# ### Sawlogs growth

> process\_and\_analyze("Saw")

Call:

lm(formula = T1 ~ T0, data = data)

Residuals:

Min 1Q Median 3Q Max

-41.650 -1.910 -0.026 2.347 37.727

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 2.749700 0.089058 30.88 <2e-16 \*\*\*

T0 1.029104 0.002811 366.12 <2e-16 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 4.832 on 6269 degrees of freedom

Multiple R-squared: 0.9553, Adjusted R-squared: 0.9553

F-statistic: 1.34e+05 on 1 and 6269 DF, p-value: < 2.2e-16

Call:

lm(formula = T1 ~ T0 + I(T0^2), data = data)

Residuals:

Min 1Q Median 3Q Max

-38.382 -1.693 -0.007 2.169 37.127

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 2.082e+00 1.105e-01 18.83 <2e-16 \*\*\*

T0 1.092e+00 6.879e-03 158.81 <2e-16 \*\*\*

I(T0^2) -7.891e-04 7.842e-05 -10.06 <2e-16 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 4.794 on 6268 degrees of freedom

Multiple R-squared: 0.956, Adjusted R-squared: 0.956

F-statistic: 6.815e+04 on 2 and 6268 DF, p-value: < 2.2e-16

Call:

lm(formula = T1 ~ T0 + I(T0^(1/2)), data = data)

Residuals:

Min 1Q Median 3Q Max

-38.853 -1.550 -0.001 2.126 37.255

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 0.523044 0.208095 2.513 0.012 \*

T0 0.919928 0.009653 95.300 <2e-16 \*\*\*

I(T0^(1/2)) 1.114247 0.094343 11.811 <2e-16 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 4.78 on 6268 degrees of freedom

Multiple R-squared: 0.9563, Adjusted R-squared: 0.9563

F-statistic: 6.857e+04 on 2 and 6268 DF, p-value: < 2.2e-16

Min. 1st Qu. Median Mean 3rd Qu. Max.

0.00279 6.74273 17.23101 23.07774 33.04906 164.03067

Min. 1st Qu. Median Mean 3rd Qu. Max.

0.00279 9.05751 20.69381 26.49911 37.28077 171.13827

# #### Pulplogs growth: this is changed due to mistake

> process\_and\_analyze("Pulp")

Call:

lm(formula = T1 ~ T0, data = data)

Residuals:

Min 1Q Median 3Q Max

-55.411 -2.801 0.208 3.257 39.757

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 4.488780 0.128961 34.81 <2e-16 \*\*\*

T0 1.002743 0.002902 345.50 <2e-16 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 6.066 on 6359 degrees of freedom

Multiple R-squared: 0.9494, Adjusted R-squared: 0.9494

F-statistic: 1.194e+05 on 1 and 6359 DF, p-value: < 2.2e-16

Call:

lm(formula = T1 ~ T0 + I(T0^2), data = data)

Residuals:

Min 1Q Median 3Q Max

-53.079 -2.685 0.164 3.168 39.325

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 3.663e+00 1.723e-01 21.256 < 2e-16 \*\*\*

T0 1.055e+00 7.818e-03 134.930 < 2e-16 \*\*\*

I(T0^2) -5.305e-04 7.384e-05 -7.185 7.47e-13 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 6.042 on 6358 degrees of freedom

Multiple R-squared: 0.9498, Adjusted R-squared: 0.9498

F-statistic: 6.019e+04 on 2 and 6358 DF, p-value: < 2.2e-16

Call:

lm(formula = T1 ~ T0 + I(T0^(1/2)), data = data)

Residuals:

Min 1Q Median 3Q Max

-52.794 -2.558 0.155 3.120 39.475

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 1.60437 0.36099 4.444 8.97e-06 \*\*\*

T0 0.90678 0.01159 78.224 < 2e-16 \*\*\*

I(T0^(1/2)) 1.14186 0.13359 8.548 < 2e-16 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 6.032 on 6358 degrees of freedom

Multiple R-squared: 0.95, Adjusted R-squared: 0.95

F-statistic: 6.04e+04 on 2 and 6358 DF, p-value: < 2.2e-16

Min. 1st Qu. Median Mean 3rd Qu. Max.

0.10 15.00 31.70 35.88 51.00 180.00

Min. 1st Qu. Median Mean 3rd Qu. Max.

0.10 19.60 36.40 40.47 56.40 193.60

# #### PulpLD growth: this is changed due to mistake

> process\_and\_analyze("PulpLD")

Call:

lm(formula = T1 ~ T0, data = data)

Residuals:

Min 1Q Median 3Q Max

-154.067 -8.687 0.529 10.149 159.721

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 14.233101 0.475883 29.91 <2e-16 \*\*\*

T0 0.946925 0.004428 213.83 <2e-16 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 19.22 on 6514 degrees of freedom

Multiple R-squared: 0.8753, Adjusted R-squared: 0.8753

F-statistic: 4.572e+04 on 1 and 6514 DF, p-value: < 2.2e-16

Call:

lm(formula = T1 ~ T0 + I(T0^2), data = data)

Residuals:

Min 1Q Median 3Q Max

-154.571 -8.823 0.585 10.238 160.371

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 1.678e+01 6.136e-01 27.347 < 2e-16 \*\*\*

T0 8.961e-01 8.934e-03 100.306 < 2e-16 \*\*\*

I(T0^2) 1.889e-04 2.887e-05 6.544 6.46e-11 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 19.16 on 6513 degrees of freedom

Multiple R-squared: 0.8761, Adjusted R-squared: 0.8761

F-statistic: 2.303e+04 on 2 and 6513 DF, p-value: < 2.2e-16

Call:

lm(formula = T1 ~ T0 + I(T0^(1/2)), data = data)

Residuals:

Min 1Q Median 3Q Max

-155.195 -8.801 0.627 10.273 159.636

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 20.62367 1.65031 12.497 < 2e-16 \*\*\*

T0 1.01799 0.01812 56.175 < 2e-16 \*\*\*

I(T0^(1/2)) -1.40852 0.34833 -4.044 5.32e-05 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 19.2 on 6513 degrees of freedom

Multiple R-squared: 0.8756, Adjusted R-squared: 0.8756

F-statistic: 2.292e+04 on 2 and 6513 DF, p-value: < 2.2e-16

Min. 1st Qu. Median Mean 3rd Qu. Max.

0.50 55.80 87.30 93.04 120.60 735.90

Min. 1st Qu. Median Mean 3rd Qu. Max.

0.30 65.88 96.70 102.33 129.62 764.40

# ##### Total growth

> process\_and\_analyze("Tot")

Call:

lm(formula = T1 ~ T0, data = data)

Residuals:

Min 1Q Median 3Q Max

-172.074 -9.670 1.495 11.592 198.112

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 17.446387 0.523836 33.3 <2e-16 \*\*\*

T0 0.957348 0.003947 242.6 <2e-16 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 21.13 on 6514 degrees of freedom

Multiple R-squared: 0.9003, Adjusted R-squared: 0.9003

F-statistic: 5.884e+04 on 1 and 6514 DF, p-value: < 2.2e-16

Call:

lm(formula = T1 ~ T0 + I(T0^2), data = data)

Residuals:

Min 1Q Median 3Q Max

-175.471 -9.721 1.614 11.691 198.353

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 1.923e+01 7.092e-01 27.117 < 2e-16 \*\*\*

T0 9.256e-01 9.385e-03 98.628 < 2e-16 \*\*\*

I(T0^2) 1.059e-04 2.841e-05 3.728 0.000194 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 21.11 on 6513 degrees of freedom

Multiple R-squared: 0.9005, Adjusted R-squared: 0.9005

F-statistic: 2.948e+04 on 2 and 6513 DF, p-value: < 2.2e-16

Call:

lm(formula = T1 ~ T0 + I(T0^(1/2)), data = data)

Residuals:

Min 1Q Median 3Q Max

-172.504 -9.709 1.508 11.610 198.082

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 18.30731 1.80859 10.122 <2e-16 \*\*\*

T0 0.96567 0.01718 56.193 <2e-16 \*\*\*

I(T0^(1/2)) -0.17754 0.35697 -0.497 0.619

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 21.13 on 6513 degrees of freedom

Multiple R-squared: 0.9003, Adjusted R-squared: 0.9003

F-statistic: 2.942e+04 on 2 and 6513 DF, p-value: < 2.2e-16

Min. 1st Qu. Median Mean 3rd Qu. Max.

0.5 67.1 108.3 115.0 153.6 752.8

Min. 1st Qu. Median Mean 3rd Qu. Max.

0.3 80.4 121.7 127.5 165.2 788.4