

## Departments 340i & 763

### Peer-Reviewed Publications, edited books & book chapters

January 2019 – June 2023

Members of 340i & 763 in bold font

2019

- Guzman-Bustamante I.**, Winkler T., **Schulz R.**, **Müller T.**, Mannheim T., Laso Bayas J.C., **Ruser R.** (2019): N<sub>2</sub>O emissions from a loamy soil cropped with winter wheat as affected by N-fertilizer amount and nitrification inhibitor. *Nut. Cycl. Agroecosy.*, **114**, 173-191. (<https://doi.org/10.1007/s10705-019-10000-9>)
- Hartmann T.E.**, **Wollmann I.**, **You Y.**, **Müller T.** (2019): The sensitivity of three phosphorus extraction methods to recently applied phosphate species differing in immediate plant availability. *Agronomy*, **9**, 29. (DOI: 10.3390/agronomy9010029)
- Hartung J., Wagener J., **Ruser R.**, Piepho H.-P. (2019): Blocking and rearrangement of pots in greenhouse experiments: which approach is more effective? *Plant Meth.*, **15**, 143. (<https://doi.org/10.1186/s13007-019-0527-4>)
- Herr C.**, Mannheim T., **Müller T.**, **Ruser R.** (2019): Effect of cattle slurry application techniques on N<sub>2</sub>O and NH<sub>3</sub> emissions from a loamy soil. *J. Plant Nutr. Soil Sci.*, **182**, 964–979. (<https://doi.org/10.1002/jpln.201800376>)
- Hörtenhuber S.J., Theurl M.C., **Möller K.** (2019): Comparison of the environmental performance of different treatment scenarios for the main phosphorus recycling sources. *Renew. Agr. Food Syst.*, **34**, 349–362. (DOI: 10.1017/S1742170517000515)
- Kesenheimer K.**, Pandeya H.R., **Müller T.**, Buegger F., **Ruser R.** (2019) Nitrous oxide emissions after incorporation of winter oilseed rape (*Brassica napus* L.) residues under two different tillage treatments. *J. Plant Nutr. Soil Sci.*, **182**, 48-59. (<https://doi.org/10.1002/jpln.201700507>)
- Moradtalab N., Hajiboland R., Aliasghar zad N., **Hartmann T.E.**, Neumann G. (2019): Silicon and the association with an arbuscular-mycorrhizal fungus (*Rhizophagus clarus*) mitigate the adverse effects of drought stress on strawberry. *Agronomy*, **9**, 41. (<https://doi.org/10.3390/agronomy9010041>)
- Müller T.**, Fusuo Z. (2019): Adaptation of Chinese and German maize-based food-feed-energy systems to limited phosphate resources—a new Sino-German international research training group. *Front. Agr. Sci. Eng.*, **6**, 313-320. (DOI: 10.15302/J-FASE-2019282)
- Otte J.M., Blackwell N., **Ruser R.**, Kappler A., Kleindienst S., Schmidt C. (2019): N<sub>2</sub>O formation by nitrite-induced (chemo)denitrification in coastal marine sediment. *Sci. Rep.*, **9**, 10691 | (<https://doi.org/10.1038/s41598-019-47172-x> 3)
- Redel Y.**, **Nkebiwe P.M.**, **Schulz R.**, **Müller T.** (2019): Phosphate amendments to compost for improving P bio-availability. *Compost Sci. Util.*, **27**, 88-96. (<https://doi.org/10.1080/1065657X.2019.1571461>)
- Roelcke M.**, Heimann L., Hou Y., Guo J., Xue Q, Jia W., Ostermann A., Huaitalla R.M., Enbers M., Olbrich C., Roland, Scholz W., Clemens J., Schuchart F., Nieder R., Liu X., Zhang F. (2019): Phosphorus status, use and recycling in a Chinese peri-urban region with intensive animal husbandry and cropping systems. *Front. Agr. Sci. Eng.*, **6**, 388–402. (<https://doi.org/10.15302/J-FASE-2019286>)
- Rostami M., Mohammadi H., **Müller T.**, Mirzaeitalarposhti R. (2020): Silicon application affects cadmium translocation and physiological traits of *Lallemantia royleana* under cadmium stress. *J. Plant Nutr.*, **43**, 753-761. (<https://doi.org/10.1080/01904167.2019.1701022>)
- Seiz P.**, **Guzman-Bustamante I.**, **Schulz R.**, **Müller T.**, **Ruser R.** (2019): Effect of crop residue removal and straw addition on nitrous oxide emissions from a horticulturally used soil in

South Germany. *Soil Sc. Soc. Am. J.*, **83**, 1399–1409.

(<https://doi.org/10.2136/sssaj2018.11.0448>)

- Sepahvand H., Feizian M., Mirzaeitalarposhti R., **Müller T.** (2019): Density separation of soil organic matter across three land uses in calcareous soils of Iran. *Archives Agron. Soil Sci*, **65**, 1820-1830. (<https://doi.org/10.1080/03650340.2019.1578958>)
- Sepahvand H., Mirzaeitalarposhti R., Beiranvand K., Feiziana M., **Müller T.** (2019): Prediction of Soil Carbon Levels in Calcareous Soils of Iran by Mid-Infrared Reflectance Spectroscopy. *Environm. Pollut. Bioavail.*, **31**, 9-17. (<https://doi.org/10.1080/09542299.2018.1549961>).
- Wang, Z.H, **Hartmann, T.E.**, Wang, X.H., Cui, Z.L., Hou, Y., Meng, F.L., Yu, X.C., Wu, J.C., Zhang, F.S. (2019): Phosphorus flow analysis in the maize based feed-food-energy systems in China. *Environmental Research*, **184**. (<https://doi.org/10.1016/j.envres.2020.109319>)
- Wu J., **Hartmann T.E.**, Chen W.-S. (2019): Toward sustainable management of phosphorus flows in a changing rural–urban environment: recent advances, challenges, and opportunities. *Curr. Opin. Environ. Sustain.*, **40**, 81–87. (<https://doi.org/10.1016/j.cosust.2019.09.012>)

## 2020

- Boxberger, Mayer, **Möller K.**, Pöllinger A. (2020): Praxishandbuch Organische Düngung. AGRIMEDIA, 576 pp.
- Essich L.**, **Nkebiwe P.M.**, Schneider M., **Ruser R.** (2020): Is crop residue removal to reduce N<sub>2</sub>O emissions driven by quality or quantity? A field study and meta-analysis. *Agriculture*, **10**, 546. (<https://doi.org/10.3390/agriculture10110546>)
- Hartmann T.E.**, Guzman-Bustamante I., **Ruser R.**, **Müller T.** (2020): Turnover of urea in soil from the North China Plain as affected by the urease inhibitor nBPT and wheat straw. *Agronomy*, **10**, 857. (DOI: 10.3390/agronomy10060857)
- Hartmann T.E.**, **Möller K.**, Meyer C., **Müller T.** (2020): Partial replacement of rock phosphate by sewage sludge ash for the production of superphosphate fertilizers. *J. Plant Nutr. Soil Sci.*, **183**, 233-237. (<https://doi.org/10.1002/jpln.201900085>)
- Herr C.**, Mannheim T., **Müller T.**, **Ruser R.**: Effect of nitrification inhibitors (NIs) on N<sub>2</sub>O emissions after cattle slurry application. *Agronomy*, **10**, 1174 (<https://doi.org/10.3390/agronomy10081174>)
- Michalczyk, A., K.C. Kersebaum, H.P. Dauck, **M. Roelcke**, S.C. Yue, X.P. Chen, F.S. Zhang (2020): Quantifying nitrogen loss and water use via regionalization and multiple-year scenario simulations in the North China Plain, *Journal of Plant Nutrition and Soil Science*, **183**, 718-733. (<https://doi.org/10.1002/jpln.201900559>)
- Pascual M.B., Sánchez-Monedero M.A., Cayuela M.L., Li S., Haderlein S.B., **Ruser R.**, Kappler A. (2020): Biochar as electron donor for reduction of N<sub>2</sub>O by *Paracoccus denitrificans*. *FEMS Microb. Ecol.*, **96**, fiae133. (<https://doi.org/10.1093/femsec/fiae133>)
- Räbiger T., Andres M., Hegewald H., **Kesenheimer K.**, Köbke S., Suarez-Quinones T., Böttcher U., Kage H. (2020): Indirect nitrous oxide emissions from oilseed rape cropping systems by NH<sub>3</sub> volatilization and nitrate leaching as affected by nitrogen source, N rate and site conditions. *European Journal of Agriculture*, **116**, 126039. (<https://doi.org/10.1016/j.eja.2020.126039>)
- Reimer M.**, **Möller K.**, **Hartmann T.E.** (2020): Meta-analysis of nutrient budgets in organic farms across Europe. *Organic Agriculture*, **10**, 65-77 (<https://doi.org/10.1007/s13165-020-00300-8>)
- Reimer M.**, **Hartmann T.E.**, Oelofse M., Magid J., Bünemann E.K., **Möller K.** (2020): Reliance on biological nitrogen fixation depletes soil phosphorus and potassium reserves. *Nutrient Cycling in Agroecosystems*, **118**, 273-291. (<https://doi.org/10.1007/s10705-020-10101-w>)
- Ruser, R.**, **Möller, K.** (2020): Wirtschaftsdünger tierischer Herkunft und Gärreste. In: Boxberger, Mayer, Möller, Pöllinger (Hrsg.): Praxishandbuch Organische Düngung effizient und nachhaltig. S. 201-288, Agrimedia, Erling Verlag.
- Wang M., Hu R., **Ruser R.**, Schmidt C., Kappler A. (2020): Role of chemodenitrification for N<sub>2</sub>O emissions from nitrate reduction in rice paddy soils. *ACS Earth Space Chemistry*, **4**, 122–132. (<https://doi.org/10.1021/acsearthspacechem.9b00296>)

Zhang C., Xu R., Su F., **Roelcke M.**, Ju X. (2020): Effects of enhanced efficiency nitrogen fertilizers on NH<sub>3</sub> losses in a calcareous fluvo-aquic soil: a laboratory study. *Journal of Soils and Sediments*, **20**, 1887–1896. (<https://doi.org/10.1007/s11368-020-02580-9>)

## 2021

- Bach I.-M., Lisa L., Müller T.** (2021): Efficiency of Recycled Biogas Digestates as Phosphorus Fertilizers for Maize. *Agriculture*, **11**, 553. (<https://doi.org/10.3390/agriculture11060553>)
- Boh M.Y., **Müller T.**, Sauerborn J. (2021): Fertilizing effect of human urine and ammonium nitrate as sources of nitrogen for sorghum [*Sorghum bicolor* (L.) Moench] under saline conditions. *Journal of Plant Nutrition*, **44**, 1957-1970. (<https://doi.org/10.1080/01904167.2021.1884710>)
- Budhathoki R., Panday D., **Seiz P., Ruser R., Müller T.** (2021): Effect of broccoli residue and wheat straw addition on nitrous oxide emissions in silt loam soil. *Nitrogen*, **2**, 99-109. (<https://doi.org/10.3390/nitrogen2010007>)
- Häfner F., Ruser R., Claß-Mahler I., Möller K.** (2021): Field application of organic fertilizers triggers N<sub>2</sub>O emissions from the soil N pool as indicated by <sup>15</sup>N-labeled digestates. *Frontiers in Sustainable Food Systems*, **4**, 614349. (<https://doi.org/10.3389/fsufs.2020.614349>)
- Hernandez-Ramirez G., **Ruser R.**, Kim D.-G. (2021): How does soil compaction alter nitrous oxide fluxes? A meta-analysis. *Soil and Tillage Research*, **211.3**:105036 (<https://doi.org/10.1016/j.still.2021.105036>)
- Kesenheimer, K.**, Flessa, H., Augustin, J., Hegewald, H., Köbke, S., Dittert, K., Rübiger, T., Suarez Quinones, T., Prochnow, A., Hartung, J., Fuß, R., Stichnothe, 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**, 99-118. (DOI: [org/10.1007/s10705-021-10127-8](https://doi.org/10.1007/s10705-021-10127-8))
- Mallast, J., Stichnothe, H., Flessa, H., Fuß, R., Lucas-Moffat, A.M., Petersen-Schlapkohl, U., Augustin, J., Hagemann, U., **Kesenheimer, K., Ruser, R.**, Suárez Quiñones, T., Prochnow, A., Dittert, K., Huth, V., Glatzel, S. (2021): Multi-variable experimental data set of agronomic data and gaseous soil emissions from maize, oilseed rape and other energy crops at eight sites in Germany. Open data *Journal of Agricultural Research*, **7**, 11-19. (DOI: <https://doi.org/10.18174/odjar.v7i0.16124>)
- Petrova I., Ruser R., Guzman-Bustamante I.** (2021): Pellets from biogas digestates: A substantial Source of N<sub>2</sub>O emissions. *Waste and Biomass Valorization*, **12**, 2433–2444 (<https://doi.org/10.1007/s12649-020-01190-3>)
- Redel Y., **Kunz E., Hartmann T.E., Müller T.**, Bol R. (2021): Long-term compost application and soil P legacy impacts on enhancement of early maize growth. *Journal of Plant Nutrition and Soil Science*, **21**, 873-881. (DOI: [/10.1007/s42729-020-00407-7](https://doi.org/10.1007/s42729-020-00407-7))
- You Y., Klein J., Hartmann T.E., Nkebiwe N.P.**, Yang H., Zhang W., Chen X., **Müller T.** (2021): Producing superphosphate with sewage sludge ash: assessment of phosphorus availability and potential toxic element contamination. *Agronomy*, **11**, 1506. (<https://doi.org/10.3390/agronomy11081506>)
- Yu W., Li H., **Nkebiwe P.M.**, Li G., **Müller T.**, Zhang J., Shen J. (2021): Estimation of the P Fertilizer Demand of China Using the LePA Model. *Frontiers in Environmental Science*, **9**, 759984. (DOI: [10.3389/fenvs.2021.759984](https://doi.org/10.3389/fenvs.2021.759984))
- Zimmermann B., Claß-Mahler I., von Cossel M., Lewandowski I., Weik J., Spiller A., Nitzko S., Lippert C., Krimly T., Pergner I., Zörb C., Wimmer M.A., Dier M., Schurr F.M., Pagel J., Riemenschneider A., Kehlenbeck H., Feike T., Klocke B., Lieb R., Kühne S., Krengel-Horney S., Gitzel J., El-Hasan A., Thomas S., Rieker M., Schmid K., Streck T., Ingwersen J., Ludewig U., Neumann G., Maywald N., **Müller T., Bradáčová K., Göbel M.**, Kandeler E., Marhan S., Schuster R., Griepentrog H.-W., Reiser D., Stana A., Graeff-Hönninger S., Munz S., Otto D., Gerhards R., Saile M., Hermann W., Schwarz J., Frank M., Kruse M., Piepho H.-P., Rosenkranz P., Wallner K., Zikeli S., Petschenka G., Schönleber N., Vögele R.T., Bahrs E. (2021): Mineral-ecological cropping systems - A new approach to improve ecosystem services

by farming without chemical synthetic plant protection. *Agronomy*, **11**, 1710.  
(<https://doi.org/10.3390/agronomy11091710>)

## 2022

- Bach I.-M., Essich L., Bäuerle A., Müller T.** (2022): Efficiency of phosphorus fertilizers derived from recycled biogas digestate as applied to maize and ryegrass in soils with different pH. *Agriculture*, **12**, 325. (<https://doi.org/10.3390/agriculture12030325>)
- Feike T., Frei M., Germeier C., Herrmann A., Hülsbergen K.-J., Kaul H.P., Komainda M, Kottmann L., **Möller K.**, Nendel C., Pasda G., Pekrun C., Seidel S, Stützel H., Wrage-Mönnig N. (2023): Wissenschaftliche Grundlagen zum Strategiediskurs für einen nachhaltigen Pflanzenbau. *Die Bodenkultur*, **73**, 153-192. (<https://doi.org/10.2478/boku-2022-0011>)
- Gong H., Meng F., Wang G., **Hartmann T.E.**, Feng G., Wu J., Jiao X., Zhang F. (2022): Toward the sustainable use of mineral phosphorus fertilizers for crop production in China: From primary resource demand to final agricultural use. *Science of The Total Environment*, **804**, 150183. (<https://doi.org/10.1016/j.scitotenv.2021.150183>)
- Guzman-Bustamante I., Schulz R., Müller T., Ruser R.** (2022): Split N application and DMP based nitrification inhibitors mitigate N<sub>2</sub>O losses in a soil cropped with winter wheat. *Nutrient Cycling in Agroecosystems*, **123**, 119-135. (<https://doi.org/10.1007/s10705-022-10211-7>)
- Häfner F.**, Hartung J., **Möller K.** (2022). Digestate Composition Affecting N Fertiliser Value and C Mineralisation. *Waste and Biomass Valorization*, **13**, 3445-3462. (<https://doi.org/10.1007/s12649-022-01723-y>)
- Herrmann M.N.**, Wang Y., Hartung J., **Hartmann T.**, Zhang W., **Nkebiwe P.M.**, Chen X., **Müller T.**, Yang H. (2022): A global network meta-analysis of the promotion of crop growth, yield and quality by bioeffectors. *Frontiers in Plant Science*, **13**, 816438. (<https://doi.org/10.3389/fpls.2022.816438>)
- Joshi A.**, Breulmann M., Schulz E., **Ruser R.** (2022): Effects of sewage sludge hydrochar on the emission of climate-relevant trace gases N<sub>2</sub>O and CO<sub>2</sub> from loamy sand soil. *Heliyon*, **8**, e10855. (<https://doi.org/10.1016/j.heliyon.2022.e10855>)
- Koch H.-J., Grunwald D., **Essich L., Ruser R.** (2022): Temporal dynamics of sugar beet (*Beta vulgaris* L.) N supply from cover crops differing in biomass quantity and composition. *Frontiers in Plant Science* **13**, 920531. (<https://doi.org/10.3389/fpls.2022.920531>)
- Mazzei P., Cangemi S., **Kurdestani A.M., Müller T.**, Piccolo A. (2022): Quantitative Evaluation of Noncovalent Interactions between 3,4-Dimethyl-1H-pyrazole and Dissolved Humic Substances by NMR Spectroscopy. *Environmental Science & Technology*, **56**, 11771–11779. (<https://doi.org/10.1021/acs.est.2c00900>)
- Nkebiwe P.M.**, Sowoidnich K., Maiwald M., Sumpf B., **Hartmann T.E., Wanke D. Müller T.** (2022): Detection of calcium phosphate species in soil by confocal  $\mu$ -Raman spectroscopy. *Journal of Plant Nutrition and Soil Science*, **85**, 221-231. (<https://doi.org/10.1002/jpln.202100233>)
- Nyameasema J.K., Zutz M., Kluß C., ten Huf M., **Essich C.**, Buchen-Tschiskale C., **Ruser R.**, Flessa H., Ols H.-W., Taube F., Reinsch T. (2022): Impact of cattle slurry application methods on ammonia losses and grassland nitrogen use efficiency. *Environmental Pollution*, **315**, 120302. (<https://doi.org/10.1016/j.envpol.2022.120302>)
- Stein, S., Hartung, J., **Möller, K.**, Zikeli, S. (2022). The Effects of Leguminous Living Mulch Intercropping and Its Growth Management on Organic Cabbage Yield and Biological Nitrogen Fixation. *Agronomy*, **12**, 1009. (<https://doi.org/10.3390/agronomy12051009>)
- Wollmann I., Möller K.** (2022): Increased phosphorus availability from sewage sludge ashes to maize in a crop rotation with clover. *Soil Use and Management*, **8**, 1394–1402. (<https://doi.org/10.1111/sum.12806>)

## 2023

**Reimer M, Kopp C, Hartmann T, Zimmermann H, Ruser R, Schulz R, Müller T, Möller K.**  
(2023): Assessing long term effects of compost fertilization on soil fertility and nitrogen mineralization rate. *Journal of Plant Nutrition and Soil Science*, **186**, 147-236.  
(<https://doi.org/10.1002/jpln.202200270>)

## Projects 340i & 763, June 2023

DFG:

**AMAIZE-P: Sino-German International Research Training Group „Adaptation of maize-based food-feed-energy systems to limited phosphate resources“**

(Torsten Müller, Marco Roelcke, Béatrice Reh)

**2.2 Increasing soil phosphate availability and phosphate fertilizer efficiency**

(Daniel Wanke, Yawen You, Mehdi Nkebiwe, Michelle Hermann)

**4.2 Synthesis and field experiments**

(Mehdi Nkebiwe, Torsten Müller)

<https://amaize-p.uni-hohenheim.de/en>

EU-Horizon 2020:

**Lex4bio: Optimising bio-based fertilisers in agriculture - Providing a knowledge basis for new policies**

**WP2: General effects of BBFs on soil quality / functioning and plant growth**

**WP3: Agronomic efficiency of BBFs as P source for crops**

**WP4: Agronomic efficiency of BBFs as N source for crops**

(Torsten Müller, in cooperation with 340b)

<https://www.lex4bio.eu/>

BMBF:

**NOcsPS: LaNdwirtschaft 4.0 Ohne chemisch-synthetischen PflanzenSchutz**

**VP6: Gezielter Mineraldüngereinsatz mit Nutzpflanzenschutzwirkung (Feldversuch)**

(Klára Bradáčová, Markus Göbel, Torsten Müller)

**VP22: Einfluss von Saattechnik, Pflanzenschutzmittelverzicht und N-**

**Düngungsstrategie auf die N<sub>2</sub>O-Emissionen aus einem Winterweizenbestand**

(Lisa Essich, Reiner Ruser, Torsten Müller)

<https://nocsps.uni-hohenheim.de/>

BMBF:

**RUN: Rural Urban Nutrient Partnership,**

**AP I.6 Untersuchungen zur Nährstoffverfügbarkeit der Design-Düngemittel**

**AP II.2 Rentabilität im gesamtbetrieblichen Zusammenhang**

(Kurt Möller, Torsten Müller, in cooperation with Sabine Zikeli (309))

<https://www.run-projekt.de/>

EU-EIP:

**Agriplus Hohenlohe: Effizienzsteigerung im Ackerbau in Hohenlohe durch Nährstoffrückgewinnung aus Wirtschaftsdüngern**

**AP5: Anbauversuche im Ackerbau**

(Torsten Müller in cooperation with 340b)

<https://www.steinbeis-europa.de/agriplus>

EU-EIP:

**MR-Digital: Überbetrieblicher Einsatz von informationsgestützter Landtechnik**

**AP 2: Anforderungen an die Düngung**

(Ines Binder, Torsten Müller, in cooperation with LTZ Augustenberg)

<https://mr-bw.de/mr-digital/>

BLE:

**NitriKlim: Standortdifferenzierte Bewertung und Anrechnung der Nutzung von Nitrifikationsinhibitoren als Klimaschutzmaßnahme im Pflanzenbau**

**TP: Standort Hohenheim**

(N.N, Reiner Ruser)

BLE:

**THG-ZwiFru: Minderung von Treibhausgasemissionen in der Pflanzenproduktion durch standortsangepasst optimierte Zwischenfruchtanbausysteme**

**TP: Standort Ihinger Hof**

(Lisa Essich, Sonja Kurz, Reiner Ruser)

<https://www.unter-2-grad.de/projekte/thg-zwifru/>

Rentenbank:

**NH<sub>3</sub>-Min: Minderung von NH<sub>3</sub>-Verlusten und Steigerung der Stickstoffeffizienz beim Einsatz synthetischer Stickstoffdünger**

**TP: Uni Hohenheim**

(Jonas Frössl, Reiner Ruser)

[https://www.thuenen.de/de/ak/projekte/quantifizierung-und-minderung-von-ammoniak-emissionen-nach-mineralduengung-nh3-min/?no\\_cache=1](https://www.thuenen.de/de/ak/projekte/quantifizierung-und-minderung-von-ammoniak-emissionen-nach-mineralduengung-nh3-min/?no_cache=1)

FNR:

**WIN-N: Wirkung von inhibiertem Ammoniumsulfat-Harnstoff (AS-HS) zur Erhöhung der Stickstoff-Nutzungseffizienz und Minderung von Ammoniak- und Lachgasemissionen bei der mineralischen Düngung**

**TP: Uni Hohenheim**

(Jakob Klein, Susanne Geisinger, Reiner Ruser)

## **Finished Projects 340i & 763 since 2019**

EU-Horizon 2020:

**RELACS: Replacement of Contentious Inputs in organic farming Systems**

**WP4: Replacements of contentious fertilizers and manures in plant production**

(Kurt Möller, Marie Reimer, in cooperation with LTZ Augustenberg)

<https://relacs-project.eu/>

EU-Era-Net Core Organic:

**DOMINO: Dynamic sod mulching and use of recycled amendments to increase biodiversity, resilience and sustainability of intensive organic fruit orchards and vineyards**

(Birgit Lepp, Torsten Müller, Kurt Möller in cooperation with Sabine Zikeli (309) and LTZ Augustenberg)

<http://www.domino-coreorganic.eu/de/>

BLE:

**GülleBest: Minderung von Ammoniak- und Treibhausgasemissionen und Optimierung der Stickstoffproduktivität durch innovative Techniken der Gülleausbringung in wachsende Bestände**

**TP 4: Standort Hohenheim**

(Christoph Essich, Sonja Kurz, Reiner Ruser)

<https://www.guellebest.de/>