CORRECTION



## Correction to: Functions of Oligosaccharides in Improving Tomato Seeding Growth and Chilling Resistance

Jiuxing He<sup>1</sup> · Wei Han<sup>2</sup> · Juan Wang<sup>3</sup> · Yuanchao Qian<sup>1</sup> · Makoto Saito<sup>4</sup> · Wenbo Bai<sup>1</sup> · Jiqing Song<sup>1</sup> · Guohua Lv<sup>1</sup>

Published online: 22 March 2022 © Springer Science+Business Media, LLC, part of Springer Nature 2022

## **Correction to:**

## Journal of Plant Growth Regulation (2022) 41:535–545 https://doi.org/10.1007/s00344-021-10319-0

The original version of this article unfortunately contained some mistakes.

In Table 1, some entries under the "Number" column were incorrect. The corrected Table 1 is presented below.

In Table 2, some entries under the "Treatment" column were incorrect. The corrected Table 2 is presented below.

In Fig. 3, the wrong images were used to show the fluorescence parameter Fo and Fv/Fm (Before chilling stress) for the COS treatment. The corrected Fig. 3 is presented below.

The original article has been corrected.

The original article can be found online at https://doi.org/10.1007/s00344-021-10319-0.

Jiqing Song songjiqing@caas.cn

- Guohua Lv lvguohua@caas.cn
- <sup>1</sup> Institute of Environment and Sustainable Development in Agriculture, Chinese Academy of Agricultural Sciences, No. 12, Zhongguancun South Street, Haidian District, Beijing 100081, China
- <sup>2</sup> Shandong General Station of Agricultural Technology Extension, No. 7 Shimuyuan East Street, Lixia District, Jinan 250100, China
- <sup>3</sup> College of Resource, Sichuan Agricultural University, No. 211 Huimin Road, Wenjiang District, Chengdu 611130, China
- <sup>4</sup> Showa Denko K.K., Minato-ku, Tokyo 105-8518, Japan

Deringer

Table 1Characteristics ofoligosaccharide materials

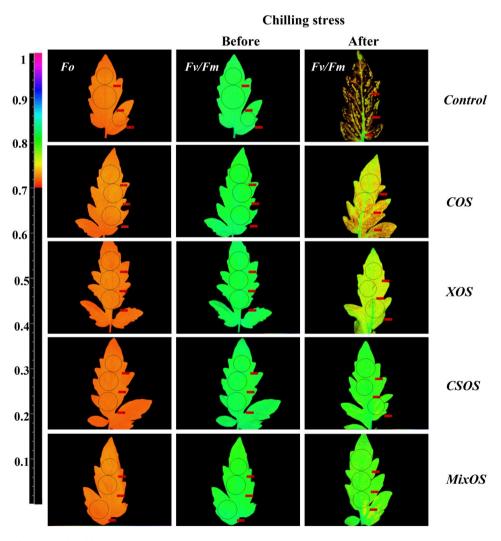
Number	Materials Molecular formula		Molecular	pH	
Control	Water	H <sub>2</sub> O	18	7.0	
COS	Cello-oligosaccharide	$C_6H_{11}O_6(C_6H_{10}O_5)_4$	827	6.3	
XOS	Xylooligosaccharide	$C_5H_9O_5(C_5H_9O_4)_{3.1}$	561.3	6.0	
CSOS	Chitosan oligosaccharide	C <sub>8</sub> H <sub>14</sub> NO <sub>6</sub> (C <sub>8</sub> H <sub>13</sub> NO <sub>5</sub> ) <sub>4.6</sub>	1159.4	6.4	
MixOS	Oligomix	-	-	6.4	

 Table 2
 The main characteristics of tomato seedling roots

Treatment	Material	Length (cm)	Volume (cm <sup>2</sup> )	Surface area (cm <sup>3</sup> )	Main root length (cm)
Control	Water	$852.3 \pm 80.8c$	$0.7 \pm 0.1c$	$88.4 \pm 7.7c$	$21.8 \pm 2.6 bc$
COS	Cello-oligosaccharide	$1290.4 \pm 140.0b$	$1.1 \pm 0.1b$	$134.2 \pm 10.7 b$	$28.2 \pm 2.0a$
XOS	Xylooligosaccharide	1943.2±146.2a	$1.5 \pm 0.1a$	190.7 ± 10.1a	$22.0 \pm 1.2 bc$
CSOS	Chitosan Oligosaccharide	1193.9±84.1b	$1.1 \pm 0.1b$	$127.43 \pm 9.4b$	$20.6 \pm 0.6c$
MixOS	oligomix	$1418.8 \pm 57.3 b$	$1.1 \pm 0.1 b$	$137.92 \pm 9.2b$	$26.4 \pm 1.2$ ab

Means followed by the same letter within a column are not significantly different at the 0.05 probability level according to the least significant difference (LSD) test. Each value represents the mean  $\pm$  SE (n=4).

Fig. 3 The images of fluorescence parameter Fo, the Fv/Fm (threshold > 0.7) before chilling stress, and the Fv/Fm (threshold>0.7) after chilling stress of the tomato seedling. In the image, when the color is closer to darker green, the greater the Fv/Fm is. Conversely, the darker the color of jacinth, the more serious the damage in PS II. COS foliar application of cello-oligosaccharide, XOS foliar application of xylooligosaccharide, CSOS foliar application of chitosan oligosaccharide, MixOS foliar application of oligomix, control, foliar application of distilled water (Color figure online)



**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.