

Output - Florian Walder

<https://orcid.org/0000-0001-7731-7469>

PEER-REVIEWED PUBLICATIONS IN INTERNATIONAL SCIENTIFIC JOURNALS

Büchi, L., **F. Walder**, Banerjee, S., Colombi, T., van der Heijden, M. G., Keller, T., R. Charles & Six, J. (2022). Pedoclimatic factors and management determine soil organic carbon and aggregation in farmer fields at a regional scale. *Geoderma*, 409, 115632.

Riedo, J., F. E. Wettstein, A. Rosch, C. Herzog, S. Banerjee, L. Büchi, R. Charles, D. Wachter, F. Martin-Laurent, T. D. Bucheli*, **F. Walder*** and M. G. A. van der Heijden* (2021). "Widespread Occurrence of Pesticides in Organically Managed Agricultural Soils-the Ghost of a Conventional Agricultural Past?" *Environ Sci Technol* **55**(5): 2919-2928.

Hirte, J*, **F. Walder***, J. Hess, L. Büchi, T. Colombi, M. G. van der Heijden and J. Mayer (2021). "Enhanced root carbon allocation through organic farming is restricted to topsoils." *Sci Total Environ* 755(Pt 2): 143551.

Ma, Y., Zhang, H., Wang, D., Guo, X., Yang, T., Xiang, X., **F. Walder**. and Chu, H. (2021). "Differential responses of arbuscular mycorrhizal fungal communities to long-term fertilization in the wheat rhizosphere and root endosphere". *Applied and Environmental Microbiology*, AEM. 00349-00321.

Gimeno, A., C. E. Stanley, Z. Ngamenie, M. H. Hsung, **F. Walder**, S. S. Schmieder, S. Bindschedler, P. Junier, B. Keller and S. Vogelgsang (2021). "A versatile microfluidic platform measures hyphal interactions between *Fusarium graminearum* and *Clonostachys rosea* in real-time." *Commun Biol* **4**(1): 262.

Romero, F., S. Cazzato, **F. Walder**, S. Vogelgsang, S. F. Bender and M. G. A. van der Heijden (2021). "Humidity and high temperature are important for predicting fungal disease outbreaks worldwide." *New Phytol*. DOI: 10.1111/nph.17340

Jia, Y. Y., M. G. A. van der Heijden, C. Wagg, G. Feng and **F. Walder** (2020). "Symbiotic soil fungi enhance resistance and resilience of an experimental grassland to drought and nitrogen deposition." *Journal of Ecology*.

Maurer, C., D. Müller, M. Lanfranchi, P. Weisskopf, H. R. Oberholzer and **F. Walder** (2020). "Mikrobiologische Parameter in der Kantonalen Bodenbeobachtung – eine Synthese." *Argarforschung Schweiz* **11**: 147–153.

Jia, Y. Y., **F. Walder**, C. Wagg and G. Feng (2020). "Mycorrhizal fungi maintain plant community stability by mitigating the negative effects of nitrogen deposition on subordinate species in Central Asia." *Journal of Vegetation Science* **32**(1).

Jia, Y., Z. Shi, Z. Chen, **F. Walder**, C. Tian and G. Feng (2020). "Soil moisture threshold in controlling above- and belowground community stability in a temperate desert of Central Asia." *Sci Total Environ* **703**: 134650.

Banerjee, S. *, **F. Walder***, L. Büchi, M. Meyer, A. Y. Held, A. Gattinger, T. Keller, R. Charles and M. G. A. van der Heijden (2019). "Agricultural intensification reduces microbial network complexity and the abundance of keystone taxa in roots." *ISME J* **13**(7): 1722-1736.

Colombi, T.*, **F. Walder***, L. Büchi, M. Sommer, K. X. Liu, J. Six, M. G. A. van der Heijden, R. Charles and T. Keller (2019). "On-farm study reveals positive relationship between gas transport capacity and organic carbon content in arable soil." *Soil* **5**(1): 91-105.

Buchi, L., F. Georges, **F. Walder**, S. Banerjee, T. Keller, J. Six, M. van der Heijden and R. Charles (2019). "Potential of indicators to unveil the hidden side of cropping system classification: Differences and similarities in cropping practices between conventional, no-till and organic systems." *European Journal of Agronomy* 109.

Walder, F., K. Schlaeppli, R. Wittwer, A. Y. Held, S. Vogelgsang and M. G. A. van der Heijden (2017). "Community Profiling of Fusarium in Combination with Other Plant-Associated Fungi in Different Crop Species Using SMRT Sequencing." *Front Plant Sci* 8: 2019.

Thonar, C., J. D. S. Lekfeldt, V. Cozzolino, D. Kundel, M. Kulhanek, C. Mosimann, G. Neumann, A. Piccolo, M. Rex, S. Symanczik, **F. Walder**, M. Weinmann, A. de Neergaard and P. Mader (2017). "Potential of three microbial bio-effectors to promote maize growth and nutrient acquisition from alternative phosphorous fertilizers in contrasting soils." *Chemical and Biological Technologies in Agriculture* 4(1).

Walder, F., T. Boller, A. Wiemken and P. E. Courty (2016). "Regulation of plants' phosphate uptake in common mycorrhizal networks: Role of intraradical fungal phosphate transporters." *Plant Signal Behav* 11(2): e1131372.

van der Heijden, M. G. and **F. Walder** (2016). "Reply to 'Misconceptions on the application of biological market theory to the mycorrhizal symbiosis'." *Nat Plants* 2(5): 16062.

Walder, F. and M. G. van der Heijden (2015). "Regulation of resource exchange in the arbuscular mycorrhizal symbiosis." *Nat Plants* 1: 15159.

Walder, F., D. Brule, S. Koegel, A. Wiemken, T. Boller and P. E. Courty (2015). "Plant phosphorus acquisition in a common mycorrhizal network: regulation of phosphate transporter genes of the Pht1 family in sorghum and flax." *New Phytol* 205(4): 1632-1645.

Walder, F., H. Niemann, M. F. Lehmann, T. Boller, A. Wiemken and P.-E. Courty (2013). "Tracking the carbon source of arbuscular mycorrhizal fungi colonizing C3 and C4 plants using carbon isotope ratios ($\delta^{13}C$)." *Soil Biology and Biochemistry* 58: 341-344.

Walder, F., H. Niemann, M. Natarajan, M. F. Lehmann, T. Boller and A. Wiemken (2012). "Mycorrhizal networks: common goods of plants shared under unequal terms of trade." *Plant Physiol* 159(2): 789-797.

Courty, P. E. *, **F. Walder***, T. Boller, K. Ineichen, A. Wiemken, A. Rousteau and M. A. Selosse (2011). "Carbon and nitrogen metabolism in mycorrhizal networks and mycoheterotrophic plants of tropical forests: a stable isotope analysis." *Plant Physiol* 156(2): 952-961.

* Authors contributed equally to the work.

[ORAL CONTRIBUTIONS TO INTERNATIONAL CONFERENCES](#)

EuroSoil 2021 (24.-28.08.2021, Geneva Switzerland) "Healthy soils and diversified crop rotations paving the way to more sustainable agricultural systems", accepted oral contribution,

EuroSoil 2021 (24.-28.08.2021, Geneva Switzerland) "Impact of pesticide residues on abundance, composition and function of the soil microbiome in a farm network"

EJP Soil Science Days 2021 (29.3.-31.3, online): TRACE-Soils breakout session: "Impact of management on soil fungal communities and soil functioning"

OUTREACH ACTIVITIES

Exhibition Body Extravagant, ArtSpace PILZ-WELLE-LUST (26.3-1.5.2021, Basel, Switzerland): Contribution to the exhibition's accompanied publication "Conversation between Merlin Sheldrake and Florian Walder about fungal networks"

Pilz-From-Konferenz; ArtSpace PILZ-WELLE-LUST (12.12.2020, Basel, Switzerland): Talk „Leben und Netzwerke unter unseren Füßen - und ihre Einflüsse auf unsere Welten“

<https://www.youtube.com/watch?v=IrmXPUaryYQ>

Ressource Boden, Zuger Bauernverband (29.01.2020): Talk „Förderung des Bodenlebens und -funktionalität in landwirtschaftlichen Systemen“

Markt der Vielfalt- 1001 Gemüse & Co. (09.09.2018): Talk „Leben und Netzsysteme unter dem Boden“