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# LAMPIRAN

Lampiran 1. Analisis struktur ukuran ikan kuniran

| TK | *Bin* | *Frequency* |
|---|---|---|
| 87,5 | 90 | 1 |
| 92,5 | 95 | 1 |
| 97,5 | 100 | 36 |
| 102,5 | 105 | 90 |
| 107,5 | 110 | 182 |
| 112,5 | 115 | 251 |
| 117,5 | 120 | 182 |
| 122,5 | 125 | 175 |
| 127,5 | 130 | 108 |
| 132,5 | 135 | 42 |
| 137,5 | 140 | 29 |
| 142,5 | 145 | 19 |
| 147,5 | 150 | 5 |
| 152,5 | 155 | 7 |
| 157,5 | 160 | 3 |
| 162,5 | 165 | 1 |
| 167,5 | 170 | 1 |
| 172,5 | 175 | 1 |

# Lampiran 2. Hasil uji T ikan kuniran

SUMMARY OUTPUT

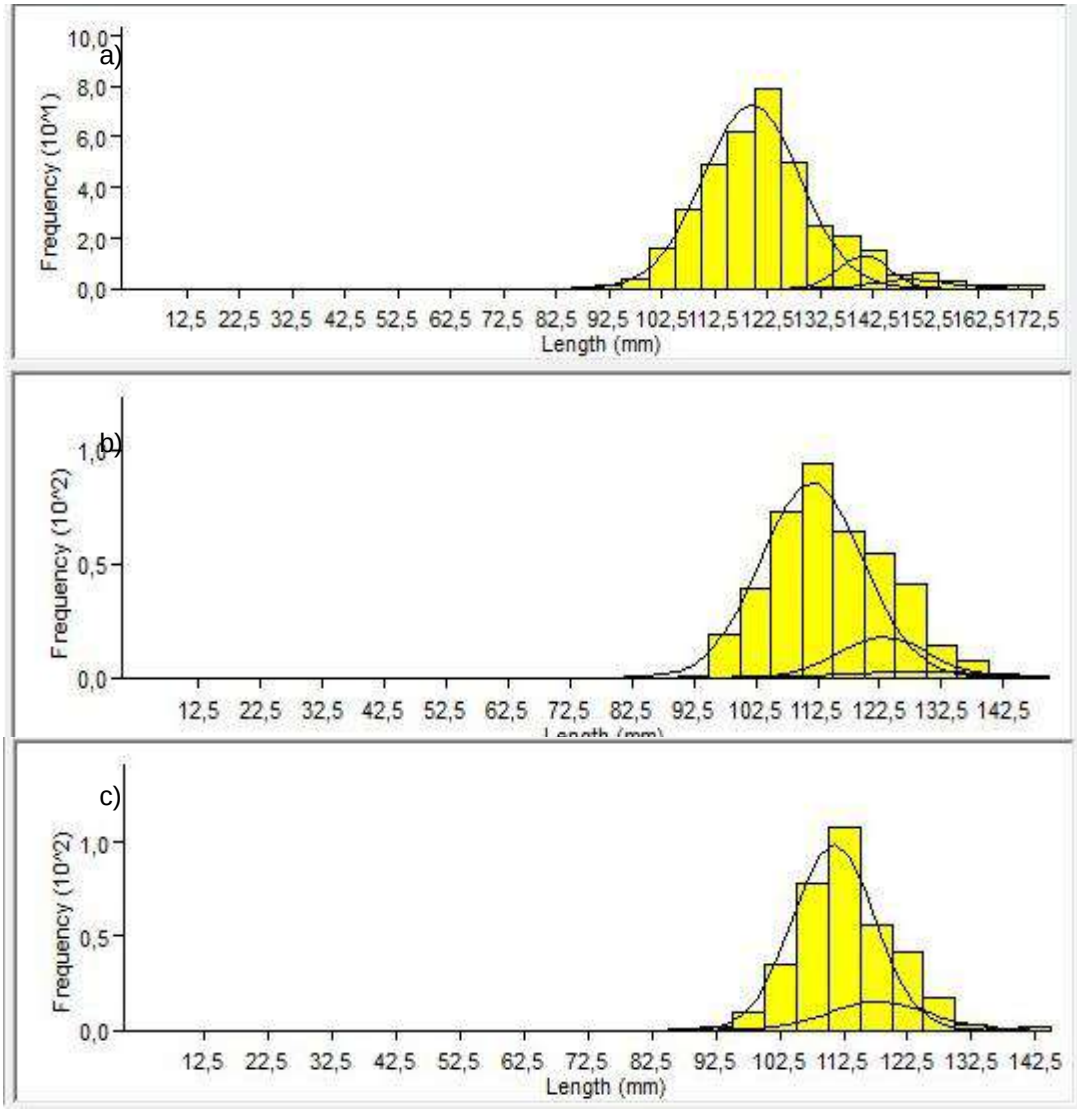
| *Regression Statistics* | |
|---|---|
| Multiple R | 0,889233 |
| R Square | 0,790734 |
| Adjusted R Square | 0,790549 |
| Standard Error | 0,056542 |
| Observations | 1133 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 13,66266 | 13,66266 | 4273,617 | 0 |
| Residual | 1131 | 3,615783 | 0,003197 | | |
| Total | 1132 | 17,27844 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *Lower 95,0%* | *Upper 95,0%* |
|---|---|---|---|---|---|---|---|---|
| Intercept | -4,67537 | 0,090821 | -51,4789 | 1,1E-298 | -4,85356 | -4,49717 | -4,85356 | -4,49717 |
| 2,161368 | 2,870016 | 0,043902 | 65,3729 | 0 | 2,783877 | 2,956155 | 2,783877 | 2,956155 |

Lampiran 3. Kurva histogram distribusi frekuensi panjang dan penentuan kelompok umur ikan kuniran a) Agustus, b) September, c) Oktober



Lampiran 4. Kohort kelompok umur ikan kuniran bulan Agustus

| interval kelas | TK | F | FxTK | $TK-\bar{L}$ | $(TK-\bar{L})^2$ | $F(TK-\bar{L})^2$ | $-(TK-\bar{L})^2/2S^2$ | $EXP-(TK-\bar{L})^2/2S^2$ | Fc | LnFc | ΔLnFc | TK+dL/2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 95-100 | 92,5 | 1 | 92,5 | -25,0 | 625 | 625 | -1,796674695 | 0,165849472 | 1,855875 | 0,618356 | 0,646803 | 93 |
| 100-105 | 97,5 | 4 | 390 | -20,0 | 400 | 1600 | -1,149871805 | 0,316677363 | 3,543657 | 1,265159 | 0,503069 | 98 |
| 105-110 | 102,5 | 16 | 1640 | -15,0 | 225 | 3600 | -0,64680289 | 0,523717485 | 5,86046 | 1,768228 | 0,359335 | 103 |
| 110-115 | 107,5 | 31 | 3332,5 | -10,0 | 100 | 3100 | -0,287467951 | 0,750160608 | 8,394385 | 2,127563 | 0,215601 | 108 |
| 115-120 | 112,5 | 49 | 5512,5 | -5,0 | 25 | 1225 | -0,071866988 | 0,930654676 | 10,41413 | 2,343164 | 0,071867 | 113 |
| 120-125 | 117,5 | 62 | 7285 | 0,0 | 0 | 0 | 0 | 1 | 11,19012 | 2,415031 | -0,07187 | 118 |
| 125-130 | 122,5 | 79 | 9677,5 | 5,0 | 25 | 1975 | -0,071866988 | 0,930654676 | 10,41413 | 2,343164 | -0,2156 | 123 |
| 130-135 | 127,5 | 50 | 6375 | 10,0 | 100 | 5000 | -0,287467951 | 0,750160608 | 8,394385 | 2,127563 | -0,35933 | 128 |
| 135-140 | 132,5 | 25 | 3312,5 | 15,0 | 225 | 5625 | -0,64680289 | 0,523717485 | 5,86046 | 1,768228 | -0,50307 | 133 |
| 140-145 | 137,5 | 21 | 2887,5 | 20,0 | 400 | 8400 | -1,149871805 | 0,316677363 | 3,543657 | 1,265159 | -0,6468 | 138 |
| 145-150 | 142,5 | 15 | 2137,5 | 25,0 | 625 | 9375 | -1,796674695 | 0,165849472 | 1,855875 | 0,618356 | -0,79054 | 143 |
| 150-155 | 147,5 | 5 | 737,5 | 30,0 | 900 | 4500 | -2,587211561 | 0,075229521 | 0,841827 | -0,17218 | -0,93427 | 148 |
| 155-160 | 152,5 | 6 | 915 | 35,0 | 1225 | 7350 | -3,521482402 | 0,029555589 | 0,33073 | -1,10645 | -1,078 | 153 |
| 160-165 | 157,5 | 3 | 472,5 | 40,0 | 1600 | 4800 | -4,599487219 | 0,010056991 | 0,112539 | -2,18446 | -1,22174 | 158 |
| 165-170 | 162,5 | 1 | 162,5 | 45,0 | 2025 | 2025 | -5,821226012 | 0,002963969 | 0,033167 | -3,4062 | -1,36547 | 163 |
| 170-175 | 167,5 | 1 | 167,5 | 50,0 | 2500 | 2500 | -7,18669878 | 0,000756583 | 0,008466 | -4,77167 | -3,0051 | 168 |
| 175-180 | 172,5 | 1 | 172,5 | 55,0 | 3025 | 3025 | -8,695905524 | 0,000167269 | 0,00419 | -7,77677 | 7,776767 | 173 |
| ∑ | | 370 | 45270 | | | 64725 | | | | | | |

Lampiran 5. Kohort kelompok umur ikan kuniran bulan September

| Interval kelas | TK | F | FxTK | $TK-\bar{L}$ | $(TK-\bar{L})^2$ | $F(TK-\bar{L})^2$ | $-(TK-\bar{L})^2/2S^2$ | $EXP-(TK-\bar{L})^2/2S^2$ | Fc | LnFc | ΔLnFc | TK+dL/2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 95-100 | 92,5 | 1 | 92,5 | -22,4 | 499,9434 | 499,9433588 | -2,767751068 | 0,062803086 | 1,07806656 | 0,075169 | 1,099443 | 93 |
| 100-105 | 97,5 | 19 | 1852,5 | -17,4 | 301,3492 | 5725,635308 | -1,668308278 | 0,188565797 | 3,23688681 | 1,174612 | 0,822636 | 98 |
| 105-110 | 103 | 39 | 3997,5 | -12,4 | 152,7551 | 5957,448694 | -0,845671953 | 0,429268813 | 7,36875183 | 1,997248 | 0,54583 | 103 |
| 110-115 | 108 | 73 | 7847,5 | -7,4 | 54,16096 | 3953,750276 | -0,299842092 | 0,740935211 | 12,7187616 | 2,543078 | 0,269023 | 108 |
| 115-120 | 113 | 94 | 10575 | -2,4 | 5,566831 | 523,2820822 | -0,030818694 | 0,969651361 | 16,6448622 | 2,812102 | -0,00778 | 113 |
| 120-125 | 118 | 64 | 7520 | 2,6 | 6,972699 | 446,2527125 | -0,038601761 | 0,962133792 | 16,515817 | 2,804319 | -0,28459 | 118 |
| 125-130 | 123 | 54 | 6615 | 7,6 | 58,37857 | 3152,442597 | -0,323191292 | 0,723835377 | 12,4252289 | 2,519729 | -0,5614 | 123 |
| 130-135 | 128 | 41 | 5227,5 | 12,6 | 159,7844 | 6551,161818 | -0,884587287 | 0,412884541 | 7,08750234 | 1,958333 | -0,8382 | 128 |
| 135-140 | 133 | 14 | 1855 | 17,6 | 311,1903 | 4356,664236 | -1,722789746 | 0,178567295 | 3,06525432 | 1,120131 | -1,11501 | 133 |
| 140-145 | 138 | 7 | 962,5 | 22,6 | 512,5962 | 3588,173194 | -2,83779867 | 0,058554422 | 1,00513475 | 0,005122 | -1,39182 | 138 |
| 145-150 | 143 | 2 | 285 | 27,6 | 764,002 | 1528,004077 | -4,229614057 | 0,014558008 | 0,24990017 | -1,38669 | -1,66862 | 143 |
| 150-155 | 148 | 1 | 147,5 | 32,6 | 1065,408 | 1065,407906 | -5,898235909 | 0,002744282 | 0,04710785 | -3,05532 | 3,055316 | 148 |
| ∑ | | 409 | 46978 | | | 37348,16626 | | | | | | |

Lampiran 6. Kohort kelompok umur ikan kuniran bulan Oktober

| Interval kelas | TK | F | FxTK | $TK-\bar{L}$ | $(TK-\bar{L})^2$ | $F(TK-\bar{L})^2$ | $-(TK-\bar{L})^2/2S^2$ | $EXP-(TK-\bar{L})^2/2S^2$ | Fc | LnFc | ΔLnFc | TK+dL/2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 90-100 | 92,5 | 1 | 92,5 | -25,4 | 645,5894 | 645,5894 | -5,726898223 | 0,003257165 | 0,061431 | -2,78984 | 2,032164 | 93 |
| 95-100 | 97,5 | 2 | 195 | -20,4 | 416,5049 | 833,0097 | -3,694733936 | 0,024854066 | 0,468755 | -0,75768 | 1,588624 | 98 |
| 100-105 | 102,5 | 10 | 1025 | -15,4 | 237,4204 | 2374,204 | -2,106109963 | 0,121710505 | 2,295494 | 0,830948 | 1,145084 | 103 |
| 105-110 | 107,5 | 35 | 3762,5 | -10,4 | 108,3358 | 3791,755 | -0,961026305 | 0,382500123 | 7,214058 | 1,976032 | 0,701543 | 108 |
| 110-115 | 112,5 | 78 | 8775 | -5,4 | 29,25134 | 2281,604 | -0,259482962 | 0,771450352 | 14,54977 | 2,677575 | 0,258003 | 113 |
| 115-120 | 117,5 | 108 | 12690 | -0,4 | 0,166832 | 18,01785 | -0,001479934 | 0,99852116 | 18,83239 | 2,935578 | -0,18554 | 118 |
| 120-125 | 122,5 | 56 | 6860 | 4,6 | 21,08232 | 1180,61 | -0,187017221 | 0,829429453 | 15,64327 | 2,750041 | -0,62908 | 123 |
| 125-130 | 127,5 | 42 | 5355 | 9,6 | 91,99782 | 3863,908 | -0,816094822 | 0,442154981 | 8,339166 | 2,120963 | -1,07262 | 128 |
| 130-135 | 132,5 | 17 | 2252,5 | 14,6 | 212,9133 | 3619,526 | -1,888712738 | 0,151266403 | 2,852926 | 1,048345 | -1,51616 | 133 |
| 135-140 | 137,5 | 3 | 412,5 | 19,6 | 383,8288 | 1151,486 | -3,404870969 | 0,033211105 | 0,626371 | -0,46781 | -1,9597 | 138 |
| 140-145 | 142,5 | 1 | 142,5 | 24,6 | 604,7443 | 604,7443 | -5,364569515 | 0,004679474 | 0,088256 | -2,42751 | 2,427512 | 143 |
| 145-150 | 147,5 | 2 | 295 | 29,6 | 875,6598 | 1751,32 | -7,767808376 | 0,00042314 | 0,007981 | -4,83075 | 4,83075 | 148 |
| ∑ | | 355 | 41857,5 | | | 20364,46 | | | | | | |

Lampiran 7. Penentuan nilai (K), (L) dan perhitungan t0 ikan kuniran

| K\Loo | 180 | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0,01 | 0,001 | 0,001 | 0,001 | 0,001 | 0,001 | 0,001 | 0,001 | 0,001 | 0,001 | 0,001 | 0,001 | 0,001 | 0,001 | 0,001 |
| 0,51 | 0,039 | 0,017 | 0,013 | 0,019 | 0,019 | 0,019 | 0,054 | 0,072 | 0,072 | 0,072 | 0,072 | 0,072 | 0,072 | 0,109 |
| 1,01 | 0,017 | 0,017 | 0,017 | 0,026 | 0,026 | 0,026 | 0,074 | 0,074 | 0,074 | 0,048 | 0,048 | 0,048 | 0,048 | 0,048 |
| 1,51 | 0,038 | 0,017 | 0,017 | 0,017 | 0,017 | 0,017 | 0,017 | 0,017 | 0,034 | 0,034 | 0,034 | 0,034 | 0,034 | 0,034 |
| 2,01 | 0,034 | 0,034 | 0,034 | 0,051 | 0,051 | 0,051 | 0,051 | 0,051 | 0,051 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 |
| 2,51 | 0,051 | 0,051 | 0,051 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 |
| 3,01 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 |
| 3,51 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 |
| 4,01 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 |
| 4,51 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 |
| 5,01 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 |
| 5,5 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 |
| 6 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 |
| 6,5 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 |
| 7 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 |
| 7,5 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 |
| 8 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 |
| 8,5 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 |
| 9 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 |
| 9,5 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 |
| 10 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 | 0,033 |

$L\infty = 193$ $K= 0,51$

Log (to)= (-0,3922-0,2752*(LOG(F57))-1,038*(LOG(F56)))

Log (to)= (-0,3922-0,2752*LOG(193))-1,038*(LOG(0,51)))

Log (to)= -0,71764

-to= -0,19158

Lt= $L\infty$ * (1-exp-K*(t-to))

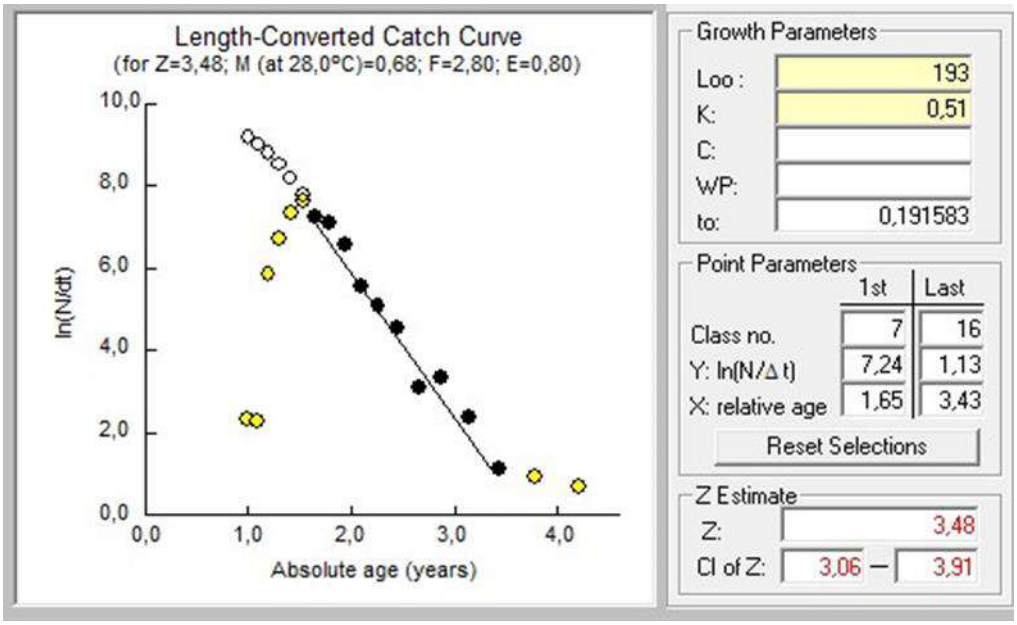
Lt= 193*(1-exp-0,51*(t+0,19158))

Lt= 0

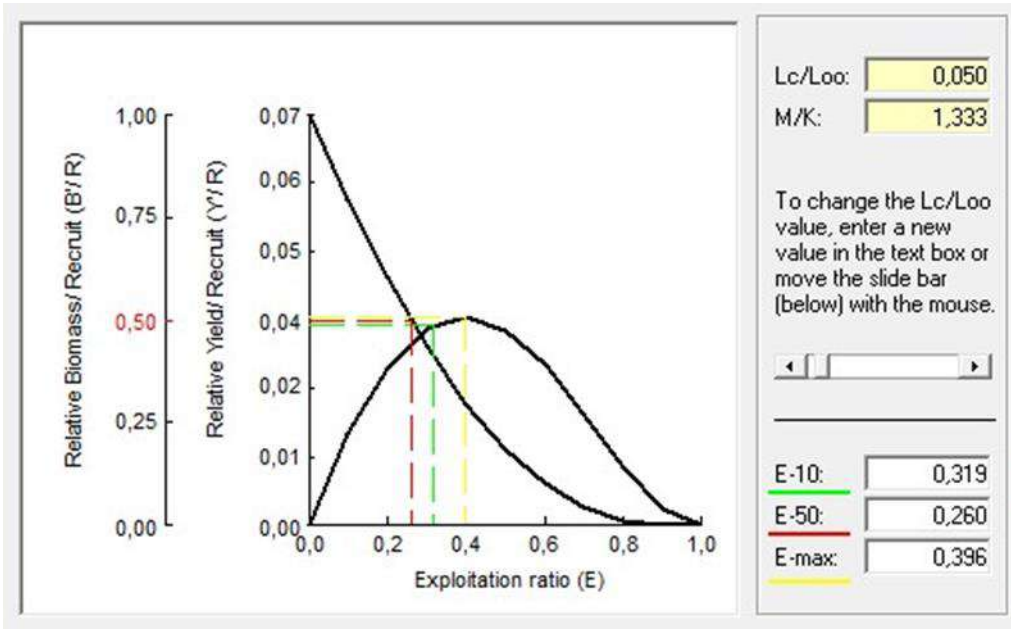
Lampiran 8. Hubungan antara panjang dan tingkat umur ikan kuniran

| t | L(t) |
|---|---|
| 0,191583 | 0 |
| 1 | 65,20882612 |
| 2 | 116,2619651 |
| 3 | 146,9191493 |
| 4 | 165,3286529 |
| 5 | 176,3834784 |
| 6 | 183,0218522 |
| 7 | 187,0081664 |
| 8 | 189,4019304 |
| 9 | 190,8393751 |
| 10 | 191,7025543 |
| 20 | 192,9920898 |
| 30 | 192,9999518 |

Lampiran 9. Perhitungan laju mortalitas dan laju eksploitasi ikan kuniran



Lampiran 10. Grafik *yield per recruitment* ikan kuniran



Lampiran 11. Ukuran pertama kali matang gonad ikan kuniran jantan

| Kelas panjang (cm) | TK | (Xi) | ($n_i$) | Jumlah ikan belum matang | Jumlah ikan matang (ri) | Proporsi ikan matang (pi) | $X_{i+1} - X_i = X$ | $q_i = 1 - p_i$ | pi x qi / ni-1 |
|---|---|---|---|---|---|---|---|---|---|
| 90-97 | 94 | 1,9708 | 5 | 5 | 0 | 0,0000 | 0,0357 | 1,0000 | 0,0000 |
| 98-105 | 102 | 2,0065 | 112 | 111 | 1 | 0,0089 | 0,0329 | 0,9911 | 0,0001 |
| 106-113 | 110 | 2,0394 | 276 | 259 | 17 | 0,0616 | 0,0306 | 0,9384 | 0,0002 |
| 114-121 | 118 | 2,0700 | 289 | 254 | 35 | 0,1211 | 0,0286 | 0,8789 | 0,0004 |
| 122-129 | 126 | 2,0986 | 189 | 140 | 49 | 0,2593 | 0,0268 | 0,7407 | 0,0010 |
| 130-137 | 134 | 2,1255 | 73 | 31 | 42 | 0,5753 | 0,0253 | 0,4247 | 0,0034 |
| 138-145 | 142 | 2,1508 | 31 | 19 | 12 | 0,3871 | 0,0236 | 0,6129 | 0,0079 |
| 146-153 | 149 | 2,1744 | 7 | 1 | 6 | 0,8571 | 0,0229 | 0,1429 | 0,0204 |
| 154-161 | 158 | 2,1973 | 5 | 0 | 5 | 1,0000 | 0,0254 | 0,0000 | 0,0000 |
| 162-172 | 167 | 2,2227 | 2 | 0 | 2 | 0,0000 | 0,0000 | 0,0000 | 0,0000 |
| **Total** | | | 989 | 820 | 169 | 3,2705 | 0,2519 | 5,7295 | 0,0334 |
| rata-rata | | | | | | 0,363385711 | 0,027989 | 0,63661 | 0,00371 |

$X_k$ = 2,2227  X=0,027989  X/2= 0,0139945 ∑Pi= 3,2705

Antilog (m)= Xk + (X/2) – X*∑Pi

Antilog (m)= 2,2227 + 0,0139945 – (0,027989*3,2705)

Antiolog (m)=  2,1452

M= Anti log 2,1452 = 139,6923

Lampiran 12. Ukuran pertama kali matang gonad ikan kuniran betina

| Kelas panjang (cm) | TK | (Xi) | ($n_i$) | Jumlah ikan belum matang | Jumlah ikan matang (ri) | Proporsi ikan matang (pi) | $X_{i+1} - X_i = X$ | $q_i = 1 - p_i$ | pi x qi ni-1 |
|---|---|---|---|---|---|---|---|---|---|
| 100-105 | 39 | 1,5855 | 11 | 11 | 0 | 0,0000 | 0,0629 | 1,0000 | 0,0000 |
| 106-111 | 45 | 1,6484 | 25 | 23 | 2 | 0,0800 | 0,0549 | 0,9200 | 0,0031 |
| 112-117 | 51 | 1,7033 | 36 | 31 | 5 | 0,1389 | 0,0488 | 0,8611 | 0,0034 |
| 118-123 | 57 | 1,7520 | 39 | 32 | 7 | 0,1795 | 0,0438 | 0,8205 | 0,0039 |
| 124-129 | 63 | 1,7959 | 18 | 11 | 7 | 0,3889 | 0,0398 | 0,6111 | 0,0140 |
| 130-135 | 69 | 1,8357 | 6 | 4 | 2 | 0,3333 | 0,0365 | 0,6667 | 0,0741 |
| 136-141 | 75 | 1,8722 | 4 | 3 | 1 | 0,2500 | 0,0336 | 0,7500 | 0,1875 |
| 142-147 | 81 | 1,9058 | 3 | 1 | 2 | 0,6667 | 0,0312 | 0,3333 | 0,1111 |
| 148-152 | 87 | 1,9370 | 2 | 0 | 2 | 1,0000 | 0,0291 | 0,0000 | 0,0000 |
| 153-165 | 93 | 1,9661 | 1 | 0 | 1 | 0,0000 | 0,0000 | 0,0000 | 0,0000 |
| total | | | 145 | 115 | 24 | 1,3706 | 0,3807 | 5,9627 | 0,3970 |
| rata-rata | | | | | | 0,152288699 | 0,042298 | 0,662526 | 0,044114 |

$X_k$ = 1,9661  X=0,042298  X/2= 0,021449  $\sum$Pi= 1,3706

Antilog (m)= Xk + (X/2) – X*$\sum$Pi

Antilog (m)= 1,9661 + 0,021449 – (0,042298*1,3706)

Antiolog (m)= 1,896

M= Anti log 1,896 = 78,7

Lampiran 13. Analisis pola pertumbuh ikan kuniran Upeneus guttatus jantan pada bulan Agustus

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0,932922 |
| R Square | 0,870343 |
| Adjusted R Square | 0,869897 |
| Standard Error | 0,047727 |
| Observations | 293 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 4,44959292 | 4,44959292 | 1953,381 | 4,1E-131 |
| Residual | 291 | 0,66286767 | 0,00227785 | | |
| Total | 292 | 5,11245959 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *Lower 95,0%* | *Upper 95,0%* |
|---|---|---|---|---|---|---|---|---|
| Intercept | -4,64826 | 0,135265 | -34,3641 | 1,9E-104 | -4,91449 | -4,38204 | -4,91449 | -4,38204 |
| Log L | 2,862658 | 0,06477 | 44,19707 | 4,1E-131 | 2,73518 | 2,990135 | 2,735118 | 2,990135 |

| | | | |
|---|---|---|---|
| T hitung | -4,05214 | a | 2,25E-05 |
| T tabel | 1,96815 | | |

Lampiran 14. Analisis pola pertumbuhan ikan kuniran Upeneus guttatus betina pada bula Agustus

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0,952835 |
| R Square | 0,907894 |
| Adjusted R Square | 0,906666 |
| Standard Error | 0,036997 |
| Observations | 77 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 1,011914 | 1,011914 | 739,2771 | 1,39E-40 |
| Residual | 75 | 0,102659 | 0,001369 | | |
| Total | 76 | 1,114573 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *Lower 95,0%* | *Upper 95,0%* |
|---|---|---|---|---|---|---|---|---|
| Intercept | -4,87933 | 0,228528 | -21,3511 | 1,33E-33 | -5,33458 | -4,42408 | -5,33458 | -4,42408 |
| Log L | 2,977023 | 0,109491 | 27,18965 | 1,39E-40 | 2,758906 | 3,19514 | 2,758906 | 3,19514 |

| | | | |
|---|---|---|---|
| T hitung | -1,32713 | a | 1,32E-05 |
| T tabel | 1,992102 | | |

Lampiran 15. Analisis pola pertumbuhan ikan kuniran Upeneus guttatus Jantan pada bula September

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0,878769 |
| R Square | 0,772235 |
| Adjusted R Square | 0,771641 |
| Standard Error | 0,052035 |
| Observations | 385 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 3,515986 | 3,515986 | 1298,561 | 4,2E-125 |
| Residual | 383 | 1,037012 | 0,002708 | | |
| Total | 384 | 4,552998 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *Lower 95,0%* | *Upper 95,0%* |
|---|---|---|---|---|---|---|---|---|
| Intercept | -4,43179 | 0,156928 | -28,2403 | 1,19E-95 | -4,74025 | -4,12315 | -4,74025 | -4,12315 |
| Log L | 2,740292 | 0,076044 | 36,03555 | 4,2E-125 | 2,590776 | 2,889809 | 2,590776 | 2,889809 |

| | | | |
|---|---|---|---|
| T hitung | -2,75714 | a | 3,7E-05 |
| T tabel | 1,966177 | | |

Lampiran 16. Analisis pola pertumbuhan ikan kuniran Upeneus guttatus betina pada bulan September

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0,829394 |
| R Square | 0,687894 |
| Adjusted R Square | 0,673707 |
| Standard Error | 0,054141 |
| Observations | 24 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 0,142132 | 0,142132 | 48,48886 | 5,45E-07 |
| Residual | 22 | 0,064487 | 0,002931 | | |
| Total | 23 | 0,206619 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *Lower 95,0 %* | *Upper 95,0 %* |
|---|---|---|---|---|---|---|---|---|
| Intercept | -3,78942 | 0,722091 | -5,24784 | 2,9E-05 | -5,28695 | -2,2919 | -5,28695 | -2,2919 |
| Log L | 2,448652 | 0,351646 | 6,963394 | 5,45E-07 | 1,719382 | 3,177922 | 1,719382 | 3,177922 |

| | | | |
|---|---|---|---|
| T hitung | 1,893982 | a | 0,000162 |
| T tabel | 2,073873 | | |

Lampiran 17. Analisis pola pertumbuhan ikan kuniran Upeneus guttatus jantan pada bula Oktober

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0,863513 |
| R Square | 0,745654 |
| Adjusted R Square | 0,744831 |
| Standard Error | 0,04746 |
| Observations | 311 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 2,040486 | 2,040486 | 905,8801 | 7,21E-94 |
| Residual | 309 | 0,696019 | 0,002252 | | |
| Total | 310 | 2,736505 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *Lower 95,0%* | *Upper 95,0%* |
|---|---|---|---|---|---|---|---|---|
| Intercept | -4,43377 | 0,188053 | -23,5773 | 4,9E-71 | -4,80387 | -4,06375 | -4,80387 | -4,06375 |
| Log L | 2,755037 | 0,091536 | 30,09784 | 7,21E-94 | 2,574924 | 2,935151 | 2,574924 | 2,935151 |

| | | | |
|---|---|---|---|
| T hitung | -1,80824 | a | 3,68E-05 |
| T tabel | 1,967671 | | |

Lampiran 18. Analisis pola pertumbuhan ikan kuniran Upeneus guttatus betina pada bula Oktober

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0,780632 |
| R Square | 0,609386 |
| Adjusted R Square | 0,600086 |
| Standard Error | 0,052407 |
| Observations | 44 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 0,179962 | 0,179962 | 65,52314 | 4,13E-10 |
| Residual | 42 | 0,115355 | 0,002747 | | |
| Total | 43 | 0,295317 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *Lower 95,0%* | *Upper 95,0%* |
|---|---|---|---|---|---|---|---|---|
| Intercept | -3,75746 | 0,621012 | -6,05054 | 3,36E-07 | -5,01071 | -2,5042 | -5,01071 | -2,5042 |
| Log L | 2,440155 | 0,301453 | 8,094637 | 4,13E-10 | 1,831798 | 3,048513 | 1,831798 | 3,048513 |

| | | | |
|---|---|---|---|
| T hitung | 1,714834 | a | 0,000175 |
| T tabel | 2,018082 | | |

Lampiran 19. Analisis pola pertumbuhan ikan kuniran Upeneus guttatus gabungan pada bulan Agustus

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0,93612 |
| R Square | 0,876321 |
| Adjusted R Square | 0,875985 |
| Standard Error | 0,045752 |
| Observations | 370 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 5,457935 | 5,457935 | 2607,454 | 4,3E-169 |
| Residual | 368 | 0,770299 | 0,002093 | | |
| Total | 369 | 6,228235 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *Lower 95.0%* | *Upper 95.0%* |
|---|---|---|---|---|---|---|---|---|
| Intercept | -4,68654 | 0,117843 | -39,7692 | 2,7E-135 | -4,91827 | -4,45481 | -4,91827 | -4,45481 |
| Log L | 2,881749 | 0,056435 | 51,06323 | 4,3E-169 | 2,770773 | 2,992724 | 2,770773 | 2,992724 |

| | | | | | |
|---|---|---|---|---|---|
| T hitung | -5,14489 | | a | 2,06E-05 | |
| T tabel | 1,966431 | | | | |

Lampiran 20. Analisis pola pertumbuhan ikan kuniran Upeneus guttatus gabungan pada bulan September

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0,871539 |
| R Square | 0,759581 |
| Adjusted R Square | 0,75899 |
| Standard Error | 0,053055 |
| Observations | 409 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 3,619545 | 3,619545 | 1285,875 | 4,8E-128 |
| Residual | 407 | 1,145644 | 0,002815 | | |
| Total | 408 | 4,76519 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *Lower 95.0%* | *Upper 95.0%* |
|---|---|---|---|---|---|---|---|---|
| Intercept | -4,35875 | 0,155691 | -27,9961 | 6,42E-97 | -4,66481 | -4,05269 | -4,66481 | -4,05269 |
| Log L | 2,706165 | 0,075467 | 35,8591 | 4,8E-128 | 2,557812 | 2,854518 | 2,557812 | 2,854518 |

| | | | |
|---|---|---|---|
| **T hitung** | **-2,72908** | **a** | **4,38E-05** |
| **T tabel** | **1,96581** | | |

Lampiran 21. Analisis pola pertumbuhan ikan kuniran Upeneus guttatus gabungan pada bulan Oktober

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0,853321 |
| R Square | 0,728156 |
| Adjusted R Square | 0,727386 |
| Standard Error | 0,048894 |
| Observations | 355 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 2,260452 | 2,260452 | 945,5408 | 7,1E-102 |
| Residual | 353 | 0,843897 | 0,002391 | | |
| Total | 354 | 3,104349 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *Lower 95.0%* | *Upper 95.0%* |
|---|---|---|---|---|---|---|---|---|
| Intercept | -4,4068 | 0,183364 | -24,0331 | 2,67E-76 | -4,76742 | -4,04618 | -4,76742 | -4,04618 |
| Log L | 2,743581 | 0,089223 | 30,74965 | 7,1E-102 | 2,568105 | 2,919057 | 2,568105 | 2,919057 |

| | | | |
|---|---|---|---|
| **T hitung** | **-1,9126** | **a** | **3,92E-05** |
| **T tabel** | **1,966707** | | |