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Supplementary: Selection of Salicylic Acid Tolerant Epilines in *Brassica napus*

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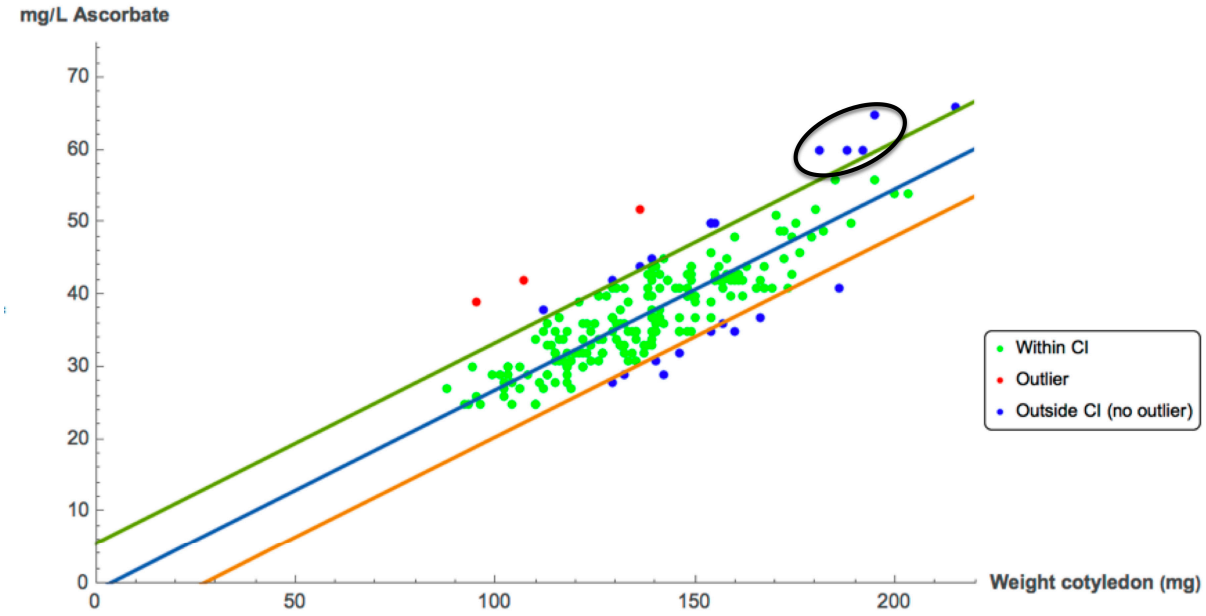

Figure S1. Graph showing the linear regression line with a 90% prediction interval for the ascorbate concentration and weight of cotyledons of a population of 200 seedlings treated with 50 mg/L SA. Seedlings with a high ascorbate concentration and weight falling above the 90% prediction interval were selected (black ellipse).

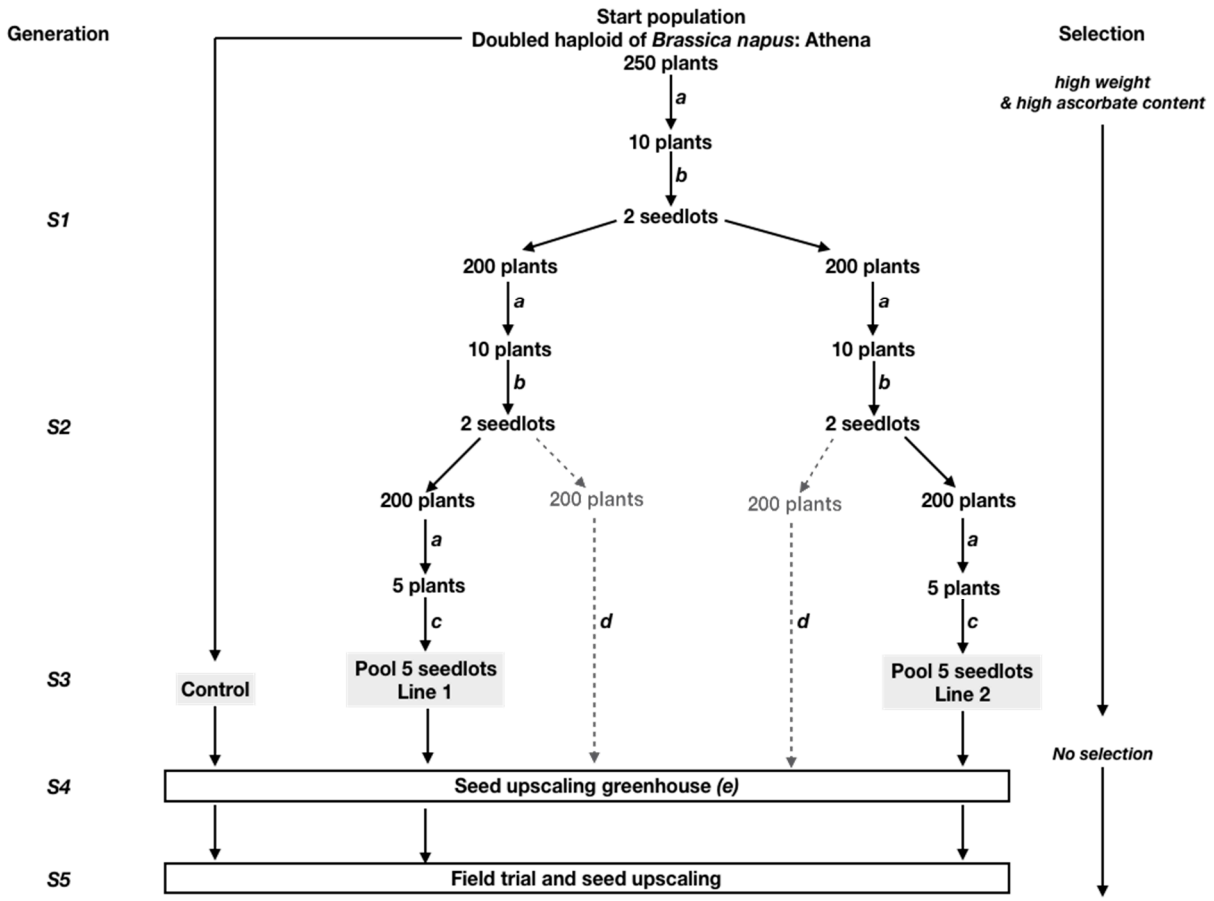

Figure S2. Scheme used to select epilines *Brassica napus* tolerant to SA.

a. Populations were treated with 50 mg/L SA. Ten seedlings/population with a high ascorbate content and cotyledon weight falling above the 90% prediction interval of the regression line weight *versus* ascorbate concentration were selected (Figure S1) for seed production by self-fertilization.
b. From the 10 seed lots, 75 seedlings/seed lot were tested for ascorbate concentration and weight. Two seed lots with the highest ascorbate concentration and weight of the cotyledons (after treatment with SA) were retained.
c. In the last selection step, five seedlings with the highest ascorbate concentration and cotyledon weight (after SA treatment) were selected for seed production by self-fertilization. The five seed lots were pooled, resulting in Line 1 and Line 2.
d. The same selection as in (c) was applied, but the lines were not studied further (molecular analyses, field trials).
e. Seed up-scalings were done with 50 plants of both Line 1 and Line 2.

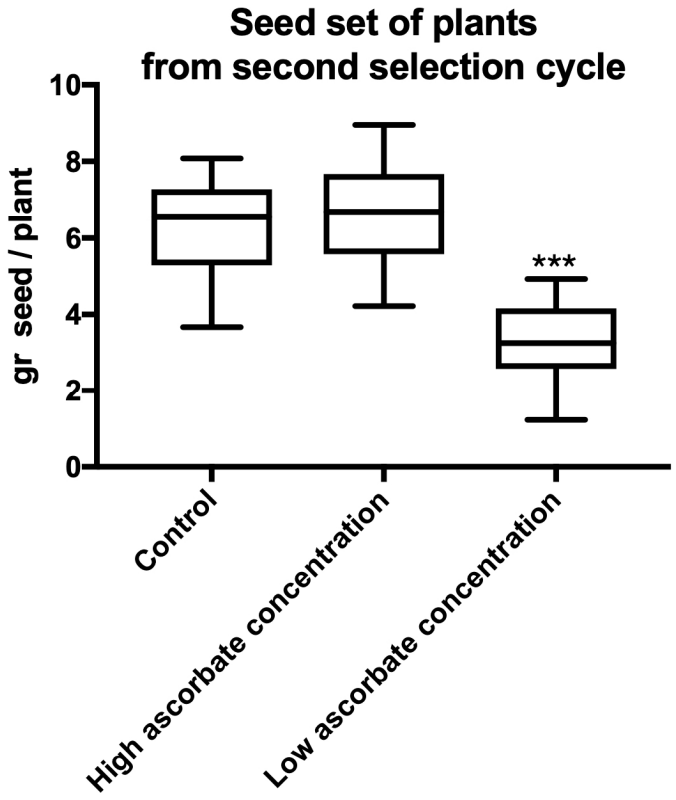

Figure S3. Seed set of plants obtained in second selection cycle (generation S2, Figure S2) and of not selected plants (control). Selection has been done for plants with cotyledons with a high weight and a high respectively low ascorbate concentration. Statistical significance *versus* control using one-way ANOVA with Dunnett's post-hoc test: *** $P < 0.001$

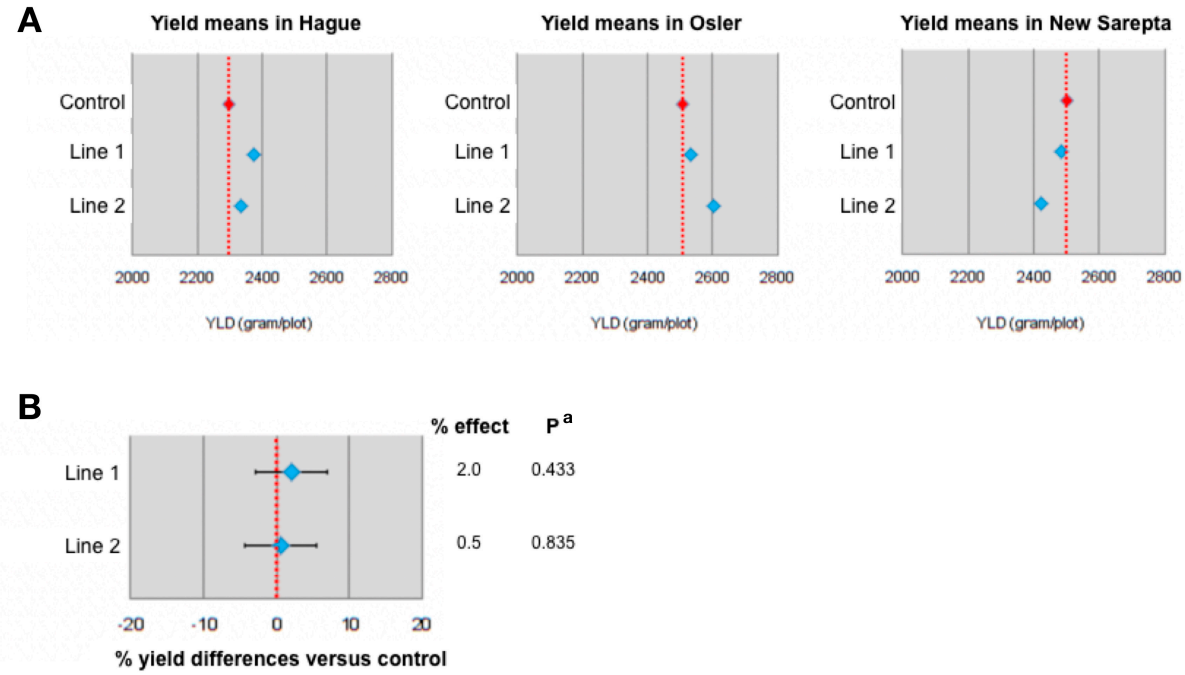

Figure S4. Seed yield of the selected Lines 1 and 2 compared to the control. (**A**) Yield means, of four repetions, at the three locations in Canada. (**B**) The yield differences *versus* the control (red line).

[a] One-way ANOVA with Tukey's post-hoc test.

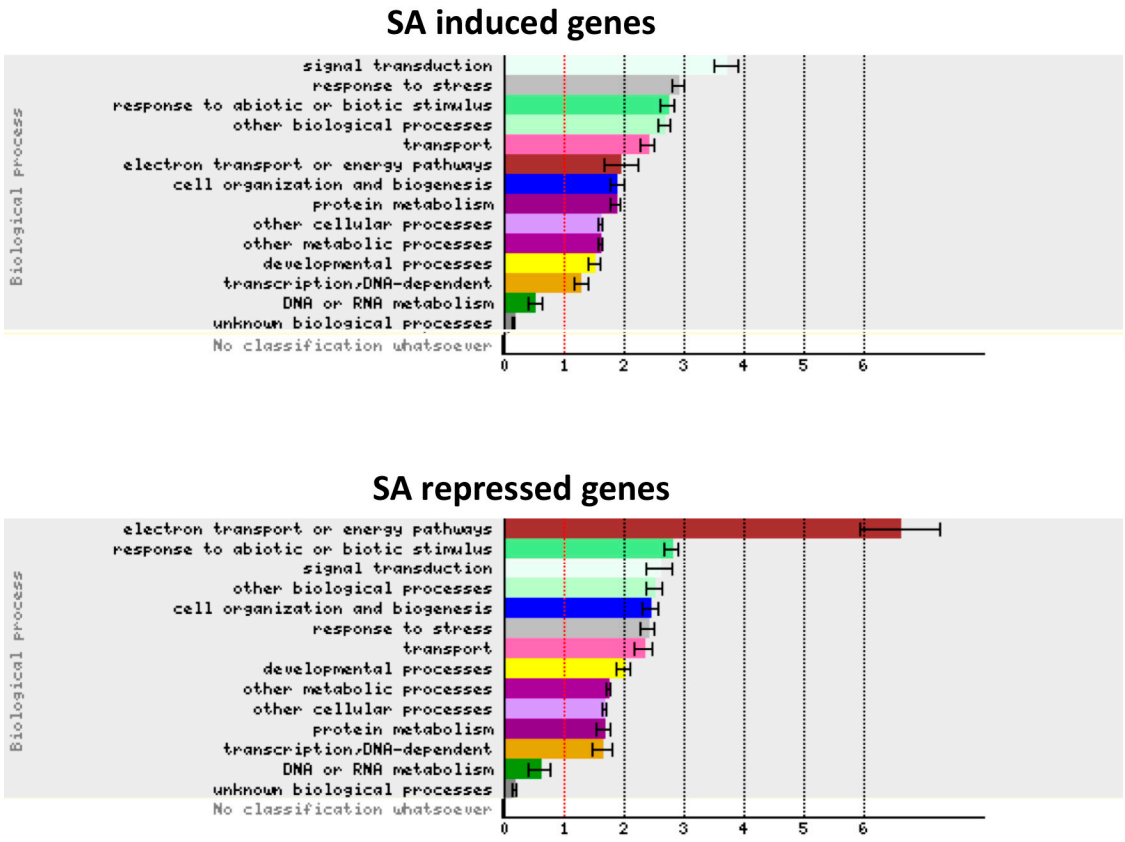

Figure S5. GO analysis. Annotated genes identified were analyzed with the PANTHER GO overrepresentation tool (http://www.pantherdb.org/) against *Arabidopsis thaliana* for overrepresentation *versus* a normalized sampling.

Table S1. Primers used for RT-qPCR

Name	Gene	Sequence
PR1_1F	PR1	ccttgtgggagctcttgttc
PR1_2R		ccccgaggatcatagttgc
PR2_1F	PR2	cgggagaataggaaacaacc
PR2_1R		ccatacttgggctgttgattg
TIP41 forw603	TIP41 like	agatgaactggctgacaatgga
tip41like rev 704		ccatcaactctaagccaaaatcg
WRKY70_3F	WRKY70	aagcttcaacagctcctctctc
WRKY70_1R		ttcctcttcattcatcgaggtc
NIMIN1_1R	NIMIN1	tcttgtccctccttctttgc
NIMIN1_2F		accaaaatgtggagatcaagg
NIMIN2_1F	NIMIN2	tcggagatgaaagaggaacg
NIMIN2_2R		gggttccggttgacagttaag
EF1 forw 398	EF1®	tggtggttttgaggctggtat
EF1 rev 507		catccatcttgttacagcagcaa

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