

## NUMERICAL DATA

### Response of gas-exchange characteristics and chlorophyll fluorescence to acute sulfur dioxide exposure in landscape plants (2019)

Effect of SO<sub>2</sub> exposure on chlorophyll a (Chl.a), chlorophyll b (Chl.b) and carotenoid (Car) contents in leaves of landscape plants.

SO <sub>2</sub> dose (mg m <sup>-3</sup> )	<i>E. kiautschovicus</i>			<i>L. vicaryi</i>			<i>S. oblata</i>		
	<i>Chl.a</i>	Chl.b	Car	<i>Chl.a</i>	<i>Chl.b</i>	Car	<i>Chl.a</i>	<i>Chl.b</i>	Car
	<i>(mg g<sup>-1</sup>FW)</i>			(mg g <sup>-1</sup> F W)	(mg g <sup>-1</sup> F W)				
<b>0</b>	1.973a	0.887a	0.38 6a	1.144 a	0.553a	0.291 a	2.172 a	0.809 a	<b>0.3 85a</b>
<b>25</b>	1.834a b	0.772a b	0.37 4ab	1.031 b	0.423a b	0.252 b	1.285 b	0.522 b	<b>0.30 1b</b>
<b>50</b>	1.802a b	0.771a b	0.35 0ab	0.948 c	0.395a b	0.223 c	1.188 bc	0.444 c	<b>0.2 59c</b>
<b>100</b>	1.764b	0.769a b	0.34 6b	0.893 c	0.343b	0.219 cd	1.199 c	0.442 c	<b>0.2 57c</b>
<b>200</b>	<b>1.722b</b>	<b>0.721 b</b>	<b>0.34 2b</b>	<b>0.778 d</b>	<b>0.338b</b>	<b>0.198 d</b>	<b>1.186 c</b>	<b>0.437 c</b>	<b>0.2 57c</b>

Note: Each value is the mean ± SE of 3 independent experiments. Different letters indicate significant differences between treatments (P < 0.05).

**Source:** <https://www.sciencedirect.com/science/article/pii/S0147651318313617>

## Leaf demography and growth analysis to assess the impact of air pollution on plants: A case study on alfalfa exposed to a gradient of sulphur dioxide concentrations (2019)

Variation in averaged (among cohorts) leaf birth ( $Br$ ), death ( $Dr$ ), recruitment ( $Rr$ ) and turnover rates ( $Tr$ ) of alfalfa leaves exposed to 0, 30, 60 and 90 ppb of sulphur dioxide ( $SO_2$ ) for consecutive days. Data are shown as mean  $\pm$  standard error. F and P values of one-way analysis of variance for the effects of  $SO_2$  are shown (\*:  $P \leq 0.05$ , \*\*:  $P \leq 0.01$ , \*\*\*:  $P \leq 0.001$ ). For each trait, different letters show significant differences among treatments (Tukey test,  $P \leq 0.05$ ).

$SO_2$ (ppb)	$Br$ ( $d^{-1}$ )	$Dr$ ( $d^{-1}$ )	$Rr$ ( $d^{-1}$ )	( $Tr$ )
0	5.51 $\pm$ 0.21 b	0.14 $\pm$ 0.02 a	5.37 $\pm$ 0.21 b	40.1 $\pm$ 8.8 b
30	4.28 $\pm$ 0.23 a	0.19 $\pm$ 0.01 ab	4.09 $\pm$ 0.23 a	25.6 $\pm$ 6.3 ab
60	6.52 $\pm$ 0.12 c	0.64 $\pm$ 0.17 b	5.89 $\pm$ 0.20 b	18.8 $\pm$ 3.7 a
90	5.53 $\pm$ 0.38 b	0.17 $\pm$ 0.01 ab	5.35 $\pm$ 0.38 b	22.9 $\pm$ 5.5 ab
$SO_2$	14.57***	3.96**	8.18***	3.79*

Source: <https://sci-hub.tw/https://doi.org/10.1016/j.apr.2019.10.006>

Variation in total stomatal density (TSD) and abaxial/adaxial stomatal ratio (Ab/AdSD) of alfalfa leaves produced under 0, 30, 60 and 90 ppb of sulphur dioxide ( $SO_2$ ) for 45 consecutive days. Data are shown as mean  $\pm$  standard error. F and P values of one-way analysis of variance for the effects of  $SO_2$  are shown (\*\*:  $P \leq 0.01$ , \*\*\*:  $P \leq 0.001$ ). For each trait, different letters show significant differences among treatments (Tukey test,  $P \leq 0.05$ ).

$SO_2$ (ppb)	TSD (stomata $mm^{-2}$ )	Ab/AdSD
0	493 $\pm$ 7 c	1.10 $\pm$ 0.03 ab
30	405 $\pm$ 3 b	1.35 $\pm$ 0.04 c
60	407 $\pm$ 4 b	1.22 $\pm$ 0.08 bc
90	285 $\pm$ 17 a	0.96 $\pm$ 0.02 a
$SO_2$	79.87***	11.05**

Source: <https://sci-hub.tw/https://doi.org/10.1016/j.apr.2019.10.006>

## Potential of Detecting the Sulfur Dioxide Stress on Landscape Plants in Spectral Reflectance Data (2018)

Table 1. The relative changed value of sulfur content ( $\Delta S$ ) in leaf with the cumulative sulfur dioxide ( $SO_2$ ) stress time.

<b>DS</b>	0 h	2 h	4 h	6 h	8 h	10 h	12 h
<b>R. pseudoacacia</b>	0	0.16	- 0.06	- 0.37	0.07	0.40	0.34
<b>K. paniculata</b>	0	1.90	1.24	0.72	1.54	1.55	2.30
<b>L. lucidum</b>	0	- 0.17	0.10	- 0.12	0.14	0.20	0.26
<b>A. buergerianum</b>	0	0.10	- 0.24	- 0.23	0.55	0.27	0.25
<b>C. camphora</b>	0	0.50	0.44	1.02	0.07	2.91	0.76

Table showed leaf chlorophyll content changes with the cumulative  $SO_2$  stress time. The leaf chlorophyll content was decreased in general but the decrease trends were different in different species. Leaf chlorophyll contents were significantly decreased in *A. buergerianum*, *C. camphora* and *K. paniculata*, and the decreased amplitude was  $-0.05$  or less, the greatest decreased can reached to  $-0.30$ ; chlorophyll content changes in *L. lucidum* was not obvious in the initial stage of stress, and after 10 h, the relative values were only lower than  $-0.10$ . Chlorophyll content changes in *R. pseudoacacia* were tremendous, and leaf chlorophyll content decreased during 0–12 h, only except at 6 h.

**Source :** <https://link.springer.com/article/10.1007/s12524-017-0717-3>

## Physiological characteristics of *Plantago major* under SO<sub>2</sub> exposure as affected by foliar iron spray (2017)

Table 1: Effect of SO<sub>2</sub> exposure and foliar application of Fe on leaf concentration of chlorophyll a and b, carotenoids, shoot dry mass, and intensity of chlorosis of plantain (mean  $\pm$  SE).

SO <sub>2</sub>	Chlorophyll a		Chlorophyll b		Carotenoid			Shoot dry mass		Intensity of chlorosis (%)	
concentration								(g pot <sup>-1</sup> )			
( $\mu\text{g m}^{-3}$ )	(mg g <sup>-1</sup> FW)										
	-Fe	+Fe	-Fe	+Fe	-Fe	+Fe		-Fe	+Fe	-Fe	+Fe
0	1.85 $\pm$ 0.25b	2.15 $\pm$ 0.23a	0.47 $\pm$ 0.07b	0.56 $\pm$ 0.04a	0.29 $\pm$ 0.02b	0.36 $\pm$ 0.05a	$\pm$ 0.05a	5.4 $\pm$ 0.31b	6.48 $\pm$ 0.39a	15– 20	10– 15
3900	1.80 $\pm$ 0.07b	2.06 $\pm$ 0.11a	0.44 $\pm$ 0.02b	0.53 $\pm$ 0.03a	0.32 $\pm$ 0.04b	0.30 $\pm$ 0.02b	$\pm$ 0.02b	5.4 $\pm$ 0.49b	5.76 $\pm$ 0.61a	>20	>15

Means with similar letters are not significantly different at  $P < 0.05$

**Source:** <https://link.springer.com/article/10.1007/s11356-017-9457-8>