Correction to: Exposing the hidden half: root research at the forefront of science

Jhonathan E. Ephrath · Tamir Klein ·
Robert E. Sharp · Naftali Lazarovitch

Published online: 11 February 2020
© Springer Nature Switzerland AG 2020

Correction to: Plant and Soil

<https://doi.org/10.1007/s11104-019-04417-y>

In the published version of this editorial paper, the sentence in the first paragraph should be corrected as shown below:

This special section of Plant and Soil contains 13 contributions based on presentations at the 10th Symposium of the International Society of Root Research (ISRR10), which took place in Israel from 8 to 12 July, 2018

The online version of the original article can be found at
<https://doi.org/10.1007/s11104-019-04417-y>

J. E. Ephrath (✉) · N. Lazarovitch
French Associates Institute for Agriculture and Biotechnology of
Drylands, Jacob Blaustein Institutes for Desert Research,
Ben-Gurion University of the Negev, 8499000 Midreshet
Ben-Gurion, Israel
e-mail: yoni@bgu.ac.il

T. Klein
Department of Plant and Environmental Sciences, Weizmann
Institute of Science, 76100 Rehovot, Israel

R. E. Sharp
Interdisciplinary Plant Group and Division of Plant Sciences,
University of Missouri, Columbia, MO 65211, USA

Also, in the Biotic interactions section, it should be read as:

Optimizing plant nutrition through improved understanding of rhizosphere processes is key to a future of higher soil degradation and expectations for decreased fertilizer inputs. To what extent do rhizosphere conditions and root morphology affect soil P mobilization into plant roots? Partitioning the relative roles of parameters like soil pH, organic anions, and phosphatase enzymes can be highly valuable to the agricultural sector. In this special issue, a field experiment in maize/alfalfa polyculture shows that root surface area of maize and lateral root volume of alfalfa had the greatest effect on crop P uptake (Sun et al. 2020). In that experiment, soil pH and organic anions had a secondary effect, still larger than that of phosphatase. Elevated atmospheric CO₂ concentration is another future realm of unknown effects. A greenhouse experiment on maize showed that root systems may grow faster, longer and denser in the future (Hiltpold et al. 2020). But no yin without yang: while roots may benefit from the higher carbon availability, delicate biotic interactions in the rhizosphere change as well. The study showed how beneficial soil nematodes become less effective in decreasing insect pest load at elevated CO₂. Further research of such biotic interactions will allow fine tuning of rhizosphere design for various objectives. One promising tool in studying such complex interactions is polymer models replicating the microstructure of roots (Kumari et al. 2020). Using this novel approach,

researchers showed colonization of root replicates by pathogenic bacteria and nematodes. These fine, artificial replicates help to discriminate the role of microstructure in root-microbe interactions. Katif et al., (2020) defined the role of secondary metabolites synthesized and released by pasture legumes through a series of studies to: 1) characterize key metabolites present in plant tissues, residue and the

rhizosphere and 2) correlate their presence with weed suppressive properties. They provided an evidence for the role of certain annual legume-produced flavonoids in weed suppression in southern Australia and further insight into their localization and release in the soil rhizosphere.