

# PUBLICATIONS



## REVIEWS

**Borriss R (2015):** Towards a new generation of commercial microbial disease control and plant growth promotion products. In Lugtenberg B. (ed.) Principles of Plant Microbe Interactions. Springer International Publishing, Switzerland, pp.329-337

**Borriss R (2015):** Bacillus, a plant beneficial bacterium. In Lugtenberg B. (ed.) Principles of Plant Microbe Interactions. Springer International Publishing, Switzerland, pp.379-389

**Halpern M, Bar-Tal A, Ofeky M, Minz D, Müller T, Yermiyahu U (2015)** The Use of biostimulants for enhancing nutrient uptake. Advances in Agronomy 130-141-1748/MMBR.00050-14.

**Hardoim PR, van Overbeek LS, Berg G, Pirttilä AM, Compante S, Campisano A, Döring M, Sessitsch A (2015)** The Hidden world within plants: Ecological and evolutionary considerations for defining functioning of microbial endophytes. Microbiol Mol Biol Rev. 2015 September ; 79(3): 293–320. doi:10.112

**Holečková Z., Kulhánek, M., Balík, (2017):** Microorganisms in Plant Protection (the review. Int. J. Plant Sci (in press)

**Holečková Z., Kulhánek M., Balík J. (2017):** Use of active microorganisms in crop production - a review. Submitted to Agronomy Journal

**Matics H., Biró B. (2015):** History of soil fertility enhancement with inoculation methods. (A termékenységet javító baktériumos talajoltás történeti áttekintése). J. Central European Agriculture, 16 (2): .231-248 DOI: [10.5513/JCEA01/16.2.1614](https://doi.org/10.5513/JCEA01/16.2.1614)

**Nkebiwe, P.M., Weinmann, M., Bar-Tal, A., Müller, T. (2016).** Fertilizer placement to improve crop nutrient acquisition and yield: a review and meta-analysis. Field Crops Research 196:389-401

**Van Oosten, M.J., Pepe, O., De Pascale, S., Silletti, S., Maggio, A. (2017):** The role of biostimulants and bioeffectors as alleviators of abiotic stress in crop plants. Chemical and Biological Technologies in Agriculture, 4, 1, Article number 5.

**van Overbeek LS, Saikkonen K. (2016)** Impact of Bacterial-Fungal Interactions on the Colonization of the Endosphere. Trends Plant Sci. 2016 Mar;21(3):230-42. doi: 10.1016/j.tplants.2016.01.003.

**Zaytseva O, Neumann G. (2016):** Carbon nanomaterials: production, impact on plant development, agricultural and environmental applications” in Chemical and Biological Technologies in Agriculture, 2016. DOI: 10.1186/s40538-016-0070-8

## **Peer-reviewed scientific Publications**

### **- 2013**

**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.

**Carvalhais LC, Dennis PG, Fan B, Fedoseyenko D, Kierul K, et al. (2013)** Linking Plant Nutritional Status to Plant-Microbe Interactions. *PLoS ONE* 8(7): e68555. doi:10.1371/journal.pone.0068555

**Dietel K, Beator B, Budiharjo A, Fan B, Borriss R (2013)** Bacterial traits involved in colonization of *Arabidopsis thaliana* roots by *Bacillus amyloliquefaciens* FZB42. *Plant Pathol. J.* 29(1) : 59-66 (2013)<http://dx.doi.org/10.5423/PPJ.OA.10.2012.0155>  
[pISSN 1598-2254 eISSN 2093-9280](http://www.ppj.ohgwi.de/)

**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.

**Niu B, Vater J, Rueckert C, Blom J, Lehmann M, Ru JJ, Chen XH, Wang Q, Borriss R (2013)** Polymyxin P is the active principle in suppressing phytopathogenic *Erwinia* spp. by the biocontrol rhizobacterium *Paenibacillus polymyxa* M-1. *BMC Microbiology* 13:137. doi:10.1186/1471-2180-13-137

### **- 2014**

**Budiharjo A, Chowdhury SP, Dietel K, Beator B, Dolgova O, et al. (2014)** Transposon Mutagenesis of the Plant-Associated *Bacillus amyloliquefaciens* ssp. *plantarum* FZB42 Revealed That the *nfrA* and *RBAM17410* Genes Are Involved in Plant-Microbe-Interactions. *PLoS ONE* 9(5): e98267. doi:10.1371/journal.pone.0098267

**Dudás A., Gáspár T., Kotroczó Z., Győri A., Wass-Matics H., Keöd Á., Végvári G., Biró B. (2014)** Egy spórás bacillus oltóanyag hatása a paradicsom növekedésére és termés hozamára. (Sporeforming bacillus inoculums affecting tomato growth and yield). *Economica*, 2014(3): 169-174.

**Gáspár T., Dudás A., Kotroczó Z., Wass-Matics H., Trugly B., Győri A., Szalai Z., Biró B. (2014)** Bioeffektor talajoltóanyagok alkalmazási módszerfejlesztése

tenyészedény-kísérletben paradicsommal. (Development of application method of bioeffector inoculums application in pot-experiment). *Economica*, 2014(3): 183-189.

**Qiao JQ, Wu HJ, Huo, RGao XW, Borriss R (2014)** Stimulation of plant growth and biocontrol by *Bacillus amyloliquefaciens* subsp. *plantarum* FZB42 engineered for improved action. *Chemical and Biological Technologies in Agriculture* 1:12

**Scholz R, Vater J, Budiharjo A, Wang Z, He Y, Dietel K, Schwecke T, Herfort S, Lasch P, Borriss R (2014)** Amylocyclicin, a novel circular bacteriocin produced by *Bacillus amyloliquefaciens* FZB42. *Journal of Bacteriology* 196: 1842–1852.

**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

**Schreiter S, Sandmann M, Smalla K, Grosch R (2014):** Soil type dependent rhizosphere competence and biocontrol of two bacterial inoculant strains and their effects on the rhizosphere microbial community of field-grown lettuce. *PLoS ONE* 9: 1-11.

**Ventorino V, Sannino F, Piccolo A, Cafaro V, Carotenuto R, Pepe O (2014)** *Methylobacterium populi* VP2: Plant growth-promoting bacterium Isolated from a highly polluted environment for polycyclic aromatic hydrocarbon (PAH) biodegradation. *The Scientific World Journal* 2014.; Article ID 931793, <http://dx.doi.org/10.1155/2014/93179>

## - 2015

**Akter Z, Neumann G., Römheld V. (2015)** Effects of Biofertilizers on Mn and Zn Acquisition and Growth of Higher Plant: a Rhizobox Experiment. *Journal of Plant Nutrition* 38: 596-608. DOI:10.1080/01904167.2014.934478

**Biró B., Domonkos M., Kocsis T., Juhos K., Szalai Z., Végvári G. (2015)** Két mikrobiális oltóanyag hatása tehéntrágya alapú komposztok és a talajok várható minőségi tulajdonságaira. (Two biofertilizers affecting a cow-compost ripening and potential soil quality). *Talajvédelem (Soil-protection)* 2015: 9-18.

**Biró B., Şumalan Ra., Şumalan Re., Farkas E., Schmidt B. (2016)** Az AM gombák hatása büdöske foszfor-felvételére és fejlődésére modellkísérletben. (Effect of AM fungi on P-uptake of *Tagetes patula* in model experiments). *Kertgazdaság (Horticulture)*, 48(2): 45-56.

**Geistlinger J, Zwanzig J, Heckendorff S, Schellenberg I (2015)** SSR Markers for *Trichoderma virens*: Their evaluation and application to Identify and quantify root-endophytic strains. *Diversity* 7: 360-384; doi:10.3390/d7040360

**Imran M, Kolla M, Römheld V, Neumann G (2015)** Impact of nutrient seed priming on germination, seedling development, nutritional status and grain yield of maize. *Journal of Plant Nutrition*, 38:12, 1803-1821, DOI:10.1080/01904167.2014.990094

**Leiser WL, Olatoye MO, Rattunde FW, Neumann G, Weltzien E, Haussmann BIG (2015)** No need to breed for enhanced colonization by arbuscular mycorrhizal fungi to improve low-P adaptation of West African sorghums. *Plant Soil* DOI 10.1007/s11104-015-2437-2441.

- 2016

**Bradáčová K, Weber NF, Morad- Talab N, Asim M, Imran M, Weinmann M, Neumann G (2016)** Micronutrients (Zn/Mn), seaweed extracts, and plant growth-promoting bacteria as cold-stress protectants in maize. *Chem. Biol. Technol. Agric.* 3:19 DOI 10.1186/s40538-016-0069-1

**Biró B., Şumalan Ra., Şumalan Re., Farkas E., Schmidt B. (2016)** Az AM gombák hatása bűdöske foszfor-felvételére és fejlődésére modellkísérletben. (Effect of AM fungi on P-uptake of *Tagetes patula* in model experiments). *Kertgazdaság (Horticulture)*, 48(2): 45-56.

**Di Stasio, E., Maggio, A., Ventorino, V., Pepe, O., Raimondi, G., De Pascale, S. (2016)** Free-living (N<sub>2</sub>)-fixing bacteria as potential enhancers of tomato growth under salt stress. *Acta Horticulturae*, in press.

**Hanc, A., Boucek, J., Svehla, P., Dreslova, M., Tlustos, P. (2016)** Properties of vermicompost aqueous extracts prepared under different conditions. *Environmental Technology* (published online at <http://dx.doi.org/10.1080/09593330.2016.1231225>).

**Imran M, Römheld V and Neumann G (2016):** Accumulation and distribution of Zn and Mn in soybean seeds after nutrient seed priming and its contribution to plant growth under Zn and Mn-deficient conditions. *Journal of Plant Nutrition*. 40: 695-708 DOI: 10.1080/01904167.2016.1262400

**Kocsis T., Biró B., Mátrai G., Ulmer Á., Kotroczó Z. (2016):** Növényi eredetű bioszén tartamhatása a talaj szervesanyag-tartalmára és Agrokémiai tulajdonságaira. (Biochar affected to SOM and soil agronomical properties). *Kertgazdaság (Horticulture)*, 48(1): 89-96.

**Lekfeldt JDS, Rex M, Mercl F, Kulhánek M, Tlustoš P, Magid J, de Neergaard A (2016)** Effect of bioeffectors and recycled P-fertiliser products on the growth of spring wheat. *Chem. Biol. Technol. Agric.* 3:22 DOI 10.1186/s40538-016-0074-4

**Nebbio A, De Martino A, Eltlbany N, Smalla K, Piccolo A (2016)** Phytochemical profiling of tomato roots following treatments with different microbial inoculants as revealed by IT-TOF mass spectrometry. *Chemical and Biological Technologies in Agriculture* 20163:12 DOI: 10.1186/s40538-016-0063-7

**Nkebiwe PM, Weinmann M, Müller T (2016)** Improving fertilizer-depot exploitation and maize growth by inoculation with plant growth-promoting bacteria: from lab to field. *Chemical and Biological Technologies in Agriculture* 3:15 DOI: 10.1186/s40538-016-0065-5

**Sánchez-Esteva S, Gómez-Muñoz B, Jensen LS, de Neergaard A, Magid J (2016)** The effect of *Penicillium bilaii* on wheat growth and phosphorus uptake as affected by soil pH, soil P and application of sewage sludge. *Chemical and Biological Technologies in Agriculture* 3:21 DOI: 10.1186/s40538-016-0075-3

**Selby C, Carmichael E, Sharma HSS (2016)** Bio-refining of perennial ryegrass (*Lolium perenne*): evaluation of aqueous extracts for plant defence elicitor activity using French bean cell suspension cultures. *Chemical and Biological Technologies in Agriculture* 3:11 DOI: 10.1186/s40538-016-0061-9

**Sharma HSS, Selby C, Carmichael E, McRoberts C, Rao JR, Ambrosino P, Chiurazzi M, Pucci M, Martin T (2016)** Physicochemical analyses of plant biostimulant formulations and characterisation of commercial products by instrumental techniques. *Chemical and Biological Technologies in Agriculture* 3:13 DOI: 10.1186/s40538-016-0064-6

**Tlustoš P, Mercl F, Břendová K., Očecová P., Vondráčková S. Száková J. (2016):** The modification of soil properties and plant uptake by the application of bioeffectors and amendments. *Mechanization in agriculture & conserving of the resources* 5: 26-29

**Viscardi S., Ventrino V., Duran P., Maggio A., De Pascale S., de la Luz Mora M., Pepe O. (2016):** Assessment of plant growth promoting activities and abiotic stress tolerance of *Azotobacter chroococcum* strains for a potential use in sustainable agriculture. *Journal of Soil Science and Plant Nutrition* 16:848-863.

- 2017

**Ansari M., Shekari F\*, Mohammadi MH, Biró B, Végári G (2017):** Improving germination indices of alfalfa cultivars under saline stress by inoculation with beneficial bacteria. *Seed Sci. & Technol.*, 45: 1-10.

**Bryndum S, Pittroff SM, Nicolaisen MH, Magid J, de Neergaard A (2017)** Microbial inoculation has a limited effect on vegetable waste compost turnover and quality. *Waste Management* (under review)

**Di Stasio et al. (2017):** Ascophyllum nodosum based algal extracts act as enhancers of growth, fruit quality, and adaptation to stress in salinized tomato plants. *Plant Soil* (under review)

**Eltlbany N, Ding G, Baklawa M, Nassal D, Weber N, Kandeler E, Neumann G, Ludewig U, van Overbeek L, Smalla K (2017)** Enhanced tomato plant growth in soil under reduced P supply through microbial inoculants and microbiome shifts. *Frontiers in Microbiology* (under review).

**Gómez-Muñoz, B., Lekfeldt, JDS., Magid, J., Jensen, LS., de Neergaard, A. (2017):** Interactions between cold stress and soil fertility level affects biomass productivity of maize seed coated with *Penicillium* sp. or Mn/Zn. *J. Agron. Crop Sci.* (under review).

**Holečková Z., Kulhánek, M., Balík, J. (2017):** Influence of Bioeffectors Application on Maize Growth, Yields and Nutrient Uptake. *Int. J. Plant Sci* (in press)

**Kocsis T., Biró B., Ulmer Á., Szántó M., Kotroczó Z. (2017)** Time-lapse effect of ancient plant coal biochar on some soil agrochemical parameters and soil characteristics. *Environ Sci Pollut Res.* DOI 10.1007/s11356-017-8707-0

**Kocsis T., Kotroczó Z., Biró B. (2017)** Bioszén dózisok és bioeffektor baktérium oltás hatása homoktalajon tenyészedénykísérletben. (Biochar doses and bioeffector bacteria in pot experiments with sandy soils). *Talajvédelem (Soil Protection Suppl.)*. pp. 53-60.

**Kotroczó Z., Biró B., Kocsis T., Veres Z., Tóth J.A., Fekete I. (2017)** Hosszú távú szerves anyag manipuláció hatása a talaj természetes biológiai aktivitására. (Long-term organic matter manipulation affected to the natural soilbiological activity). *Talajvédelem (Soil Protection Suppl.)* pp. 73-83.

**Imran M, Garbe-Schönberg D, Neumann G, Boeltd B, Mühling KH (2017):** Zinc distribution and localization in primed maize seeds and its translocation during early seedling development. *Environmental and Experimental Botany* 143: 91–98.

**Li M., Cozzolino V., Mazzei P., Monda H., Drosos M., Piccolo A (2017)** Effects of microbial bioeffectors and P amendments on P forms in a maize cropped soil as evaluated by <sup>31</sup>P-NMR spectroscopy. *Plant Soil* DOI 10.1007/s11104-017-3405-8

**Mosimann C, Oberhänsli T, Ziegler D, Nassal D, Kandeler E, Boller T, Mäder P and Thonar C (2017)** Tracing of Two *Pseudomonas* Strains in the Root and Rhizoplane of Maize, as Related to Their Plant Growth-Promoting Effect in Contrasting Soils. *Front. Microbiol.* 7:2150. doi: 10.3389/fmicb.2016.02150

**Monda H, Cozzolino V, Vinci G, Spaccini R, Piccolo A (2017)** Molecular characteristics of water-extractable organic matter from different composted biomasses and their effects on seed germination and early growth of maize. *Science of the Total Environment* 590–59: 40-49.

**Nkebiwe P.M., Neumann G., Müller T. (2017):** Densely rooted rhizosphere hotspots induced around subsurface  $\text{NH}_4^+$ -fertilizer depots: a home for soil PGPMs ? Chem. Biol. Technol. Agric. (2017) 4: 29. <https://doi.org/10.1186/s40538-017-0111-y>

**Symanczik S, Gisler M, Thonar C, Schlaeppli K, Van der Heijden M, Kahmen A, Boller T, Mäder P (2017):** Application of Mycorrhiza and Soil from a Permaculture System Improved Phosphorus Acquisition in Naranjilla. . Frontiers in Plant Sci 8: Article No. 1263. doi: 10.3389/fpls.2017.01263

**Thonar C, Lekfeldt JDS, Cozzolino V, Kundel D, Kulhánek M, Mosimann C, Neumann G, Piccolo A, Rex M, Symanczik S, Walder F, Weinmann M, de Neergaard A, Mäder P (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 4:7 DOI 10.1186/s40538-017-0088-6.

**Windisch S, Bott S, Ohler MA, Mock H-P, Lippmann R, Grosch R, Smalla K, Ludewig U. Neumann G. (2017):** *Rhizoctonia solani* and bacterial inoculants stimulate root exudation of antifungal compounds in lettuce in a soil-type specific manner. Agronomy 7: 44. doi:10.3390/agronomy7020044

**Wollmann, I., Möller, K. (2017):** Phosphorus bioavailability of sewage sludge based recycled fertilizers in an organically managed field experiment. J. Plant Nutr. Soil Sci. (under review)

**Van Oosten MJ (2017)** Root inoculation with *Azotobacter chroococcum* 76A improves growth and pre-adapts tomato plants to overcome salt stress in a nutrient-dependent manner. Frontiers in Plant Science (under review).

- 2018

**Gómez-Muñoz B, Jensen LS, de Neergaard, AE Richardson, Magid J 2018** Effects of *Penicillium bilaii* on maize growth are mediated by available phosphorus. Plant Soil <https://doi.org/10.1007/s11104-018-3756-9>

**Merci F, Tejnecký V, Dietel K, Břendová K, Kulhánek M, Száková J, Tlustoš P (2018):** Co-application of wood ash and *Paenibacillus mucilaginosus* to soil: the effect on maize nutritional status, root exudation and composition of soil solution. Plant Soil <https://doi.org/10.1007/s11104-018-3664-z>

**Moradtalab N, Weinmann M, Walker F, Höglinger B, Ludewig U and Neumann G (2018):** Silicon Improves chilling tolerance during early growth of maize by effects on micronutrient homeostasis and hormonal balances. Front. Plant Sci. 9:420. doi: 10.3389/fpls.2018.00420

**Nassal D., Spohn M., Eltlbany N., Jacquiod S., Smalla K., Marhan S., Kandeler E. (2018):** Effects of phosphorus-mobilizing bacteria on tomato growth and soil microbial activity. Plant Soil 427:17-37.

**Weber NF, Herrmann I, Hochholdinger F, Ludewig U, Neumann G (2018):** PGPR-induced growth stimulation and nutrient acquisition in maize: Do root hairs matter? *Sci. Agr.Bohemica* 49: 164-172.

**Wollmann, I., Gauro, A., Müller, T., Möller, K. (2018):** Phosphorus bioavailability of sewage sludge based recycled fertilizers. *J.Plant Nutr. Soil Sci.*181:158-166

**Mpanga IK, Dapaah HK, Geistlinger J, Ludewig U, Neumann G (2018):** Soil type-dependent interactions of P-solubilizing microorganisms with organic and inorganic fertilizers mediate plant growth promotion in tomato. *Agronomy* 2018, 8, 213; doi:10.3390/agronomy8100213

**Vinci G., Cozzolino V., Mazzei P., Monda H., Spaccini R., Piccolo A. (2018):** Effects of *Bacillus amyloliquefaciens* and organic and inorganic phosphate amendments on Maize plants as revealed by NMR and GC-MS based metabolomics. *Plant Soil* 429(10):1-14

**Vinci G, Cozzolino V, Mazzei P, Monda H, Spaccini R, Piccolo A (2018):** An alternative to mineral phosphorus fertilizers: The combined effects of *Trichoderma harzianum* and compost on *Zea mays*, as revealed by <sup>1</sup>H NMR and GC-MS metabolomics. *PLoS ONE* 13(12): e0209664. <https://doi.org/10.1371/journal.pone.0209664>

## Other Publications

**Biró B (2016)** Baktériumtrágyák és bioeffektor termékek a talaj klímahatásai ellen. Mikroorganizmusok a növény-talaj rendszerben. (Biofertilizers and bioeffectors in soil-plant systems) *Agrarhírnök* 2: 14-15

**Biró B (2016)** A talajok precíziós baktériumtrágyázásának lehetőségei és alapelvei. (Precision bacterial fertilization of soils) . *Haszon Agrár Magazin* 10: 12-16

**Biró B (2016)** Törpék a föld alatt. A mikrobiális talajoltás szempontjai, határai, hatásai. *Talajélet különszám. Agrárágazat* 17: 22-26.

**Redaktion LOP (2016):** Homogenisierteres Saatgut und zusätzliche Beizung mit Bodenhilfsstoffen. *LOP dasFachmagazin für den professionellen Pflanzenbau.* 07/16

**Van den Berg G (2016):** Seed dressing with micronutrients mitigates stress effects (3). *Plant Nutrition Courier* 4/16

**Biró B. (2017)** Biológiai Talajművelés: Termésnövelők, biostimulánsok és bioeffektív megoldások. 1. rész: A talaj, mint láthatatlan ökoszisztéma. (BIOLOGICAL Soil-cultivation. Plant-growth promoters, biostimulants and



bioeffective solutions. Part 1: The soil as invisible ecosystem). Agrarsector. (Agrárágazat), 2017 (1): 92-96.

**Biró B. (2017)** Biológiai Talajművelés: Termésmenvelők, biostimulánsok és bioeffektív megoldások. 2. rész: Talajbiológia és a talajszerkezet javítása. (BI@OLOGICAL Soil-cultivation. Plant-growth promoters, biostimulants and bioeffective solutions. Part 2: Soilbiology and improvement of soilstructure.) Agrarsector (Agrárágazat), 2017 (2): 102-104.

**Biró B. (2017)** Biológiai Talajművelés: Termésmenvelők, biostimulánsok és bioeffektív megoldások. 3. rész: A talaj-növény mikroba rendszer kémiai tulajdonságai. (BI@OLOGICAL Soil-cultivation. Plant-growth promoters, biostimulants and bioeffective solutions. Part 3: The chemical characteristics of soil-plant microbe systems). Agrarsector (Agrárágazat). 2017 (3): 4-7

**Biró B. (2017)** Biológiai Talajművelés: Termésmenvelők, biostimulánsok és bioeffektív megoldások. 4. rész: A talaj szerves-anyagának jelentősége a talajélőlények szempontjából. BI@OLOGICAL Soil-cultivation. Plant-growth promoters, biostimulants and bioeffective solutions. Part 4: The importance of soil organic matter for the soilbiota and soil-life. Agrarsector (Agrárágazat), 2017 (4): 112-115.

**Biró B. (2017)** Biológiai Talajművelés: Termésmenvelők, biostimulánsok és bioeffektív megoldások. 5. rész: A talaj szerves-anyagának mennyiségi és minőségi összefüggései. BI@OLOGICAL Soil-cultivation. Plant-growth promoters, biostimulants and bioeffective solutions. Part 5: The interrelation among soil organic matter quantity and quality.) Agrarsector (Agrárágazat), 2017 (5): 64-66.

**Biró B. 2017)** Biológiai Talajművelés: Termésmenvelők, biostimulánsok és bioeffektív megoldások. 6. rész: Biológiai sokféleség és élő talaj a lábunk alatt. BI@OLOGICAL Soil-cultivation. Plant-growth promoters, biostimulants and bioeffective solutions. Part 6: Biodiversity and living soil under our feet.) Agrarsector (Agrárágazat), 2017 (6): 70-73.

**Biró B. (2017)** Biológiai Talajművelés: Termésmenvelők, biostimulánsok és bioeffektív megoldások. 7. rész: A talajegészség fontossága. BI@OLOGICAL Soil-cultivation. Plant-growth promoters, biostimulants and bioeffective solutions. Part 7: What is soil health and why it is so important?) Agrarsector (Agrárágazat), 2017 (7): 4-7.

**Biró B. (2017)** Biológiai Talajművelés: Termésmenvelők, biostimulánsok és bioeffektív megoldások. 8. rész: A talajoltók eredményességét befolyásoló élő (biotikus) környezeti tényezők. BI@OLOGICAL Soil-cultivation. Plant-growth promoters, biostimulants and bioeffective solutions. Part 8: Living (biotic) environmental factors, affecting the productivity of soil-inoculums. Agrarsector (Agrárágazat), 2017 (8): 88-92.

**Biró B. (2017)** Biológiai Talajművelés: Termésmenvelők, biostimulánsok és bioeffektív megoldások. 9. rész A talajoltók eredményességét befolyásoló élettelen (abiotikus) környezeti tényezők. BI@OLOGICAL Soil-cultivation. Plant-growth promoters, biostimulants and bioeffective solutions. Part 9: Non-living (abiotic)

environmental factors, affecting the productivity of soil inoculums. Agrarsector (Agrárágazat), 2017 (9): 104-108.

**Biró B. (2017)** Biológiai Talajművelés: Termésnövelők, biostimulánsok és bioeffektív megoldások. 10. rész A fenntartható és környezetkímélő talajerőgazdálkodás. BIOLOGICAL Soil-cultivation. Plant-growth promoters, biostimulants and bioeffective solutions. Part 10: Sustainable and environmental protecting soil-power-management). Agrarsector (Agrárágazat), 2017 (10): 62-66.

**Kismányoki T, Biró B, Pirkó B, Tóth T, Rácz I-ne (2017)** Virtuális kerekasztal. Hogyan lehetséges a talajtermékenység fenntartása állati trágyák nélkül? (Virtual round-table discussion for the most efficient crop production. How is it possible to keep on soil-fertility, without using farmyard manure products?) In: Agro Napló (Agrar-notes) 2017 (2): 41-44.

**Hoferichter A: (2017):** Geheimes Treiben im Untergrund. Süddeutsche Zeitung 12.10.17

**Neumann G., Junge H., Prebeck K. (2017)** Reducing the need for artificial fertilisers. Sustainable biostimulants for Agriculture. Science Impact-

**Neumann G. (2018):** Pflanzenstärkungsmittel – Was bringen sie wirklich? Ökologie und Landbau 02/18: 28-30.

**Neumann G., Moradtalab N., Bradacova K., Ahmeed A., Asim M, Weinmann M., Imran M. (2018):** Kleine Ursache – Große Wirkung? Erhöhte Stresstoleranz durch Saatgutbehandlungen mit Mikronährstoffen im Test. Mais 04/2018: 178-181.