

Figure 1. Effect of different concentrations of Cr and Cd on survival and callus formation of *N. langsdorffii* leaf explants determined after one month of culture and on *in vitro* growth of *Nicotiana* plants after fifteen days of metal treatments. Bar errors correspond to the standard deviation of three replicates (90 explants).

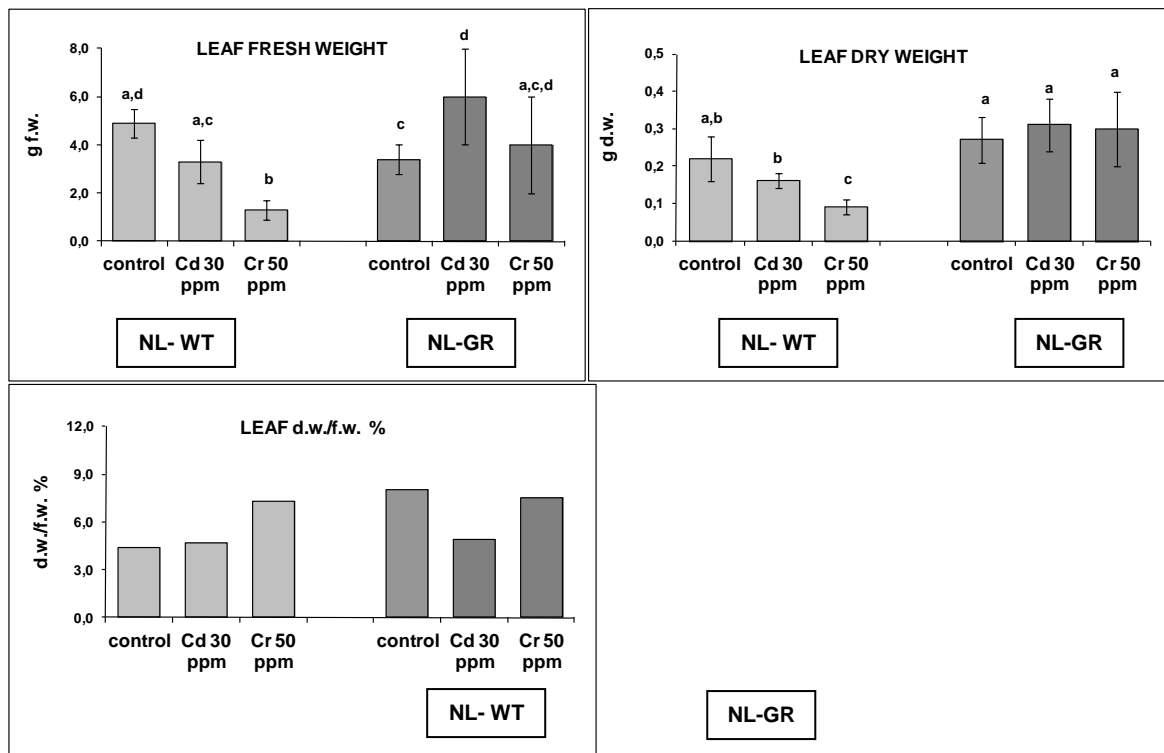


Figure 2. Leaf fresh weight (f.w.), dry weight (d.w.) and d.w./f.w. percentage of wild type (NL-WT) and transformed (NL-GR) *Nicotiana langsdorffii* samples exposed or not to 50 mg/kg Cr(VI) or 30 mg/kg Cd(II) in the culture medium. Bar errors correspond to the standard deviation for n=5. Values with the same letter were not statistically different at 1% significance level according to Tamhane test.

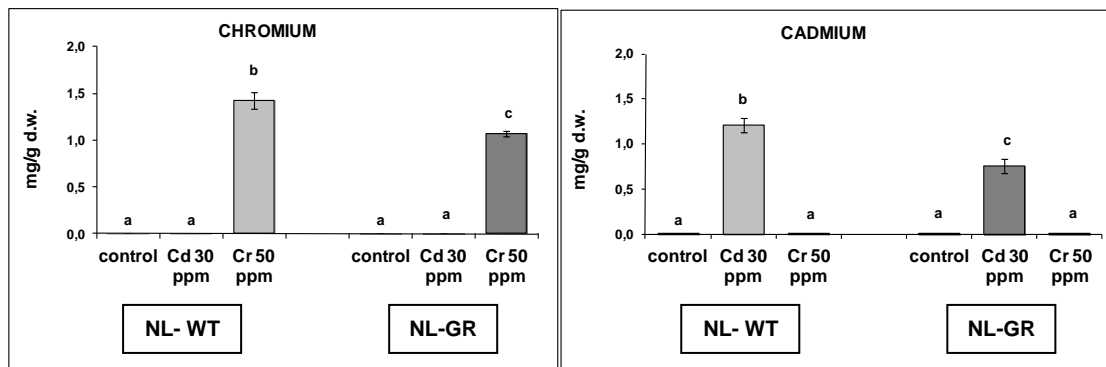


Figure 3. Chromium and cadmium concentration in wild type (NL-WT) and transformed (NL-GR) *Nicotiana langsdorffii* samples exposed or not to 50 mg/kg Cr(VI) or 30 mg/kg C(II) in the culture medium. Bar errors correspond to the standard deviation for n=5. Values with the same letter were not statistically different at 1% significance level according to Tamhane test.

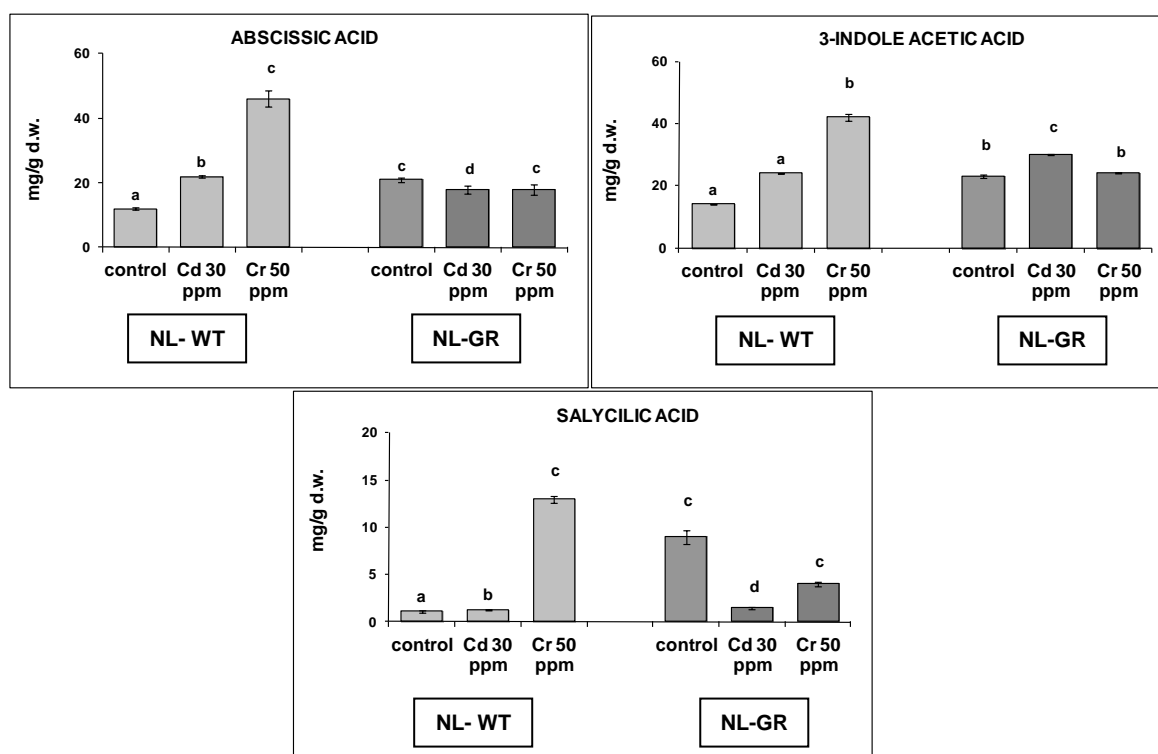


Figure 4. Abscisic acid (S-ABA), 3-indoleacetic acid (IAA) and salicylic acid (SAL) concentration in wild type (NL-WT) and transformed (NL-GR) *Nicotiana langsdorffii* samples exposed or not to 50 mg/kg Cr(VI) or 30 mg/kg C(II) in the culture medium. Bar errors correspond to the standard deviation for n=5. Values with the same letter were not statistically different at 1% significance level according to Tamhane test.

Analyte	NL WT	NL-WT Cd	NL-WT Cr	NL GR	NL-GR Cd	NL-GR Cr
S-ABA (ng/g f.w.)	12 (1)	22 (3)	46 (5)	21 (3)	18 (2)	18 (2)
IAA (ng/g f.w.)	14 (2)	24 (5)	42 (8)	23 (4)	30 (5)	24 (4)
SHI (µg/g f.w.)	7 (1)	8 (2)	22 (6)	9 (5)	11 (5)	27 (7)
SAL (µg/g f.w.)	1.1 (0.3)	1.3 (0.2)	13 (6)	9 (3)	1.5 (0.5)	4 (2)

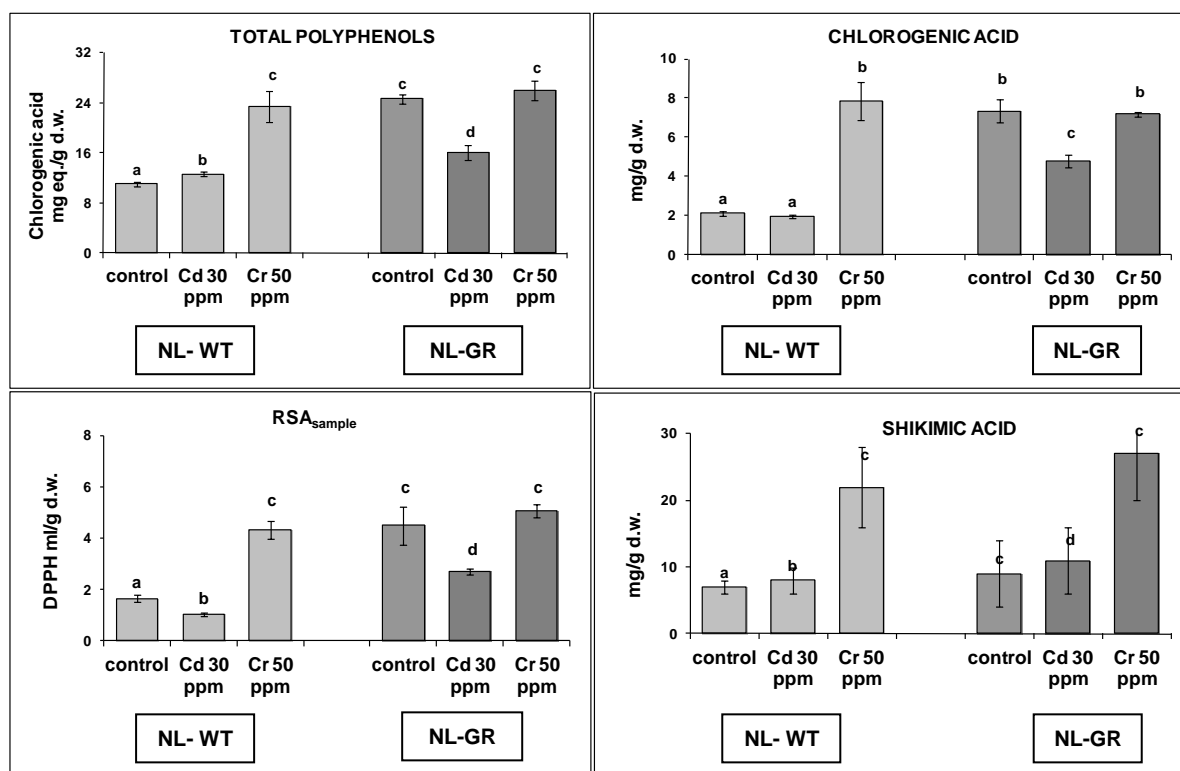


Figure 5. Polyphenols, chlorogenic acid, RSA_{sample} and shikimic acid concentration in wild type (NL-WT) and transformed (NL-GR) *Nicotiana langsdorffii* samples exposed or not to 50 mg/kg Cr(VI) or 30 mg/kg C(II) in the culture medium. Bar errors correspond to the standard deviation for n=5. Values with the same letter were not statistically different at 1% significance level according to Tamhane test.

Figure legend

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