

## Publikationsverzeichnis: Günter Neumann

### I Peer-reviewed publications in scientific journals

1. **Neumann, G., El Aschker, A., and Schwemmler, B. (1991):** L-Phenylalanine ammonia-lyase and chalcone synthase in seedlings of *Oenothera*: Plasmotype dependent regulation and tissue specific distribution. *J. Plant Physiol.* 138, 263-269.
2. **Glässgen, W.E., Hofmann, R., Emmerling, M., Neumann, G.D., and Seitz, H.U. (1992):** Structure elucidation of saccharides in anthocyanins and flavonols by means of methylation analysis and gas chromatography. *J. of Chromatography* 598, 81-87.
3. **Neumann, G., and Schwemmler, B. (1993):** Flavonoids from *Oenothera* seedlings: Identification and extranuclear control of their biosynthesis. *J. Plant Physiol.* 142, 95-102.
4. **Neumann G., and Schwemmler B. (1994):** Organ- and tissue-specific biosynthesis of flavonoids in seedlings of *Oenothera odorata* (*Onagraceae*). *Bot. Acta* 107, 95-102.
5. **Azaizeh, H.A., Neumann, G., and Marschner, H. (1995):** Effects of thiamine (vitamin B1) application on bulk soil and rhizosphere microorganisms and on thiamine released from developing bean (*Phaseolus vulgaris* L.) seedlings. *Z. Pflanzenernähr. Bodenk.* 158, 549-556.
6. **Azaizeh, H.A., Neumann, G., and Marschner, H. (1995):** Effects of thiamine on growth rates of *Rhizobium* sp. and diazotrophic bacteria cultivated in vitro at different pH. *Z. Pflanzenernähr. Bodenk.* 158, 557-562.
7. **Azaizeh, H.A., Neumann, G., and Marschner, H. (1996):** Effects of thiamine application and nitrogen fertilizer form on the number of N<sub>2</sub>-fixing and total bacteria in the rhizosphere of maize plants. *Z. Pflanzenernähr. Bodenk.* 159, 183-188.
8. **Neumann, G., Azaizeh. H.A., and Marschner. H. (1996):** Thiamine (vitamin B1) seed treatment enhances germination and seedling growth of bean (*Phaseolus vulgaris* L.) exposed to soaking injury. *Z. Pflanzenernähr. Bodenk.* 159, 491-498.
9. **Neumann, G., Preißler, M., Azaizeh. H.A., and Römheld, V. (1999):** Thiamine (vitamin B1) deficiency in germinating seeds of *Phaseolus vulgaris* L. exposed to soaking injury. *Z. Pflanzenernähr. Bodenk.* 162, 295-300.
10. **Neumann, G., Massonneau, A., Martinoia, E., and Römheld, V. (1999):** Physiological adaptations to phosphorus deficiency during proteoid root development in white lupin. *Planta* 208, 373-382.
11. **Neumann, G., Römheld, V. (1999):** Root excretion of carboxylic acids and protons in phosphorus-deficient plants. *Plant and Soil* 211, 121-130.
12. **Neumann, G., Haake, C., and Römheld, V. (1999):** Improved HPLC-method for determination of phytosiderophores in root washings and tissue extracts. *J. Plant Nutr.* 22 (9), 1389-1402.
13. **Neumann, G., Hülster, A., and Römheld V. (1999):** PCDD/PCDF-mobilizing compounds in root exudates of Zucchini. *Organohalogen Compounds* 41, 331-334.
14. **Neumann, G., Massonneau, A., Langlade, N., Dinkelaker, B., Hengeler, C., Römheld, V., and Martinoia, E. (2000):** Physiological aspects of cluster root function and development in phosphorus-deficient white lupin (*Lupinus albus* L.) *Ann.of Bot.* 85, 909-919.

15. **Bagayoko, M., Alvey, S., Neumann, G., Buerkert, A. (2000):** Root-induced increases in soil pH and nutrient availability to field-grown cereals and legumes on acid sandy soils of Sudano-Sahelian West Africa. *Plant Soil* 225, 117-127.
16. **Walch-Liu, P., Neumann, G., Bangerth, F., and Engels, C. (2000):** Rapid effects of nitrogen form on leaf morphogenesis in tobacco. *J. Exp. Botany* 51, 227-237.
17. **Alvey, S., Bagayoko, M., Neumann, G., Buerkert, A. (2001):** Cereal/legume rotation effects in two West African soils under controlled conditions. *Plant Soil* 231, 45-54.
18. **Weber G., Neumann G., Haake C., and Römheld V. (2001):** Determination of phytosiderophores by anion-exchange chromatography with pulsed amperometric detection *J. Chromatogr.* 928A, 171-175.
19. **Massonneau, A., Langlade, N., Leon, S., Smutny J., Vogt, E., Neumann, G., and Martinoia, E. (2001):** Metabolic changes associated with cluster root development in white lupin (*Lupinus albus* L.): relationship between organic acid excretion, sucrose metabolism and energy status. *Planta* 213, 534-542
20. **Walch-Liu P., Neumann G., and Engels C. (2001):** Response of shoot and root growth to supply of different nitrogen forms is not related to carbohydrate and nitrogen status of tobacco plants. *J. Plant Nutr. Soil Sci.* 164, 97-103.
21. **Walch-Liu P., Neumann G., and Engels C. (2001):** Elevated atmospheric CO<sub>2</sub> concentration favours nitrogen partitioning into roots of tobacco plants under nitrogen deficiency by decreasing nitrogen demand of the shoot. *J. Plant Nutr.* 24, 835-854.
22. **Neumann, G., Martinoia, E. (2002):** Cluster roots - an underground adaptation for survival in extreme environments. *Trends in Plant Science* 7 (4), 162-167.
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25. **Weber, G., Neumann, G., and Römheld, V. (2002):** Speciation of iron coordinated by phytosiderophores using HPLC with pulsed amperometric detection and AAS. *Anal. Bioanal. Chem.* 373, 767-771.
26. **Kania, A., Langlade, N., Martinoia, E., and Neumann, G. (2003):** Phosphorus deficiency-induced modifications in citrate catabolism and in cytosolic pH as related to citrate exudation in cluster roots of white lupin. *Plant Soil* 248, 117-127.
27. **Fiedler, S., Strasser, O., Neumann, G., and Römheld, V. (2004):** The influence of redox conditions in soils on extraplasmatic Fe-loading of plant roots. *Plant Soil* 264, 159-169.
28. **Hajiboland, R., Yang, X.E., Römheld, V., and Neumann, G. (2005):** Effect of bicarbonate on elongation and distribution of organic acids in root and root zone of Zn-efficient and Zn-inefficient rice (*Oryza sativa* L.) genotypes *Environm. Exp. Bot.* 54, 163-173.
29. **Rahayu, Y.S., Walch-Liu, P., Neumann, G., Römheld, V., v.Wirén, N., and Bangerth, F. (2005):** Root-derived cytokinins as long-distance signals for NO<sub>3</sub><sup>-</sup>-induced stimulation of leaf growth. *J. Exp. Bot.* 56, 1143-1153.

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32. **Neumann, G., Kohls, S., Landsberg, E., Stock-Oliveira Souza, K. , Yamada, T., and Römheld, V. (2006):** Relevance of glyphosate transfer to non-target plants via the rhizosphere. *J. Plant Diseases and Protection* 20, 963-969.
33. **Akinrinde, E.A., Iroh, I., Obigbesan, G.O., Hilger, T., Römheld, V., and Neumann, G. (2006):** Differential expression of aluminium tolerance mechanisms in cowpea genotypes under phosphorus limitation. *J. Appl. Sci.* 6, 854-859.
34. **Akinrinde, E.A., and Neumann, G. (2006):** Evaluation of differences in tolerance to aluminium toxicity among some tropical cowpea (*Vigna unguiculata*) genotypes. *Pak. J. Biol. Sci.* 9, 954-960.
35. **Astolfi, S., Cesco, S., Zuchi, S., Neumann G., and Römheld, V. (2006):** Sulphur starvation reduces phytosiderophores release by Fe-deficient barley plants. *Soil Sci. Plant Nutr.* 52, 43-48.
36. **Ingwersen, J., Bücherl, B., Neumann, G., and Streck, T (2006):** Experimental modelling of kinetic desorption in Cd hyperaccumulation by *Thlaspi caerulescens*. *J. Env. Qual.* 35, 2055-2065.
37. **Mikutta, C., Neumann, G., and Lang, F. (2006)** Phosphate desorption from goethite in the presence of galacturonate, polygalacturonate and maize mucigel (*Zea mays* L.). *Soil Sci. Soc. Am.* 70, 1730-1740
38. **Weisskopf, L., Abou-Mansour, E., Fromin, N., Tomasi, N., Santelia, D., Edelkott, I., Neumann, G., Aragno, M., Tabacchi, R., and Martinoia, E. (2006):** White Lupin has developed a complex strategy to limit microbial degradation of secreted citrate required for phosphate nutrition. *Plant, Cell Environm.* 29, 919-927.
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41. **Haase, S., Ruess, L., Neumann, G., Marhan, S., Kandeler, E. (2007):** Low-level herbivory by root-rot nematodes (*Meloidogyne incognita*) modifies root hair morphology and rhizodeposition in host plants (*Hordeum vulgare*) *Plant Soil* 301: 151-164.
42. **Kania, A., Guldner, M., Szabo, B., Kazem, s., Römheld, V., Neumann, G., Morhard, J., Evers, M., and Terlouw, T. (2007):** Functional characterization of the stabilized organic turf grass fertilizer “Marathon”. *Rasen –Turf – Gazon* 1/2007: 192-195.

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45. **Bott, S., Tesfamariam, T., Candan, H., Cakmak, I. Römheld, V., and Neumann, G. (2008):** Glyphosate-induced impairment of plant growth and micronutrient status in glyphosate-resistant soybean (*Glycine max* L.). *Plant Soil* 312: 185-194.
46. **Neumann G., George TS., Plassard C. (2009):** Strategies and methods for studying the rhizosphere—the plant science toolbox.. *Plant Soil* 321: 431-456.
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49. **Tesfamariam, T., Bott, S., Cakmak, I. Römheld, V, Neumann G. (2009):** Glyphosate in the rhizosphere—Role of waiting times and different glyphosate binding forms in soils for phytotoxicity to non-target plants *Europ. J. Agronomy* 31: 126–132.
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51. **Neumann, G. (2010):** Mining for nutrients – regulatory aspects of cluster root function and development. *New Phytologist*, 187: 879–882.
52. **Fischer, H., Eckhardt, K.-U., Meyer, A., Neumann, G. Leinweber, P., Fischer, K., Kuzyakov, Y.(2010):** Rhizodeposition of maize: Short-term carbon budget and composition. *Journal of Plant Nutrition and Soil Science*, 173; S. 67-79.
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55. **Ögüt, M.; Er, F.;and Neumann, G. (2011):** Increased proton extrusion of wheat roots by inoculation with phosphorus solubilising microorganisms *Plant and Soil*, 339: 285-297.
56. **Astolfi S, Zuchi S, Neumann G, Cesco S, di Toppi LS, Pinton R (2011):** Response of barley plants to Fe deficiency and Cd contamination as affected by S starvation. *J Exp Bot.* 63: 1241-1250.
57. **Gweyi-Onyango JP., Tesfamariam T., Neumann G. (2011):** Contrasting responses to phosphorus status by *Arachis pintoi* (Krapov and W.C. Gregory): A lesson for selecting vegetables in Kenyan ecozones. *Asian J. of Agric. Res.* 5:45-55.

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59. **Imran M, Kolla M, Römheld V, Neumann G (2013):** Impact of nutrient seed priming on germination, seedling development, nutritional status and grain yield of maize: *J: Plant Nutr.*, in press.
60. **Imran M, Asim M, Römheld V, Neumann G (2013):** Nutrient seed priming improves seedling development and increases grain yield of maize exposed to low root zone temperatures during early growth. *Europ. J. Agron.*49: 141-148.
61. **Akter Z., Weinmann M., Neumann G., Römheld V. (2013):** An *in-vitro* screening method to study the activity potential of biofertilizers based on *Trichoderma* and *Bacillus* sp. *J. Plant Nutr.* 36: 1439-1452.
62. **Neumann G, Bott S, Ohler MA, Mock H-P, Lippmann R, Grosch R, Smalla K (2014):** Root exudation and root development of lettuce (*Lactuca sativa* L. cv. Tizian) as affected by different soils. *Front Microbiol.* 2014; 5: 2., doi: 10.3389/fmicb.2014.00002
63. **Schreiter S, Ding GC, Heuer H, Neumann G, Sandmann M, Grosch R, Kropf, Smalla K (2014):** Effect of the soil type on the microbiome in the rhizosphere of field-grown lettuce. *Front Microbiol.* 2014 Apr 8;5:144. doi: 10.3389/fmicb.2014.00144.
64. **Akter Z, Neumann G., Römheld V. (2014):** Effects of Biofertilizers on Mn and Zn Acquisition and Growth of Higher Plant: a Rhizobox Experiment. *Journal of Plant Nutrition*, accepted DOI:10.1080/01904167.2014.934478
65. **Wang Z, Straub D, Yang H, Kania A, Shen J, Ludewig U, Neumann G. (2014):** The regulatory network of cluster-root function and development in phosphate-deficient white lupin (*Lupinus albus*) identified by transcriptome sequencing. *Physiol Plant.* 151: 323-38. doi: 10.1111/ppl.12187.
66. **Wang Z, Shen J, Ludewig U, Neumann G. (2014):** A re-assessment of sucrose signalling involved in cluster root formation and function in phosphate-deficient white lupin (*Lupinus albus* L.). *Physiol. Plant.* Accepted.

## II Books and Book Contributions

1. **Neumann G. (1992):** Vergleichende Untersuchungen zur Regulation der Flavonoidbiosynthese von *Munzia-Oenotheren* bekannter genetischer Konstitution. Ulrich Grauer Verlag, Stuttgart.
2. **Neumann, G., Azaizeh, H., and Marschner, H. (1994):** Effekte von Saatgutbehandlungen mit Vitamin B1 auf Keimung, Jugendwachstum und die Rhizosphärenmikroflora bei *Phaseolus vulgaris* L. In: Merbach, W. (ed.), 5. Borkheider Seminar zur Ökophysiologie des Wurzelraumes: Mikroökologische Prozesse im system Pflanze – Boden. Teubner, Stuttgart, Leipzig, pp.38-41.

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4. **Neumann G., Hülster, A. und Marschner, H. (1996):** Identifizierung PCDD/PCDF mobilisierender Verbindungen in Wurzelexsudaten von Zucchini. In: Berichte Umweltforschung Baden-Württemberg, Projekt "Angewandte Ökologie" 16, Landesanstalt für Umweltschutz Baden-Württemberg (ed.) pp 513-528.
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8. **Neumann, G., George, E., and Römheld, V. (1998):** White lupin - a model plant to study mechanisms involved in root-induced mobilization of sparingly available P-sources. In: International Workshop on role of environmental and biological factors in acquisition of toxic and essenrial elements by plants. Research institute of Pomology and Floriculture, Skierniewice, Poland, pp.27-34.
9. **Neumann, G., George, E., and Römheld, V. (1998):** Zur Regulation der P-Mangel induzierten Abgabe organischer Säuren aus Proteoidwurzeln der Weißlupine. In: Pflanzenernährung, Wurzeleistung und Exsudation. 8. Borkheider Seminar zur Ökophysiologie des Wurzelraumes, Merbach, W. (ed.),pp. 221-229. B.G. Teubner Verlagsgesellschaft Stuttgart, Leipzig, 1998.
10. **Nicolic, M., Römheld, V., and Neumann, G. (1998):** Does the leaf apoplast modulate the occurrence of iron deficiency chlorosis in *Vicia faba* L. In: Stamenkovic, S. (ed.) Proceedings of 2nd Balkan Symposium on field crops. Vol 2.Ecology and physiology, cultural practices, Institute of field and vegetable crops, Novi Sad, Yugoslavia, pp 35-38.
11. **Engels, C., Neumann, G., Gahoonia, T., George, E., and Schenk, M. (2000):** Assessment of the ability of roots for nutrient acquisition. In: Root Methods. A Handbook. Smit, AL., Bengough, A.G., Engels, C., Van Noordwijk, M., Pellerin, S., Van de Geijn, S.C. (eds.),pp 403-459 Springer, Heidelberg, Germany.
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### III Other Publications

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