

SUPPLEMENTARY MATERIAL 1-2-3

1: Growth model selection and curve parameters

Senecio Plant height

MODEL SELECTION

```
> AIC(modelLin1, modelExp, modelLog, modelGom)
```

	df	AIC
Linear modelLin1	3	693.5859
Exponential modelExp	3	973.8861
Logistic modelLog	4	660.5268
Gompertz modelGom	4	659.9546 → best Model

#---Gompertz MICROPLASTIC

```
> modelGomA <- drm(H_max~ Time, fct=G.3(), data = Micro)
```

```
> summary(modelGomA)
```

Model fitted: Gompertz with lower limit at 0 (3 parms)

Parameter estimates:

	Estimate	Std. Error	t-value	p-value
b:(Intercept)	-0.0170908	0.0019281	-8.8639	6.710e-13 ***
d:(Intercept)	108.0269301	39.2973561	2.7490	0.007676 **
e:(Intercept)	95.6044683	13.5654668	7.0476	1.245e-09 ***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 2.516466 (67 degrees of freedom)

#---Gompertz CONTROL

```
> modelGomB <- drm(H_max~ Time, fct=G.3(), data = CONTROL)
```

```
> summary(modelGomB)
```

Model fitted: Gompertz with lower limit at 0 (3 parms)

Parameter estimates:

	Estimate	Std. Error	t-value	p-value
b:(Intercept)	-0.0165826	0.0007199	-23.0346	< 2.2e-16 ***
d:(Intercept)	262.0247383	53.5651303	4.8917	6.577e-06 ***
e:(Intercept)	110.7644425	5.6881400	19.4729	< 2.2e-16 ***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 2.054765 (67 degrees of freedom)

Senecio Plant width

MODEL SELECTION

> AIC(modelLin1, modelExp, modelAsy, modelLog, modelGom)

	df	AIC
Linear	modelLin1	3
Exponential	modelExp	3
Logistic	modelLog	4
Gompertz	modelGom	4
		515.3365 → best Model

#---Gompertz MICROPLASTIC

> modelGomA <- drm(W_max~ Time, fct=G.3(), + data = Micro)

> summary(modelGomA)

Model fitted: Gompertz with lower limit at 0 (3 parms)

Parameter estimates:

	Estimate	Std. Error	t-value	p-value
b:(Intercept)	-0.084826	0.019723	-4.3009	5.652e-05 ***
d:(Intercept)	9.213638	0.801902	11.4897	< 2.2e-16 ***
e:(Intercept)	17.332810	1.720009	10.0772	4.678e-15 ***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.695173 (67 degrees of freedom)

#---Gompertz CONTROL

```
> modelGomB <- drm(W_max~ Time, fct=G.3(), data = Control)
```

```
> summary(modelGomB)
```

Model fitted: Gompertz with lower limit at 0 (3 parms)

Parameter estimates:

	Estimate	Std. Error	t-value	p-value
b:(Intercept)	-0.0602768	0.0081225	-7.421	2.659e-10 ***
d:(Intercept)	13.1655764	1.0302783	12.779	< 2.2e-16 ***
e:(Intercept)	21.8879049	1.7394998	12.583	< 2.2e-16 ***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.04562 (67 degrees of freedom)

Centaurea Plant width

MODEL SELECTION

```
> AIC(modelLin1, modelExp, modelAsy, modelLog, modelGom)
```

	df	AIC
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Linear modelLin1	3	569.7401
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Exponential modelExp	3	912.4039
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Logistic modelLog	4	487.3535 → best Model
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Gompertz modelGom	4	489.0323
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> #---Logistic MICROPLASTIC

```
> modelLogA <- drm(W_max~ Time, fct=L.3(), data = Micro)
```

```
> summary(modelLogA)
```

Model fitted: Logistic (ED50 as parameter) with lower limit fixed at 0 (3 parms)

Parameter estimates:

	Estimate	Std. Error	t-value	p-value
b:(Intercept)	-0.179287	0.024404	-7.3465	6.405e-10 ***
d:(Intercept)	13.650060	0.442941	30.8169	< 2.2e-16 ***
e:(Intercept)	15.869073	0.923046	17.1921	< 2.2e-16 ***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.887986 (60 degrees of freedom)

> #---Logistic CONTROL

```
modelLogB <- drm(W_max~ Time, fct=L.3(), data = Control)
> summary(modelLogB)
```

Model fitted: Logistic (ED50 as parameter) with lower limit fixed at 0 (3 parms)

Parameter estimates:

	Estimate	Std. Error	t-value	p-value
b:(Intercept)	-0.182461	0.017367	-10.506	1.46e-14 ***
d:(Intercept)	15.693909	0.360419	43.544	< 2.2e-16 ***
e:(Intercept)	16.154117	0.650009	24.852	< 2.2e-16 ***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.460335 (53 degrees of freedom)

Centaurea Plant heighth

```
> AIC(modelLin1, modelExp, modelAsy, modelLog, modelGom)
```

	df	AIC
Linear	modellin1	3
		539.2306 → best Model
Exponential	modelExp	3
		876.8423

Logistic	modelLog	4	556.5415
Gompertz	modelGom	4	548.7721

> #---Linear **MICROPLASTIC**

```
modelLin1A <- lm(H_max~ Time, data = Micro)
```

```
> summary(modelLin1A)
```

Call:

```
lm(formula = H_max ~ Time, data = Micro)
```

Residuals:

Min	1Q	Median	3Q	Max
-6.1568	-0.7942	-0.0993	0.9007	6.6210

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	0.79422	0.44954	1.767	0.0823 .
Time	0.25656	0.01528	16.790	<2e-16 ***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 2.014 on 61 degrees of freedom

Multiple R-squared: 0.8221, Adjusted R-squared: 0.8192

F-statistic: 281.9 on 1 and 61 DF, p-value: < 2.2e-16

> #---Linear **CONTROL**

```
modelLin1B <- lm(H_max~ Time, data = Control)
```

```
> summary(modelLin1B)
```

Call: lm(formula = H_max ~ Time, data = Control)

Residuals:

Min	1Q	Median	3Q	Max
-4.3281	-0.9498	-0.2854	0.8541	8.2719

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
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(Intercept) 0.72562 0.51882 1.399 0.168

Time 0.32358 0.01764 18.347 <2e-16 ***

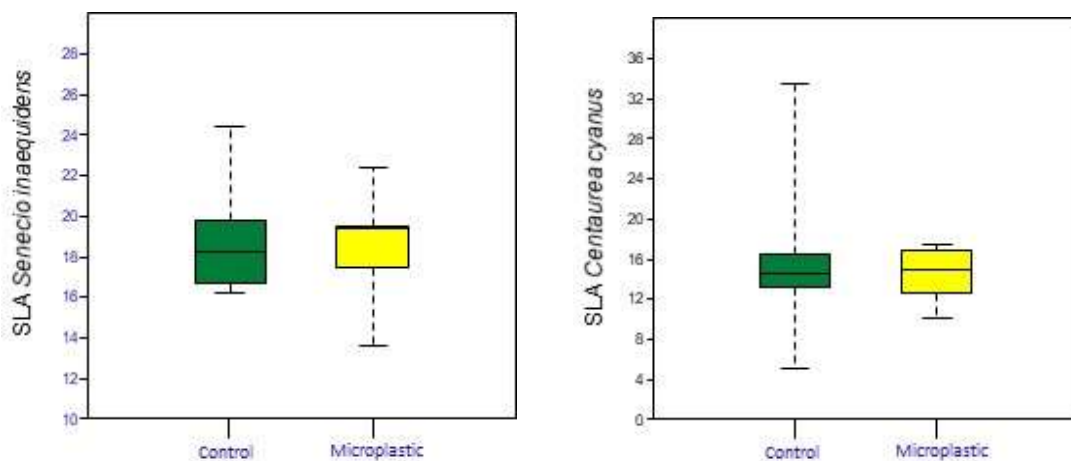
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 2.191 on 54 degrees of freedom

Multiple R-squared: 0.8618, Adjusted R-squared: 0.8592

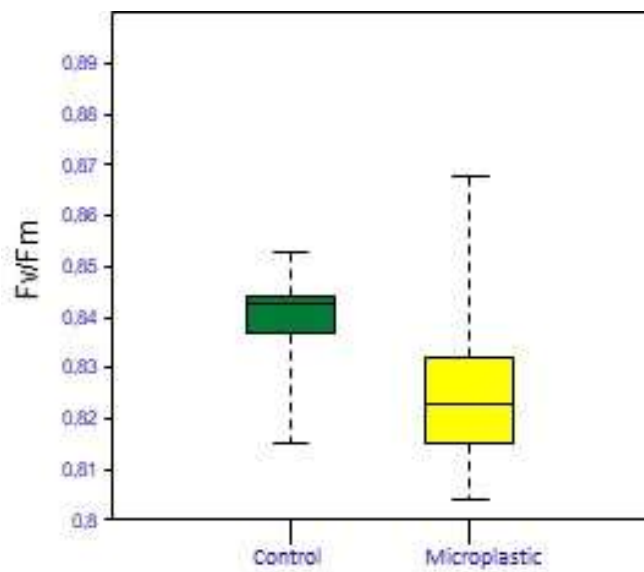
F-statistic: 336.6 on 1 and 54 DF, p-value: < 2.2e-16

2: Graphs of Specific Leaf Area of *Senecio inaequinsens* and *Centaurea cianus*



Specific Leaf Area of *Senecio inaequinsens* (on the left) and *Centaurea cianus* (on the right) with no significant difference between control and treatment

3: Photosynthetic efficiency of *S. inaequindes* (n.s.)



Photosynthetic efficiency of *S. inaequindes* expressed as the index Fv/Fm, did not differ between control and treatment

