

**Georg-August-Universität Göttingen**  
**Department für Nutzpflanzenwissenschaften**  
**Abt. Pflanzenernährung und Ertragsphysiologie**

**Verzeichnis der Veröffentlichungen**  
**(List of publications)**

2020 - 2024

## 2024

Baales J, Zeisler-Diehl VV, **Kreszies T**, Klaus A, Hochholdinger F, Schreiber L (2024) Transcriptomic changes in barley leaves induced by alcohol ethoxylates indicate potential pathways of surfactant detoxification. SCI REP-UK 14(1): 4535, <https://doi.org/10.1038/s41598-024-54806-2>

Chandrasekara, C., Rajapaksha, I., Dissanayake, S., Kadupitiya, H., Sirisena, D., Chandrajith, R., **Dittert, K.**, Suriyagoda, L. (2024). Effects of climate, soil and water source on the distribution of bioavailable iron in low-land paddy soils of Sri Lanka. Applied Geochemistry, 160. <https://doi.org/10.1016/j.apgeochem.2023.105875>

Chea, L., Alhussein, M., Karlovsky, P., Pawelzik, E., **Naumann, M.** (2024) Adaptation of potato cultivars to phosphorus variability and enhancement of phosphorus efficiency by *Bacillus subtilis*. BMC Plant Biology 24 (1):1176. <https://doi.org/10.1186/s12870-024-05868-x>

Eckei J, Well R, Maier M, Matson A, **Dittert K**, Rummel PS (2024) Determining N<sub>2</sub>O and N<sub>2</sub> fluxes in relation to winter wheat and sugar beet growth and development using the improved 15 N gas flux method on the field scale. BIOL FERT SOILS 10.1007: 0-0, <https://doi.org/10.1007/s00374-024-01806-z>

Grünhofer P, Heimerich I, Pohl S, Oertel M, Meng H, Zi L, Lucignano K, Bokhari SNH, Guo Y, Li R, Lin J, Fladung M, **Kreszies T**, Stöcker T, Schoof H, Schreiber L (2024) Suberin deficiency and its effect on the transport physiology of young poplar roots. NEW PHYTOL 242(1): 137-153, <https://doi.org/10.1111/nph.19588>

**Nasser V**, Dechow R, Helfrich M, Meijide A, Rummel PS, Koch HJ, Ruser R, Essich L, **Dittert K** (2024) Managing Soil Nitrogen Surplus: The Role of Winter Cover Crops in N<sub>2</sub>O Emissions and Carbon Sequestration. In: EGUsphere – The EGU interactive community platform

Mock A, Ingold M, Vazhacharickal PJ, Sourav KS, **Dittert K**, Buerkert A (2024) Nitrogen fixation of lablab and finger millet in South-India. J Soil Sci Plant Nut 187: 225-232, <https://doi.org/10.1002/jpln.202300319>

Mugo JN, Karanja N, Gachene C, **Dittert K**, Schulte-Geldermann E (2024) Clustering of the chemical properties of small-scale farm soils to develop fertilizer blend ratios. Agrosystems, Geosciences & Environment 7: 1-11, <https://doi.org/10.1002/agg2.20468>

Najdenko E, Lorenz F, **Dittert K**, Olfs HW (2024) Rapid in-field soil analysis of plant-available nutrients and pH for precision agriculture - a review. PRECIS AGRIC 25 (6):3189-3218, <https://doi.org/10.1007/s11119-024-10181-6>

**Naumann, M.**, Pawelzik, E. (2024) Kartoffelanbau und CO<sub>2</sub>: Wie sieht die Ökobilanz aus? Kartoffelbau 75 (5):42-45

Pfordt, A., Steffens, L. Ä., Raz, T., **Naumann, M.** (2024) Impact of *Trichoderma afroharzianum* infection on fresh matter content and grain quality in maize. Frontiers in Plant Science 15. <https://doi.org/10.3389/fpls.2024.1436201>

Shao GD, Ai JJ, Dippold MA, Fan LC, Dorodnikov M, Liang B, **Dittert K**, Wang H (2024) White clover does not increase soil N<sub>2</sub>O emissions compared to ryegrass in non-frozen winter, but increases CH<sub>4</sub> uptake. J Soil Sci Plant Nut 24 (3): 4796-4806, <https://doi.org/10.1007/s42729-024-01872-0>

Yao Y, Zeng K, Deji Z, Zhao Z, **Wang H** (2024) The split injection of water-soluble fertilizers effectively reduces N<sub>2</sub>O, CH<sub>4</sub> and NH<sub>3</sub> emissions while simultaneously improving rice yield and harvest index. FIELD CROP RES 319: 1-13, <https://doi.org/10.1016/j.fcr.2024.109637>

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Herrmann, A., Verma, S., Techow, A., Kluss, C., Dittert, K., Quakernack, R., Pacholski, A., Kage, H., Taube, F. (2023). Assessing nitrous oxide emissions and productivity of cropping systems for biogas production using digestate and mineral fertilisation in a coastal marsh site. Frontiers in Environmental Science, 11. <https://doi.org/10.3389/fenvs.2023.1231767>

**Jordan-Meille, L., Denoroy, P., Dittert, K., Cugnon, T., Quemada, M., Wall, D., Bechini, L., Marx, S., Oenema, O., Reijneveld, A., Liebisch, F., Diedhiou, K., Degan, F., Higgins, S.** (2023). Comparison of nitrogen fertilisation recommendations of West European Countries. *European Journal of Soil Science*, 74(6). <https://doi.org/10.1111/ejss.13436>

**Liu T, Kreszies T** (2023), The exodermis: A forgotten but promising apoplastic barrier. *Journal of Plant Physiology*, 290,154177, <https://doi.org/10.1016/j.jplph.2023.154118>

**Mock, A., Ingold, M., Vazhacharickal, P. J., Sourav, S. K., Dittert, K., Buerkert, A.** (2023). Nitrogen fixation of lablab and finger millet in South-India. *Journal of Plant Nutrition and Soil Science*. <https://doi.org/10.1002/jpln.202300319>

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**Suriyagoda, L., Dittert, K.** (2023). Phosphorus and Silicon Fertilization with Improved Water Management as Potential Remedies for Growing Rice Seedlings in Heavy Metal and Metalloid Contaminated Soil. *Communications in Soil Science and Plant Analysis*, 54(19), 2699-2715. <https://doi.org/10.1080/00103624.2023.2240373>

**Suriyagoda, L., Sirisena, D., Rathnayake, U., Dittert, K., Gamage, D., Chandrajith, R.** (2023). Variation in essential mineral element and toxic trace element concentrations in the seeds of Sri Lankan rice varieties as affected by milling and soil fertility. *Journal of Plant Nutrition*, 46(18), 4401-4419. <https://doi.org/10.1080/01904167.2023.2240361>

## 2022

**Dittert, K., Buerkert, A.** (2022). Special problems of plant nutrition - tropical and subtropical climates (in German). In M. Wachendorf, A. Buerkert, & R. Graß (Eds.), *Organic agriculture (Ökologische Landwirtschaft)* (2 ed., pp. 299-310). Stuttgart: Eugen Ulmer.

Erika C, Ulrich D, **Naumann M**, Smit I, Horneburg B, Pawelzik E (2022) Flavor and Other Quality Traits of Tomato Cultivars Bred for Diverse Production Systems as Revealed in Organic Low-Input Management. *Frontiers in Nutrition* 9. <https://doi.org/10.3389/fnut.2022.916642>

**Füllgrabe H., Claassen N., Hilmer R., Koch H-J., Dittert K., Kreszies T.\*** (2022). Potassium deficiency reduces sugar yield in sugar beets through decreased growth of young plants, *Journal of Plant Nutrition and Soil Science*, in Press <https://doi.org/10.1002/jpln.202200064>

Hagenguth J, Kanski L, Kahle H, **Naumann M**, Pawelzik E, Becker HC, Horneburg B (2022) Breeders' Sensory Test: A new tool for early selection in breeding for tomato (*Solanum lycopersicum*) flavour. *Plant Breeding* 141 (1):96-107. <https://doi.org/10.1111/pbr.12994>

**Koebke, S., He, H. X., Boeldt, M., Wang, H. T., Senbayram, M., Dittert, K.** (2022). Climate overrides effects of fertilizer and straw management as controls of nitrous oxide emissions after oilseed rape harvest. *Frontiers in Environmental Science*, 9. <https://doi.org/10.3389/fenvs.2021.773901>

**Piepel, M. F., Dittert, K., Olfs, H. W.** (2022). Evaluation of physicochemical on-farm quick tests for estimating nutrient concentrations in pig slurry and development of an application for mobile devices. *Agronomy-Basel*, 12(11). <https://doi.org/10.3390/agronomy12112809>

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**Shiono K.\*, Yoshikawa M., Kreszies T., Yamada D., Hojo Y., Matsuura T., Mori I.C., Schreiber L., Yoshioka T.** (2022). Abscisic acid is required for exodermal suberization to form a barrier to radial oxygen loss in the adventitious roots of rice (*Oryza sativa*). *New Phytologist*, Volume 233, Issue 2, Pages 655-699. <https://doi.org/10.1111/nph.17751>

**Suriyagoda, L., Tränkner, M., Dittert, K.** (2022). Growth and nutrition of rice seedlings when phosphorus or silicon was applied to a soil heavily contaminated with both arsenic and cadmium. *Journal of Plant Nutrition*. <https://doi.org/10.1080/01904167.2022.2027977>

**Tavakol, E., Jakli, B., Cakmak, I., Dittert, K., Senbayram, M.** (2022). Optimization of potassium supply under osmotic stress mitigates oxidative damage in barley. *Plants-Basel*, 11(1). <https://doi.org/10.3390/plants11010055>

Viebrock J, Chea L, Pawelzik E, **Naumann M** (2022) Phosphat-Effizienz durch Mikroorganismen verbessern? Kartoffelbau 73 (7):12-15

**Wang, H. T., Oertelt, L., Dittert, K.** (2022). The addition of magnesium sulfate and borax to urea reduced soil NH<sub>3</sub> emissions but increased N<sub>2</sub>O emissions from soil with grass. Science of the Total Environment, 803  
<https://doi.org/https://doi.org/10.1016/j.scitotenv.2021.149902>

Wilmer L, Pawelzik E, **Naumann M** (2022) Comparison of the Effects of Potassium Sulphate and Potassium Chloride Fertilisation on Quality Parameters, Including Volatile Compounds, of Potato Tubers After Harvest and Storage. Frontiers in Plant Science 13. <https://doi.org/10.3389/fpls.2022.920212>

Wilmer L, Tränkner M, Pawelzik E, **Naumann M** (2022) Sufficient potassium supply enhances tolerance of potato plants to PEG-induced osmotic stress. Plant Stress 5:100102. <https://doi.org/10.1016/j.stress.2022.100102>

## 2021

Chea L, Erika C, **Naumann M**, Smit I, Horneburg B, Pawelzik E (2021) Morphological, Leaf Nutrient, and Fruit Quality Characteristics of Diverse Tomato Cultivars under Organic Low-Input Management. Sustainability 13 (21):12326. <https://doi.org/10.3390/su132112326>

Chea L, Meijide A, Meinen C, Pawelzik E, **Naumann M** (2021) Cultivar-dependent responses in plant growth, leaf physiology, phosphorus use efficiency, and tuber quality of potatoes under limited phosphorus availability conditions. Frontiers in Plant Science 12 (1728). <https://doi.org/10.3389/fpls.2021.723862>

Chea L, Pfeiffer B, Schneider D, Daniel R, Pawelzik E, **Naumann M** (2021) Morphological and metabolite responses of potatoes under various phosphorus levels and their amelioration by plant growth-promoting rhizobacteria. International Journal of Molecular Sciences 22 (10):5162. <https://doi.org/10.3390/ijms22105162>

Daoud B, **Naumann M**, Ulrich D, Pawelzik E, Smit I (2021) Assessment of sensory profile and instrumental analyzed attributes influenced by different potassium fertilization levels in three tomato cultivars. Journal of Applied Botany and Food Quality. <https://doi.org/10.5073/JABFQ.2021.094.022>

**Grünhofer P., Schreiber L., Kreszies T.\*** (2021). Suberin in Monocotyledonous Crop Plants: Structure and Function in Response to Abiotic Stresses. In: Mukherjee S., Baluška F. (eds) Rhizobiology: Molecular Physiology of Plant Roots. Signaling and Communication in Plants. Springer, Cham. [https://doi.org/10.1007/978-3-030-84985-6\\_19](https://doi.org/10.1007/978-3-030-84985-6_19)

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Kanski L, **Naumann M**, Pawelzik E (2021) Auswirkung der Lagerung unter Haushaltsbedingungen auf geschmacksrelevante Qualitätsmerkmale bei reifen Tomaten. Paper presented at the 54. Jahrestagung der Deutschen Gesellschaft für Qualitätsforschung (Pflanzliche Nahrungsmittel) e.V. (DGQ), Produktqualität und Konsumentenverhalten im Spannungsfeld von Nachhaltigkeit und Krisen, Göttingen (online), 23. März 2021

**Kesenheimer, K., Augustin, J., Hegewald, H., Köbke, S., Dittert, K., Rabiger, T., Quinones, T. S., Prochnow, A., Hartung, J., Fuss, R., Stichnothe, H., Flessa, H., Ruser, R.** (2021). Nitrification inhibitors reduce N<sub>2</sub>O emissions induced by application of biogas digestate to oilseed rape. Nutrient Cycling in Agroecosystems, 120(1), 119-120. <https://doi.org/10.1016/j.agee.2021.107552>

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**Mugo, J. N., Karanja, N. N., Gachene, C. K., Dittert, K., Gitari, H. I., Schulte-Geldermann, E.** (2021). Response of potato crop to selected nutrients in central and eastern highlands of Kenya. Cogent Food & Agriculture, 7(1). <https://doi.org/10.1080/23311932.2021.1898762>

**Rummel PS, Beule L, Hemkemeyer M, Schwalb SA and Wichern F** (2021) Black Soldier Fly Diet Impacts Soil Greenhouse Gas Emissions From Frass Applied as Fertilizer. Front. Sustain. Food Syst.5:709993, <https://doi.org/10.3389/fsufs.2021.709993>

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**Wang, H. T., Ma, S. T., Shao, G. D., Dittert, K.** (2021). Use of urease and nitrification inhibitors to decrease yield-scaled N<sub>2</sub>O emissions from winter wheat and oilseed rape fields: A two-year field experiment. *Agriculture, Ecosystems & Environment*, 319. <https://doi.org/10.1016/j.agee.2021.107552>

**Wang, H. T., Beule, L., Zang, H. D., Pfeiffer, B., Ma, S. T., Karlovsky, P., Dittert, K.** (2021). The potential of ryegrass as cover crop to reduce soil N<sub>2</sub>O emissions and increase the population size of denitrifying bacteria. *European Journal of Soil Science*. <https://doi.org/10.1111/ejss.13047>

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