

L_{∞}	202
L'	116.86
M	0.31
K	0.15
M/K	2.07
E	0.65
U	0.42
$U^{M/K}$	0.17
3U	1.27
$3U^2$	0.54
U^3	0.08

E	$E \cdot U^{M/K}$	m	1+m	1+2m	1+3m	Y/R'
0.00	0.00	0.48	1.48	1.97	2.45	0.0000
0.05	0.01	0.46	1.46	1.92	2.38	0.0031
0.10	0.02	0.44	1.44	1.87	2.31	0.0061
0.15	0.02	0.41	1.41	1.82	2.23	0.0090
0.20	0.03	0.39	1.39	1.77	2.16	0.0117
0.25	0.04	0.36	1.36	1.73	2.09	0.0143
0.30	0.05	0.34	1.34	1.68	2.02	0.0167
0.35	0.06	0.31	1.31	1.63	1.94	0.0189
0.40	0.07	0.29	1.29	1.58	1.87	0.0210
0.45	0.07	0.27	1.27	1.53	1.80	0.0228
0.50	0.08	0.24	1.24	1.48	1.73	0.0246
0.55	0.09	0.22	1.22	1.44	1.65	0.0261
0.60	0.10	0.19	1.19	1.39	1.58	0.0274
0.65	0.11	0.17	1.17	1.34	1.51	0.02860
0.70	0.12	0.15	1.15	1.29	1.44	0.0296
0.75	0.12	0.12	1.12	1.24	1.36	0.0304
0.80	0.13	0.10	1.10	1.19	1.29	0.0310
0.85	0.14	0.07	1.07	1.15	1.22	0.0314
0.90	0.15	0.05	1.05	1.10	1.15	0.0316
0.95	0.16	0.02	1.02	1.05	1.07	0.03171
1.00	0.17	0.00	1.00	1.00	1.00	0.03163
1.05	0.17	-0.02	0.98	0.95	0.93	0.03142
1.10	0.18	-0.05	0.95	0.90	0.85	0.03108
1.15	0.19	-0.07	0.93	0.85	0.78	0.03064
1.20	0.20	-0.10	0.90	0.81	0.71	0.0301
1.25	0.21	-0.12	0.88	0.76	0.64	0.0296
1.30	0.22	-0.15	0.85	0.71	0.56	0.0289