

Curriculum Vitae

Dr nat. sc. Hannes Andres Gamper

Faculty of Science and Technology
Free University of Bozen-Bolzano, Italy

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Academic profile

Ecophysiological and microbial molecular rhizosphere ecologist with systematic-ecological expertise in botany, mycology, and soil biology

Research and teaching experience in **Plant Physiology, Fungal Biology & Ecology, Molecular Microbial Ecology, Rhizosphere Ecology** as related to **Plant Nutrition, Bio-/Rhizoremediation, Stable and Radioisotopes**, and **Grassland Management** in European and international academic and inter- and transdisciplinary contexts

Interested in acclimation and adaptation processes of traits of individual organisms, mutualistic symbiotic associations of plants and microbes, and structural features of entire communities in response to changes in resource and habitat conditions

Eager to elaborate new perspectives on aspects of ecosystem functioning and management of anthropogenic influences on biotic interactions in collaboration with students, colleagues, line managers, and practitioners

With more than ten years of research experience on **microbe-mediated plant-soil feedback** under agricultural settings

Internationally recognised for evaluation of **interdisciplinary and multi-method approaches in research**

Experienced in international and intercultural collaboration: I have worked with researchers from AFGH, AU, COL, CZ, DE, I, IR, NL, SA, SE, UK, ZI and reviewed manuscripts from many more countries and project applications from AT, CA, CH, CN, CZ, and EE.

Education

2004	Dr nat. sc. (Ph.D.)	Mycorrhizal Ecology , ETH Zurich, Department of Environmental Sciences, Institute of Geobotany, Plant Systematics & Evolution Zurich, Switzerland <u>Doctoral thesis:</u> <i>Effects of elevated atmospheric CO₂ on arbuscular mycorrhizal fungi in an agricultural model grassland</i> <u>Supervisors:</u> Prof. Dr Adrian Leuchtmann, PD Dr Ueli A. Hartwig, Prof. Dr Ian R. Sanders, Prof. Dr Emmanuel Frossard
1999	Dipl. Natw. (M.Sc.)	Systematic & Ecological (organismic) Biology , ETH Zurich <u>Diploma thesis:</u> <i>Population genetic structure of European mistletoe (Viscum album L.) host races in regions of sympatry</i> <u>Supervisors:</u> Prof. Dr Alex Widmer, Prof. Dr Matthias Baltisberger
1995	CH-Matura, Typus C	Swiss Federal university entry certificate with emphasis on the natural sciences

Employment

2019 – present	Junior Researcher ¹	Free University of Bolzano , Faculty of Science and Technology, Animal Science, Bozen-Bolzano, Italy
2018 – 2019	Research Associate ²	Scuola Superiore Sant'Anna , Faculty of Life Sciences, <i>BioLabs</i> , Pisa, Italy
2017 – 2018	Research Assistant	Agroscope , Agroecology and Environment, Climate and Agriculture, Zurich, Switzerland
2011 – 2017	Senior Scientist	ETH Zurich , Department of Systems Science, Agricultural Sciences, Plant Nutrition, Lindau, Switzerland
2009 – 2011	Senior Scientist	University of Basel , Department of Environmental Sciences,

¹ RTD: Ricercatore a Tempo Determinato (assistant professor) in *Agronomy and Field Crops* (AGR/02, 07/B1)

² AR: Assegno di Ricerca (research fellow)

2007 – 2009	Postdoctoral Fellow	Institute of Botany. Plant Physiology, Basel, Switzerland Netherlands Institute of Ecology (NIOO) , Department of Terrestrial Microbial Ecology, Heteren, The Netherlands
2005 – 2006	Postdoctoral Fellow	University of York , Department of Biology, York, United Kingdom
2001 – 2004	Research Associate	ETH Zurich , Department of Environmental Sciences, Institute of Geobotany, Plant Systematics & Evolution, Zurich, Switzerland
2000 – 2001	Research Assistant	ETH Zurich , Department of Agronomy, Institute of Plant Sciences, Plant Nutrition, Lindau, Switzerland Mandate by the Swiss Federal Office for Environmental Affairs

Committee & working group membership, incl. institutional responsibilities

2011 – 2017	Manager Curator	Microbiology and nucleic acid laboratory & room for microscopy Living culture collection of arbuscular mycorrhizal fungi ETH Zurich, Plant Nutrition, Lindau, Switzerland
2011 – 2013	Member	Committee for undergraduate teaching in the Agricultural Sciences, ETH Zurich, Zurich, Switzerland
2009 – 2013	Member	Working group <i>Vollzug BodenBiologie</i> (VBB, advisory group for the implementation of soil biological conservation measures), Frick, Switzerland, see e.g.: https://www.bafu.admin.ch/dam/bafu/de/dokumente/boden/fachinfo-daten/vbb_nr_13_beilagejansagamperd.pdf.download.pdf/vbb_nr_13_beilagejansagamperd.pdf
2009 – 2011	Manager/Operator	Sanger Sequencing Service , Botanical Institute, University of Basel, Basel, Switzerland

Acquisition of research funding

As principal investigator:

Development of methodological approaches to evaluate legume cultivars of forage mixtures on water and nitrogen use, interaction with symbionts, and contribution to yield (*Leg4Mix*), **H.A. Gamper**, unibz, Funded for 13,900 € (08/2020 - 07/2022)

Ecological intensification of organic Rooibos Tea production in South Africa (EcoInt). **H.A. Gamper**. J.J. Le Roux, N. Oettle. Mercator Foundation – World Food System Center of ETH Zurich. Funded for 283,500 CHF. (09/2016 - 08/2019)

Is manipulation of natural arbuscular mycorrhizal fungal communities possible and relevant to plant nutrition? **H.A. Gamper**. State Secretariat for Education, Research and Innovation / Swiss Governmental Postdoctoral Excellence Scholarship for Foreign Scholars and Artists. Funded for 42,000 CHF. (06/2014 - 05/2015)

Moving organisms and changing environments (MOCE). **H.A. Gamper**. Scientific Exchange Program between Switzerland and the New Member States of the European Union (Sciex-NMSch). Funded for 52,375 CHF. (08/2014 - 04/2015)

Upgrading the nucleic acid laboratory. H.A. Gamper. Scientific Equipment Program of ETH Zurich. **H.A. Gamper**. Funded for 45,579 CHF (06/2013)

Fungal community assembly and specific mycorrhizal association: Relating fungal and plant invasion in a field experiment. **H.A. Gamper**. Swiss National Science Foundation. Funded for 331,000 CHF. (11/2009 – 10/2011)

As co-investigator:

Trees for the enhancement of mycorrhizal functioning in low-input cropping systems. J. Six, W. Blaser, **H.A. Gamper**. Swiss National Science Foundation. Funded for 252,042 CHF. (10/2015 - 09/2018)

Conference organisation

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|------|---|
| 2017 | 9 th International Conference on Mycorrhiza (ICOM9): Mycorrhizal functioning – From wilderness to megacities, Prague, Czech Republic |
| 2012 | Nutrient seminar: Phosphorus in agriculture: where are we going? ETH Zurich, Switzerland |

Editorial responsibilities

Board member of the journal *Mycorrhiza* (IF: 3.069)

<https://www.springer.com/journal/572/editors>

Guest Editor of a Special Issue of *Agronomy* (IF: 2.603)

https://www.mdpi.com/journal/agronomy/special_issues/Microbial_Root_Symbionts

Peer-reviewing

for 37 journals: > 130 research articles

<https://publons.com/researcher/819351>

(rated in the 99th percentile on publons)

particularly: New Phytologist (21)
Soil Biology and Biochemistry (23)
Mycorrhiza (17)
Plant and Soil (14)
Molecular Ecology (6)

Among the top 8% reviewers of *Molecular Ecology* in 2015:

<http://www.molecularecologist.com/2015/04/mol-ecols-best-reviewers-2015/>

for 6 funding agencies and foundations: 11 proposals

specifically: Sino Swiss Science and Technology Cooperation (SSTC) Program (1)

Swiss National Science Foundation (SNSF) (2)

Estonian Research Council (ETAg) (3)

Czech Science Foundation (GACR) (3)

Jubiläumsfonds der Stadt Wien f. Universität für Bodenkultur (1)

Natural Sciences and Engineering Research Council (NSERC) of Canada (1)

Supervision and mentoring

I have mentored 15 Ph.D students from BR, CH, CZ, DE, ES, I, IR, KY, NL, PL, UK, and ZI in CH, I, and the NL and UK and 3 postdoctoral visitors from AFGH, COL and DE in CH and NL.

I have supervised 3 Ms.C students from CH, DE, and I in CH and I.

I have supervised 12 Bs.C students and interns in CH, I and the NL from BR, CH, CZ, DE, HRV, I, PL, and RU in CH and I.

Teaching experience

19 years (lectures & practical courses, incl. blended and e-learning), 12 courses for B.Sc. (2) M.Sc. (8) and Ph.D. (2) students

2019 – present **Grassland management** (B.Sc, 60 h) **Free University of Bolzano**, Bozen-Bolzano, Italy

2012 – 2016 **Rhizosphere Ecology** (M.Sc, 40 h) **ETH Zurich**, Lindau, Switzerland

2012 **Sustainable Plant Systems** (PhD, blended-learning/seminar & e-learning program)

2012 – 2015 **Bio-/Rhizoremediation** (M.Sc, 4 h) **Zurich University of Applied Sciences (ZHAW)**, Wädenswil, Switzerland

2010 – 2011 **Fungal Biology & Ecology** (M.Sc, 30 h) **University of Basel**, Basel, Switzerland

Plant Physiology Practical Course (B.Sc, 40 h)

Molecular ecology & phylogenetics (Ph.D, 6 days)

Molecular Ecology of Mycorrhizas (M.Sc*, 2 weeks)

2009 - 2011 **Alpine field week, incl. paper reading** (M.Sc, 1 week)

2008 – 2009 **Root Microbial Symbioses** (M.Sc, 4 h) **Free University of Amsterdam**, The Netherlands

Mycorrhizal Symbioses (M.Sc, 4 h) **Leiden University**, Leiden, The Netherlands

2002 – 2003 **Arbuscular & Ectomycorrhiza** (M.Sc*) **ETH Zurich**, Zurich, Switzerland

* Block courses of 2 weeks

Outreach for soil biology & biological soil fertility (selected)

Oral presentations:

Farmer education event organized by the NGO EMG and ARC in Stellenbosch, SA, in 2017

Scientific Speed Dating: Rendez-vous Research in Bern, CH, in 2017

Arid Zone Ecology Forum in South Africa in Prince Albert, SA, in 2016

Meeting of the Swiss consulting group on fertiliser use in 2016

Annual meeting of the Swiss Society of Agronomy in 2016

Special research interest

Analysis of **context-dependent plant-soil feedback** as mediated by interactions with microbes and animals through manipulative experiments and observation (=> *mechanistic understanding of ecological systems*)

At the level of the **individual organisms, symbiotic associations, and communities** with reference to **ecosystem processes and services and resistance and resilience of organisms and biological processes** (=> *integrative analyses towards ecological sustainability*)

Role of plant and soil biodiversity in agricultural production and for ecological sustainability under conditions of change (=> *biodiversity and natural resource management*)

Special achievements

Co-author on two highly cited papers in the field of *Plant & Animal Science* (top 1%) and one in the field of *Biotechnology & Applied Microbiology* (top 1%)

Acquisition of funding for a transdisciplinary research grant for a collaboration with new partners in South Africa on opportunities afforded by biological ecological intensification of the cultivation of a newly domesticated legume crop [rooibos (*Aspalatus linearis* (Burm.f.) R.Dahlgren)] through use of its original microbial symbionts under more productive conditions in sympatry with its wild relatives

Membership in scientific societies

Swiss Botanical Society (SBG)

Swiss Systematic Society (SSS)

Swiss Working Group for the Promotion of Forage Production (AGFF)

Austrian Association of Grassland and Livestock Farming (ÖAG)

Language competencies

German: mother tongue

English: fluent, proficient

French: good understanding

Italian: general understanding

Publications

Peer-reviewed:

Ramonedá J, Le Roux J, Stadelmann S, Frossard E, Frey B, **Gamper HA**. 2021. Soil microbial community coalescence and fertilization interact to drive the functioning of the legume-rhizobium symbiosis. *Journal of Applied Ecology*. <https://doi.org/10.1111/1365-2664.13995>.

Dierks J, Blaser-Hart WJ, **Gamper HA**, Nyoka IB, Barrios E, Six J. 2021. Trees enhance abundance of arbuscular mycorrhizal fungi, soil structure, and nutrient retention in low-input maize cropping systems. *Agriculture, Ecosystems & Environment* 318: 107487. <https://doi.org/10.1016/j.agee.2021.107487>.

Schillaci C, Perego A, Valkama E, Märker M, Saia S, Veronesi F, Lipani A, Lombardo L, Tadiello T, **Gamper HA**, Tedone L, Moss C, Pareja-Serrano E, Amato G, Kühl K, Dămătîrcă C, Cogato A, Mzid N, Eeswaran R, Rabelo M, Sperandio G, Bosino A, Bufalini M, Tunçay T, Ding J, Fiorentini M, Tiscornia G, Conradt S, Botta M, Acutis M. 2021. New pedotransfer approaches to predict soil bulk density using WoSIS soil data and environmental covariates in Mediterranean agro-ecosystems. *Science of The Total Environment* 780: 146609. <https://doi.org/10.1016/j.scitotenv.2021.146609>.

Ramonedá J, Le Roux JJ, Frossard E, Frey B, **Gamper HA**. 2020. Experimental assembly reveals ecological drift as a major driver of root nodule bacterial diversity in a woody legume crop. *FEMS Microbiology Ecology* 96(6). <https://doi.org/10.1093/femsec/fiaa083>.

Ramonedá J, Le Roux JJ, Frossard E, Frey B, **Gamper HA**. 2020. Geographical patterns of root nodule bacterial diversity in cultivated and wild populations of a woody legume crop. *FEMS Microbiology Ecology* 96(10). <https://doi.org/10.1093/femsec/fiaa145>.

Pellegrino E*, **Gamper HA***, Ciccolini V, Ercoli L. 2020. Forage rotations conserve diversity of arbuscular mycorrhizal fungi and soil fertility. *Frontiers in Microbiology* 10(2969): 2969. <https://doi.org/10.3389/fmicb.2019.02969>, *equally contributing

- Cardini A, Pellegrino E, Del Dottore E, **Gamper HA**, Mazzolai B, Ercoli L. 2020. *HyLength*: a semi-automated digital image analysis tool for measuring the length of roots and fungal hyphae of dense mycelia. *Mycorrhiza* 30(2-3): 229-242. <https://doi.org/10.1007/s00572-020-00956-w>.
- Ramonedá J, Le Roux J, Frossard E, Bester C, Oetlé N, Frey B, **Gamper HA**. 2019. Insights from invasion ecology: Can consideration of eco-evolutionary experience promote benefits from root mutualisms in plant production? *AoB PLANTS* 11(6). <https://doi.org/10.1093/aobpla/plz060>.
- Meyer G, Maurhofer M, Frossard E, **Gamper HA**, Mäder P, Mészáros É, Schönholzer-Mauclair L, Symanczik S, Oberson A. 2019. *Pseudomonas protegens* CHA0 does not increase phosphorus uptake from ³³P labeled synthetic hydroxyapatite by wheat grown on calcareous soil. *Soil Biology and Biochemistry* 131: 217-228. <https://doi.org/10.1016/j.soilbio.2019.01.015>.
- Ndungu SM, Messmer MM, Ziegler D, **Gamper HA**, Mészáros É, Thuita M, Vanlauwe B, Frossard E, Thonar C. 2018. Cowpea (*Vigna unguiculata* L. Walp) hosts several widespread bradyrhizobial root nodule symbionts across contrasting agro-ecological production areas in Kenya. *Agriculture, Ecosystems & Environment* 261: 161-171. <https://doi.org/10.1016/j.agee.2017.12.014>.
- Nilsson RH, Tedersoo L, Ryberg M, Kristiansson E, Hartmann M, Unterseher M, Porter TM, Bengtsson-Palme J, Walker DM, De Sousa F, **Gamper HA**, Larsson E, Larsson KH, Kõljalg U, Edgar RC, Abarenkov K. 2015. A comprehensive, automatically updated fungal ITS sequence dataset for reference-based chimera control in environmental sequencing efforts. *Microbes and Environments* 30(2): 145-150. <https://doi.org/10.1264/jsme2.ME14121>.
- Aghili F, Jansa J, Khoshgofarmanesh AH, Afyuni M, Schulin R, Frossard E, **Gamper HA**. 2014. Wheat plants invest more in mycorrhizae and receive more benefits from them under adverse than favorable soil conditions. *Applied Soil Ecology* 84: 93-111. <http://dx.doi.org/10.1016/j.apsoil.2014.06.013>.
- Aghili F, **Gamper HA**, Eikenberg J, Khoshgofarmanesh AH, Afyuni M, Schulin R, Jansa J, Frossard E. 2014. Green manure addition to soil increases grain zinc concentration in bread wheat. *PLOS ONE* 9(7): e101487. <https://doi.org/10.1371/journal.pone.0101487>.
- Pellegrino E, Turrini A, **Gamper HA**, Cafà G, Bonari E, Young JPW, Giovannetti M. 2012. Establishment, persistence and effectiveness of arbuscular mycorrhizal fungal inoculants in the field revealed using molecular genetic tracing and measurement of yield components. *New Phytologist* 194(3): 810-822. <https://doi.org/10.1111/j.1469-8137.2012.04090.x>.
- Blum M, **Gamper HA**, Waldner M, Sierotzki H, Gisi U. 2012. The cellulose synthase 3 (CesA3) gene of oomycetes: structure, phylogeny and influence on sensitivity to carboxylic acid amide (CAA) fungicides. *Fungal Biology* 116(4): 529-542. <https://doi.org/10.1016/j.funbio.2012.02.003>.
- Kuramae E, **Gamper H**, van Veen J, Kowalchuk G. 2011. Soil and plant factors driving the community of soil-borne microorganisms across chronosequences of secondary succession of chalk grasslands with a neutral pH. *FEMS Microbiology Ecology* 77(2): 285-294. <https://doi.org/10.1111/j.1574-6941.2011.01110.x>.
- Verbruggen E, Rölting WFM, **Gamper HA**, Kowalchuk GA, Verhoef HA, van der Heijden MGA. 2010. Positive effects of organic farming on below-ground mutualists: Large-scale comparison of mycorrhizal fungal communities in agricultural soils. *New Phytologist* 186(4): 968-979. <https://doi.org/10.1111/j.1469-8137.2010.03230.x>.
- van de Voorde TFJ, van der Putten WH, **Gamper HA**, Hol WHG, Bezemer TM. 2010. Comparing arbuscular mycorrhizal communities of individual plants in a grassland biodiversity experiment. *New Phytologist* 186(3): 746-754. <https://doi.org/10.1111/j.1469-8137.2010.03216.x>.
- Kuramae EE, **Gamper HA**, Yergeau E, Piceno YM, Brodie EL, De Santis TZ, Andersen GL, van Veen JA, Kowalchuk GA. 2010. Microbial secondary succession in a chronosequence of chalk grasslands. *ISME Journal* 4(5): 711-715. <https://doi.org/10.1038/ismej.2010.11>.
- Gamper HA**, van der Heijden MGA, Kowalchuk GA. 2010. Molecular trait indicators: moving beyond phylogeny in arbuscular mycorrhizal ecology. *New Phytologist* 185(1): 67-82. <http://dx.doi.org/10.1111/j.1469-8137.2009.03058.x>.
- Drigo B, Pijl AS, Duyts H, Kielak AM, **Gamper HA**, Houtekamer MJ, Boschker HTS, Bodelier PLE, Whiteley AS, Van Veen JA, Kowalchuk GA. 2010. Shifting carbon flow from roots into associated microbial communities in response to elevated atmospheric CO₂. *Proceedings of the National Academy of*

Sciences of the United States of America 107(24): 10938-10942.

<https://doi.org/10.1073/pnas.0912421107>.

- Gamper HA**, Walker C, Schüßler A. 2009. *Diversispora celata* sp nov: molecular ecology and phylotaxonomy of an inconspicuous arbuscular mycorrhizal fungus. *New Phytologist* 182(2): 495-506. <https://doi.org/10.1111/j.1469-8137.2008.02750.x>.
- Gamper HA**, Young JPW, Jones DL, Hodge A. 2008. Real-time PCR and microscopy: Are the two methods measuring the same unit of arbuscular mycorrhizal fungal abundance? *Fungal Genetics and Biology* 45(5): 581-596. <https://doi.org/10.1016/j.fgb.2007.09.007>.
- Croll D, Wille L, **Gamper HA**, Mathimaran N, Lammers PJ, Corradi N, Sanders IR. 2008. Genetic diversity and host plant preferences revealed by simple sequence repeat and mitochondrial markers in a population of the arbuscular mycorrhizal fungus *Glomus intraradices*. *New Phytologist* 178(3): 672-687. <https://doi.org/10.1111/j.1469-8137.2008.02381.x>.
- Croll D, Corradi N, **Gamper HA**, Sanders IR. 2008. Multilocus genotyping of arbuscular mycorrhizal fungi and marker suitability for population genetics. *New Phytologist* 180(3): 564-568. <https://doi.org/10.1111/j.1469-8137.2008.02602.x>.
- Gamper H**, Leuchtman A. 2007. Taxon-specific PCR primers to detect two inconspicuous arbuscular mycorrhizal fungi from temperate agricultural grassland. *Mycorrhiza* 17(2): 145-152. <https://doi.org/10.1007/s00572-006-0092-3>.
- Řezáčová V, Blum H, Hřelová H, **Gamper H**, Gryndler M. 2005. Saprobic microfungi under *Lolium perenne* and *Trifolium repens* at different fertilization intensities and elevated atmospheric CO₂ concentration. *Global Change Biology* 11(2): 224-230. <https://doi.org/10.1111/j.1365-2486.2005.00908.x>.
- Gamper H**, Hartwig UA, Leuchtman A. 2005. Mycorrhizas improve nitrogen nutrition of *Trifolium repens* after 8 yr of selection under elevated atmospheric CO₂ partial pressure. *New Phytologist* 167(2): 531-542. <https://doi.org/10.1111/j.1469-8137.2005.01440.x>.
- Gamper H**. 2005. Non-destructive estimates of leaf area in white clover using predictive formulae: The contribution of genotype identity to trifoliolate leaf area. *Crop Science* 45(6): 2552-2556. <https://doi.org/10.2135/cropsci2005.0158>.
- Gamper H**, Peter M, Jansa J, Lüscher A, Hartwig UA, Leuchtman A. 2004. Arbuscular mycorrhizal fungi benefit from 7 years of free air CO₂ enrichment in well-fertilized grass and legume monocultures. *Global Change Biology* 10(2): 189-199. <https://doi.org/10.1111/j.1529-8817.2003.00734.x>.
- Mozafar A, Ruh R, Klingel P, **Gamper H**, Egli S, Frossard E. 2002. Effect of heavy metal contaminated shooting range soils on mycorrhizal colonization of roots and metal uptake by leek. *Environmental Monitoring and Assessment* 79(2): 177-191. <https://doi.org/10.1023/A:1020202801163>.

Others:

Gamper H. 2003. Arbuscular mycorrhizas. *Mycological Research* 107(3): 384.

<https://doi.org/10.1017/S0953756203257671>.

Gamper HA. 2011. *Paphiopedilum*-Arten: Parasiten von Mykorrhizapilzen? / *Paphiopedilum* species: Parasites of mycorrhizal fungi? *Cypripedium Journal* (Swiss Orchid Foundation), vol. 2011,

<https://orchid.unibas.ch/index.php/en/renziana>

Jansa J, **Gamper HA**. 2011. Molekulargenetische Verfahren zur Bestimmung der Vielfalt von arbuskulären Mykorrhizapilzen in Wurzeln und Böden, *VBB Bulletin 2010*. BAFU Arbeitsgruppe Vollzug Boden Biologie (VBB)

[https://www.bafu.admin.ch/dam/bafu/de/dokumente/boden/fachinfo-daten/vbb_nr_132011.pdf.download.pdf/vbb-bulletin_nr_132011.pdf](https://www.bafu.admin.ch/dam/bafu/de/dokumente/boden/fachinfo-daten/vbb-bulletin_nr_132011.pdf.download.pdf/vbb-bulletin_nr_132011.pdf)

[https://www.bafu.admin.ch/dam/bafu/de/dokumente/boden/fachinfo-](https://www.bafu.admin.ch/dam/bafu/de/dokumente/boden/fachinfo-daten/vbb_nr_13_beilagejansagamperd.pdf.download.pdf/vbb_nr_13_beilagejansagamperd.pdf)

[daten/vbb_nr_13_beilagejansagamperd.pdf.download.pdf/vbb_nr_13_beilagejansagamperd.pdf](https://www.bafu.admin.ch/dam/bafu/de/dokumente/boden/fachinfo-daten/vbb_nr_13_beilagejansagamperd.pdf.download.pdf/vbb_nr_13_beilagejansagamperd.pdf)

Scopus as per October 3, 2021: h-index: 19, 31 documents, 1449 citations by 1305 documents

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Bozen-Bolzano, October 3, 2021

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