

Conference Abstracts

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Johnson M.S., Lehmann J., Riha S.J., Couto E.G. and Weiler M. (2007). Storm pulses of dissolved CO₂ in a forested headwater Amazonian stream explored using hydrograph separation. Gordon Research Conference: Catchment Science: Interactions of Hydrology, Biology & Geochemistry, July 8-13, New Hampshire , USA .

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WARNOCK, D.D., 1 MAJOR, J., 2 LEHMANN, J., 2 MCBRIDE, B., 1 RILLIG, M.C. 1,3 2007 Wood derived biochar negatively influences arbuscular mycorrhizal fungi (AMF) as a function of application rate. SES

Cheng C and Lehmann J 2006 Oxidation of Black Carbon Along a Climosequence. In World Congress of Soil Science, 9-14 July 2006, Philadelphia . Abstract 16584, poster 145-28.

Couto, E. G., João Paulo Novaes Filho, Mark Johnson, Virlei Álvaro de Oliveira, Johannes Lehmann, and Susan Riha. 2006. Spatial variability of soil physical attributes used for soil mapping in headwater catchments of the Southern Amazon. In Second Global Workshop on Digital Soil Mapping for Regions and Countries with Sparse Soil Data Infrastructures, Second Global Workshop on Digital Soil Mapping for Regions and Countries with Sparse Soil Data Infrastructures, Rio de Janeiro, 2006, Rio

de Janeiro: International Union of Soil Science /Embrapa (ISBN 85-85864-21-4 2ndGWDSM 2006
Published by Embrapa Solos)

Costa LA , Kern D , Costa ML , Rodrigues TE , Kampf N , Lehmann J and Frazão FJL 2006
Geochemistry of Dark Earth Amazonian. In World Congress of Soil Science, 9-14 July 2006,
Philadelphia . Abstract 16645, poster 133-10.

Grossman G , O'Neill B , Gomes JE , Tsai SM , Liang B , Lehmann J and Thies J 2006 Soil Microbial
Communities Associated with Anthropogenic Dark Earths (Terra Preta) and Black Carbon Particles.
In World Congress of Soil Science, 9-14 July 2006, Philadelphia . Abstract 18501, Poster 133-17

Hyland C , Lan Z , Ketterings Q and Lehmann J 2006 Properties of Phosphorus Forms in Leachate
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Philadelphia. Abstract 18567, Poster 154-43.

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nested time scales: trends in hydrologic exports from 1st and 2nd order watersheds in the seasonally
dry Southern Amazon. LBA-ECO 10th Science Team Meeting, Oct 4-6, Brasilia, Brazil. Abstract no.
ND-02.

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Philadelphia. Abstract 18557, poster 63-3.

Kinyangi J, Lehmann J, Pell A, Thies J, Ngoze S, Riha S, Mbugua D and Verchot L 2006 Soil organic
matter stabilization and associated degradation threshold dynamics. In World Congress of Soil
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Lehmann J and Sohi S 2006 Bio-char (Black Carbon) Stability and Stabilization in Soil. In World
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Lehmann J, Rondon M, Major J, Kimetu J, Cheng C, Trujillo L, Day D, Liang B, Gaunt J, Sohi S,
Solomon D and Luizão F 2006 Terra Preta: Opportunities for Meeting Global Challenges of Soil
Degradation and Climate Change. AAAS Annual Meeting, 16-20 February 2006, St. Louis, MI.
Booklet p. 117, abstract CD ROM.

Lehmann J, Solomon D and Kinyangi J 2006 Chemical speciation of organic matter on mineral
surfaces and in micro-pores using NEXAFS. Soil Science Society of America, Annual Meeting,
Indianapolis, November 12-16. Abstract No. 183-4.

Lehmann J, Solomon D and Kinyangi J 2006 In-situ assessment of the spatial association of organic
carbon and clay mineral forms in soil. Soil Science Society of America, Annual Meeting, Indianapolis,
November 12-16. Abstract No. 119-6.

Liang B , Lehmann J , Kinyangi J , Solomon D , Thies J and Luizão F 2006 Long-Term Oxidation of
Biomass-Derived Black Carbon and Effects on Soil Fertility and Organic C Cycling . In World
Congress of Soil Science, 9-14 July 2006, Philadelphia. Abstract 18242, poster 133-15

Major J, Rondon MA and Lehmann J 2006. Bio-Char Applications to a Tropical Oxisol Increase Crop
Yield and Modify Water Relations. In: Frontiers of Soil Science, 18 th World Congress of Soil Science,
Philadelphia, PA, July 9-15, 2006. Poster 133-12. Abstract ID# 17230.

Ngoze S, Riha SJ, Kinyangi JM, Lehmann J, Verchot L, Mbugua DM and Pell AN 2006 Soil fertility
degradation and management in the highlands of Kenya. In World Congress of Soil Science, 9-14
July 2006, Philadelphia. Abstract, poster 147-11

Nguyen BT, Lehmann J and Kinyangi J 2006 Long-term black carbon (bio-char) dynamics in
cultivated soil. In World Congress of Soil Science, 9-14 July 2006, Philadelphia. Abstract 18638,
poster 138-3.

O'Neill B , Grossman J , Tsai SM , Gomes JE , Garcia , Solomon CE , Liang B , Lehmann J and

Thies J 2006 Isolating Unique Bacteria from Terra Preta Systems: Using Culturing and Molecular Techniques as Tools for Characterizing Microbial Life in Amazonian Dark Earths. In World Congress of Soil Science, 9-14 July 2006, Philadelphia. Abstract 18480, poster 133-16.

Riha SJ , Barrett CB , Blume LE , Kinyangi JM , Lehmann CJ , Marenya PP , Mbugua DM , Nicholson CF , Ngoze SO , Parsons D , Verchot LV and Pell AN 2006 Long-Term Human and Biophysical Dynamics of Soil Degradation in the Kenyan Highlands. In World Congress of Soil Science, 9-14 July 2006, Philadelphia. Abstract 18227, poster 156-2

Rondon MA , Molina D , Hurtado M , Ramirez J , Lehmann J , Major J and Amezquita E 2006 Enhancing the Productivity of Crops and Grasses while Reducing Greenhouse Gas Emissions through Bio-Char Amendments to Unfertile Tropical Soils. In World Congress of Soil Science, 9-14 July 2006, Philadelphia. Abstract 16849, poster 138-54.

Sato S , Liang B , Solomon D and Lehmann J 2006 Changes in Soil Phosphorus Fractions and Species in Amazonian Dark Earths (Terra Preta) across a Long Chronosequence. In World Congress of Soil Science, 9-14 July 2006, Philadelphia. Abstract 18482, poster 133-8.

Solomon D, Lehmann J, Kinyangi J, Liang B, Lobe I, Amelung W and Schäfer T 2006 Soil organic C speciation and transformation following long-term anthropogenic perturbations in tropical ecosystems: evidence from ¹³C NMR and synchrotron-based C (1s) NEXAFS and FTIR-ATR spectroscopy. In World Congress of Soil Science, 9-14 July 2006, Philadelphia. Abstract 18543, poster 134-2.

Solomon D , Lehmann J , Thies J , Liang B , Kinyangi J , Luizão F and Skjemstad J 2006 Macromolecular Speciation of Organic Matter in Black C rich Anthrosols: Insight from ¹³C CP-MAS NMR and Synchrotron Based C (1s) NEXAFS and FTIR-ATR Spectroscopy. In World Congress of Soil Science, 9-14 July 2006, Philadelphia. Abstract 14673, poster 133-1.

Cheng C, Lehmann J and Thies J 2005 Biotic and abiotic influences on black carbon properties in soil. In: Analysis and Characterization of Black Carbon in the Environment, Annual Meeting of the European Geosciences Union, Vienna, 24-29 April 2005, No. EGU05-A-01023.

Chig, Léo Adriano, E. G. Couto, Stefan Jirka, Ted R Feldpausch, Susan Riha, Johannes Lehmann, João Paulo Novaes Filho, Luiz Carlos Mattos Rodrigues, and Evandro Carlos Selva. 2005. Relações quantitativas da medida de cor, textura e carbono orgânico para solos sob floresta tropical primária em Juruena, Mato Grosso. II Congresso de estudantes e bolsistas do experimento LBA- Resumos, II Congresso de estudantes e bolsistas do experimento LBA, Manaus, 2005, 48-48 Manaus: INPA.

Couto, E. G., João Paulo Novaes Filho, Evandro Carlos Selva, and Mark Johnson. 2005. Distribuição espacial de carbono em solo sob floresta primária na amazônia meridional. In LBA_ECO 9th Science Team Meeting, LBA_ECO 9th Science Team Meeting, São Paulo, 2005, Brasília: INPA.

Couto, E. G., João Paulo Novaes Filho, Johannes Lehmann, Mark Johnson, Evandro Carlos Selva, Luiz Carlos Mattos Rodrigues, Léo Adriano Chig, Ricardo Santos Silva Amorim, and Susan Riha. 2005. Estoque de carbono em floresta primária: estimativa com uso de diferentes atributos do solo e do terreno. In XXX Congresso Brasileiro de Ciência do Solo. Solos: Sustentabilidade e Qualidade Ambiental, XXX Congresso Brasileiro de Ciência do Solo, Recife, 2005, Recife: SBCS.

Couto, E. G., João Paulo Novaes Filho, Evandro Carlos Selva, Léo Adriano Chig, Luiz Carlos Mattos Rodrigues, Mark Johnson, Susan Riha, and Johannes Lehmann. 2005. Estoque de carbono em microbacias sob vegetação de floresta na Amazônia Meridional. In II Congresso de Estudantes e bolsistas do LBA - Resumos, II Congresso de Estudantes e bolsistas do LBA, Manaus, 2005, 59-59 Manaus: INPA.

Day D, Lehmann J, Steiner C and Das KC 2005 Long-term Sequestration of Carbon in Soils using Charcoal from Renewable Energy Product. In: Third USDA Symposium on Greenhouse Gases & Carbon Sequestration in Agriculture and Forestry. Baltimore, March 21-24 2005.

Feldpausch TR, Lehmann J, Couto EG, Passos CAM and Riha S 2005 Carbon, forest structure, soil and hydrological relationships in a primary forest undergoing reduced impact logging in southern Amazonia. In LBA-ECO 9 th Investigators Meeting, Sao Paulo, Brazil, November 10-12, 2005.

Abstract 14.4

Feldpausch, T.R. 2005. Forest science and sustainability: management, certification, and carbon cycling (Ciência e sustentabilidade de florestas: Manejo, certificação e ciclagem de carbono). United Nations Development Programme . Brasilia, Brazil.

Kern DC, Costa JA, Lehmann J, Costa ML, Kämpf N, Rodrigues TE, Frazao FJL and Sombroek W 2005 Aspectos pedogeoquímicos das Terras Pretas de Índio. Workshop Terra Preta Nova: A Terra Preta de Índio e sua Relevância na Agricultura Moderna. Annual Meeting of the Brazilian Soil Science Society, Recife, 19-20 July 2005. No. 3.

Johnson MS, Lehmann J, Couto E and Riha S 2005 Baseflow dominates biogeochemical fluxes from the critical zone to tropical headwater streams. In Sparks D, Brantley S, Chorover J, Firestone M, Richter D and White A (eds.) *Frontiers in Exploration of the Critical Zone*. Workshop, Newark, Delaware. pp. 52.

Johnson M, Lehmann J, Riha S and Couto E 2005 CO₂ dynamics in nested catchments: a longitudinal perspective from soil to 1st and 2nd order streams. *Eos Trans. AGU*, 86 (52), Fall Meet. Suppl., Abstract H22B-02

Lehmann J 2005 Synchrotron-based spectroscopy in soil research. Users Meeting, National Synchrotron, Saskatoon, Saskatchewan.

Lehmann J, Johnson M, Couto E and Riha S 2005 Soil properties determine fluvial losses of carbon in Amazonian headwaters. 9 th LBA-ECO Science Team Meeting, Conference Center of the American Chamber of Commerce, São Paulo, 14-15 November. Abstract 5.4

Lehmann J, Kinyangi J, Solomon D 2005 Carbon stabilization in biogenic nano-structures of soil microaggregates. The 2 nd International Conference on Mechanisms of Organic Matter Stabilization and Destabilization in Soils. Asilomar, CA. p. 74.

Lehmann J, Gaunt J and Rondon M 2005 Black Carbon Sequestration in Soil – A New Frontier. In: Third USDA Symposium on Greenhouse Gases & Carbon Sequestration in Agriculture and Forestry. Baltimore March 21-24 2005.

Lehmann J, Liang B and Solomon D 2005 Properties and function of black carbon in soil. In: Analysis and Characterization of Black Carbon in the Environment, Annual Meeting of the European Geosciences Union, Vienna, 24-29 April 2005, No. EGU05-A-00103.

Lehmann J, Solomon D, Machado S, Lobe I, Amelung W and Zhao F 2005 Speciation of organic sulfur in the environment. In Cavallaro N, Meeting of the Principle Investigators of the USDA, National Research Initiative. Newark, Delaware.

Liang B, Lehmann J and Solomon D 2005 Long-term C mineralization studies in high black carbon Anthrosols and adjacent low black carbon Oxisols. In: Analysis and Characterization of Black Carbon in the Environment, Annual Meeting of the European Geosciences Union, Vienna, 24-29 April 2005, No. EGU05-A-01333.

Liang B, Lehmann J, Major J, Luizao FJ and Solomon D 2005 Black C effects on soil fertility and implications for nutrient cycling and management. In XV International Plant Nutrition Colloquium, Symposium 9: Nutrient Cycling and Management, Beijing, September 2005.

Pauletto D, Luizao FJ, Lehmann J and Feldpausch TR 2005 Produção anual de liteira grossa em floresta explorada seletivamente em MT. In LBA-ECO 9 th Investigators Meeting, Sao Paulo, Brazil, November 10-12, 2005. Abstract 11.4

Pauletto D, Luizao FJ, Lehmann J and Feldpausch TR 2005 Volume e conteúdo de nutrientes na liteira grossa em áreas sob manejo florestal. In LBA-ECO 9 th Investigators Meeting, Sao Paulo, Brazil, November 10-12, 2005. Abstract 14.6

Pell, A.N., J.M. Kinyangi, S.O. Ngoze, D.R. Brown, D.M. Mbugua, C.B. Barrett, L.E. Blume, J.G.

Gamara, C.J. Lehmann, P.P. Marenya, H.A. Markewich, A.O. Odenyo, S.J. Riha, L.V. Verchot, and J. Wangila. 2005. Dynamics of poverty and soil degradation on smallholder farms in central and western Kenya. Workshop for Enhancing Collaborative Research on the Environment in Sub-Saharan Africa, National Science Foundation on Sub-Saharan Africa, Arlington, VA. January 24-6, 2005.

Rondon MA, Ramirez JA and Lehmann J 2005 Greenhouse Gas Emissions Decrease with Charcoal Additions to Tropical Soils. In: Third USDA Symposium on Greenhouse Gases & Carbon Sequestration in Agriculture and Forestry. Baltimore, March 21-24 2005.

Selva, Evandro Carlos, E. G. Couto, Mark Johnson, and Johannes Lehmann. 2005. Produção e exportação de carbono em microbacias na região sul da Amazônia. II Congresso de Estudantes bolsistas do LBA- Resumos, II Congresso de Estudantes e bolsistas do LBA, Manaus, 2005, 39-39 Manaus: INPA.

Smith, L.L., A. DiTommaso, J. Lehmann and S. Greipsson 2005 Influence of arbuscular mycorrhizal fungi on the invasive vine pale swallow-wort (*Vincetoxicum rossicum*). Proceedings of the 59th Annual Meeting of the Northeastern Weed Science Society of America, 59:132.

Sohi S, Gaunt J, Yates H Lehmann J 2005 Accounting for Black C in the Modeling of Soil Organic Matter Turnover. In: Third USDA Symposium on Greenhouse Gases & Carbon Sequestration in Agriculture and Forestry. Baltimore, March 21-24 2005.

Solomon D, Lehmann J, Kinyangi J, Liang B, Lobe I, Amelung W and Schaefer T 2005 Organic carbon in tropical ecosystems: insights into the chemical speciation and transformation using C-NEXAFS, SR-FTIR-ATR and ¹³C NMR spectroscopy. The 2nd International Conference on Mechanisms of Organic Matter Stabilization and Destabilization in Soils. Asilomar, CA. p. 99.

Cheng CC, Lehmann J and Thies J 2004 Soil chemical properties influenced by water-washed charcoal: abiotic and biotic processes. In Energy and Agricultural Carbon Utilization – Sustainable Alternatives to Sequestration, June 10-11 2004, Athens, Georgia. Abstract Poster.

Chig LA, Couto ED, Riha S, Johnson MS, Filho JP, Lehmann J and Selva EC 2004 Uso da krigagem ordinária e da cokrigagem para estimar a matéria orgânica em solos de quatro microbacias sob vegetação de floresta no município de Juruena, MT. In III LBA Scientific Conference, The Large-Scale Biosphere-Atmosphere Experiment in Amazonia. 27-29 July 2004, Brasília, Brazil. Abstract No. 364.

Couto ED, Lehmann J, Filho JP, Johnson MS, Selva EC, Rodrigues LCM, Chig LA, Riha S and Fernandes ECM 2004 Aplicação da estatística multivariada para identificar diferenças nos atributos de solo em microbacias sob floresta tropical em Juruena-MT. In III LBA Scientific Conference, The Large-Scale Biosphere-Atmosphere Experiment in Amazonia. 27-29 July 2004, Brasília, Brazil. Abstract No. 217.

Couto, E. G., Johannes Lehmann, João Paulo Novaes Filho, Mark Johnson, Evandro Carlos Selva, Luiz Carlos Mattos Rodrigues, and Léo Adriano Chig. 2004. Fontes de variação de atributos químicos e físicos de solos em quatro microbacias sob vegetação florestal, em Juruena-MT. In 56a Reunião Brasileira da SBPC- Anais, 56a Reunião Brasileira da SBPC, Cuiabá, 2004, São Paulo: SBPC.

Feldpausch TR, Jirka S, Riha SJ, Passos CAM, Lehmann J, Jasper F, Fernandes ECM and McDonald AJ 2004 Pre-harvest Tree and Vine Biomass in a Rainforest in NW Mato Grosso, Brazil. In III LBA Scientific Conference, The Large-Scale Biosphere-Atmosphere Experiment in Amazonia. 27-29 July 2004, Brasília, Brazil. Abstract No. 88.

Filho JP, Couto ED, Riha S, Johnson MS, Lehmann J, Selva EC, Rodrigues LCM and Chig LA 2004 Aplicação da geoestatística para identificar a ocorrência de Latossolos e Argissolos em quatro microbacias sob vegetação de floresta no município de Juruena, MT. In III LBA Scientific Conference, The Large-Scale Biosphere-Atmosphere Experiment in Amazonia. 27-29 July 2004, Brasília, Brazil. Abstract No. 306.

Gaunt J, Lehmann J, Duxbury J and Wightman J 2004 Do integrated energy and agricultural charcoal production techniques offer opportunities for carbon trading? In Energy and Agricultural Carbon

Utilization – Sustainable Alternatives to Sequestration, June 10-11 2004, Athens, Georgia. Abstract 3A.

Harawa R, Lehmann J, Akinnifesi FA, Kanyama-Phiri GY and Fernandes ECM 2004 Nitrogen fluxes in maize-based agroforestry cropping systems as affected by landscape positions. Annual Meeting, American Society of Agronomy, Seattle, WA, November 1-4, 2004. CD ROM. Program p. 290.

Hyland C, Lehmann J, Ketterings Q, Lan Z and Sato S 2004 Forms and distribution of phosphorus leached from manure amended soils. Annual Meeting, American Society of Agronomy, Seattle, WA, November 1-4, 2004. CD ROM. Program p. 375.

Johnson MS, Lehmann J, Couto ED, Riha S, Abdo M, Selva EC and Fernandes ECM 2004 Internal and external fluxes of dissolved organic carbon in forested headwater Amazonian catchments: Near-surface and aboveground controls on DOC exports. In III LBA Scientific Conference, The Large-Scale Biosphere-Atmosphere Experiment in Amazonia. 27-29 July 2004, Brasilia, Brazil. Abstract No. 161.

Johnson MS, Lehmann J, Selva EC, Couto ED, Abdo M, Fernandes ECM, and Riha S 2004 Significant seasonal and event-driven changes of carbon and nutrient fluxes to first-order streams of an Amazon forest. In III LBA Scientific Conference, The Large-Scale Biosphere-Atmosphere Experiment in Amazonia. 27-29 July 2004, Brasilia, Brazil. Abstract No. 269.

Kinyangi JM, Lehmann J and Solomon DM 2004 Using carbon K-edge XANES to assess organic matter stabilization in microaggregates during 100 years of cropping. Annual Meeting, American Society of Agronomy, Seattle, WA, November 1-4, 2004. CD ROM. Program p. 395.

Kinyangi JM, Lehmann J, Thies J, Pell AN, Verchot L, Barret CB, Ngoze S, Mbugua DM and Riha SJ 2004 Biogeochemical characteristics of organic matter fractions that confer thresholds during soil degradation. Annual Meeting, American Society of Agronomy, Seattle, WA, November 1-4, 2004. CD ROM. Program p. 396.

Lehmann J 2004 Characterization and Performance of Amazonian Dark Earths – Opportunities for Future Soil Management. In Energy and Agricultural Carbon Utilization – Sustainable Alternatives to Sequestration, June 10-11 2004, Athens, Georgia. Abstract Plenary.

Lehmann J 2004 Emergent issues for strategic research on soil management in Africa. In: Woome PL and Lynam JK (Eds.) Enhanced Soil Productivity in East and Southern Africa: Program, Participants and Abstracts. Rockefeller Foundation Grantees Workshop, 20-23 September 2004, Safari Park Hotel, Nairobi, Kenya. p. 20.

Lehmann J and Liang B 2004 Terra Preta de Indio of the Amazon: opportunity to study black carbon dynamics in soil. In III LBA Scientific Conference, The Large-Scale Biosphere-Atmosphere Experiment in Amazonia. 27-29 July 2004, Brasilia, Brazil. Abstract No. 368.

Lehmann J, Johnson MS, Couto ED, Riha S, Rodrigues LCM, Abdo M, Selva EC and Fernandes ECM 2004 Carbon, biogeochemistry, and hydrology: from terrestrial to aquatic systems. In III LBA Scientific Conference, The Large-Scale Biosphere-Atmosphere Experiment in Amazonia. 27-29 July 2004, Brasilia, Brazil. Abstract No. 373.

Lehmann J, Liang B and Solomon D 2004 Black carbon properties in soil. Annual Meeting, American Society of Agronomy, Seattle, WA, November 1-4, 2004. CD ROM. Program p. 395.

Liang B and Lehmann J 2004 Novel synchrotron-based STXM technique for in situ study of black carbon chemical properties. In Energy and Agricultural Carbon Utilization – Sustainable Alternatives to Sequestration, June 10-11 2004, Athens, Georgia. Abstract Poster.

Major J, DiTommaso A, Lehmann J and Falcao N 2004 Maize and weed flora dynamics on Amazonian Dark Earth and adjacent soils in the central Brazilian Amazon. In Energy and Agricultural Carbon Utilization – Sustainable Alternatives to Sequestration, June 10-11 2004, Athens, Georgia. Abstract 2B

McDonald AJ, Jirka S, Feldpausch ER, Riha S, Passos CAM and Lehmann J 2004 Application of

Remote Sensing Tools to Identify Forest Composition and Seasonal Dynamics in NW Mato Grosso. In III LBA Scientific Conference, The Large-Scale Biosphere-Atmosphere Experiment in Amazonia. 27-29 July 2004, Brasilia, Brazil. Abstract No. 304.

Ngoze S, Riha SJ, Verchot L, Pell AN, Kinyangi JM, Mbugua DM and Lehmann J 2004 Nitrogen fluxes in soils amended with animal manure and tithonia biomass on a soil degradation chronosequence. Annual Meeting, American Society of Agronomy, Seattle, WA, November 1-4, 2004. CD ROM. Program p. 239.

Noquelli MJS, Passos CAM, Fernandes ECM, Lehmann J, Riha S, Feldpausch T, R Jirka S Gandini E, Botelho PA and Fuhr S 2004 Regeneração natural de floresta tropical ombrofila aberta com palmeiras, primária, na Amazonia Meridional. In III LBA Scientific Conference, The Large-Scale Biosphere-Atmosphere Experiment in Amazonia. 27-29 July 2004, Brasilia, Brazil. Abstract No. xxx .

Passos CAM, Lehmann J, Riha S, Gandini E, Noquelli MJS, Botelho PA, Fuhr S, Fernandes ECM, Feldpausch TR and Jirka S 2004 Efeito de tratamentos silviculturais na estrutura de floresta tropical Ombrófila Aberta, na Amazônia Meridional. In III LBA Scientific Conference, The Large-Scale Biosphere-Atmosphere Experiment in Amazonia. 27-29 July 2004, Brasilia, Brazil. Abstract No. 542.

Pell, A.N., D.M. Mbugua, L.V. Verchot, C.B. Barrett, L.E. Blume, J.G.P. Gamarra, J.M. Kinyangi, C.J. Lehmann, A.O. Odenyo, S.O. Ngoze, B.N. Okumu, M.J. Pfeffer, P.P. Marenja, S.J. Riha, and J. Wangila. 2004. The Interplay Between Smallholder Farmers and Fragile Tropical Agroecosystems in Kenya. Symposium on Frontiers in Biocomplexity: Reciprocal Interactions between Human and Natural Systems. AAAS Annual Meeting, February 14, 2004, Seattle, WA.

Rodrigues LCM, Selva EC, Couto ED, Lehmann J, Johnson MS and Filho JP 2004 Lixiviação do Nitrato em Quatro Microbacias Sob Cobertura Florestal no Município de Juruena/MT. In III LBA Scientific Conference, The Large-Scale Biosphere-Atmosphere Experiment in Amazonia. 27-29 July 2004, Brasilia, Brazil. Abstract No. 555.

Rondon M, Ramirez JA and Lehmann J 2004 Greenhouse gas emissions (CH₄, N₂O) decrease with charcoal additions to highly weathered tropical soil. In Energy and Agricultural Carbon Utilization – Sustainable Alternatives to Sequestration, June 10-11 2004, Athens, Georgia. Abstract Poster.

Selva EC, Johnson MS, Couto ED, Lehmann J, and Rodrigues LCM 2004 Dinâmica do carbono em quatro microbacias sob floresta tropical, no município de Juruena, MT. In III LBA Scientific Conference, The Large-Scale Biosphere-Atmosphere Experiment in Amazonia. 27-29 July 2004, Brasilia, Brazil. Abstract No. 472.

Sato S, Hyland C, Solomon DM, Ketterings Q and Lehmann J 2004 Phosphorus speciation in poultry manure and manure-applied soils using XANES spectroscopy. Annual Meeting, American Society of Agronomy, Seattle, WA, November 1-4, 2004. CD ROM. Program p. 336.

Smith LL, DiTommaso A, Lehmann J and Griepsson S 2004 Biology of the invasive plant pale swallow-wort. Proceedings of the 58th Annual Meeting of the Northeastern Weed Science Society of America, 58: 96.

Soethe N, Lehmann J, and Engels C 2004 Predicting coarse root biomass from branching patterns of native tree species in a tropical mountain forest in South Ecuador. CIRAD, Montpellier

Steiner C, Teixeira WG, Lehmann J and Zech W 2004 Charcoal as a soil conditioner and nutrient retainer – studies in the humid tropics, Amazonia, Brazil. In Energy and Agricultural Carbon Utilization – Sustainable Alternatives to Sequestration, June 10-11 2004, Athens, Georgia. Abstract 2A.

Swami S, Teixeira WG, Lehmann J and Steiner C 2004 Socio-economic study of small-farmer charcoal production in the Brazilian Amazon. In Energy and Agricultural Carbon Utilization – Sustainable Alternatives to Sequestration, June 10-11 2004, Athens, Georgia. Abstract Poster.

Hyland C, Lan Z, Lehmann J and Ketterings Q 2003 Phosphorus leaching and retention in highly phosphorus-contaminated soils. Annual Meeting, American Society of Agronomy, Denver, CO, November 2-6, 2003. CD ROM.

Feldpausch TR, Jirka S, Riha S, Passos CA, Lehmann J, Jasper F, Noquelli MJMS, Botelho PA, Pauletto D, Gandini N and Fernandes ECM 2003 Pre-harvest tree and vine biomass in a forest in NW Mato Grosso, Brazil. Seventh LBA Science Team Business Meeting, Fortaleza, Ceara, Brazil, Nov 5-8. Abstract No. 13.7.

Feldpausch TR, Fernandes ECM, Rondon MA, Riha SJ, Wandelli E and Lehmann J 2003 Tropical forest recovery following human disturbance in central Amazônia: post-pasture forest structure, canopy cover, biomass and nutrient dynamics. International Young Scientists' Global Change Conference, START [www.start.org] and Third World Academy of Sciences/ICTP, November 16-19, 2003, Trieste, Italy. p. 83.

Johnson M, Lehmann J, Couto EG, Riha S, Selva E, Filho JPN, Rodrigues LCM, Tomazi M and Fernandes ECM 2003 Low-flow headwater stream nutrient concentrations controlled by weathering in four forested Amazonian watersheds. Seventh LBA Science Team Business Meeting, Fortaleza, Ceara, Brazil, Nov 5-8. Abstract No. 7.10.

Schwendener CM, Lehmann J, Camargo P and Fernandes ECM 2003 Determinação da transferencia do nitrogenio entre liteiras de alta e baixa qualidade pelo enriquecimento com 15 N em um Oxisol pobre em nutrientes ao norte de Manaus, Brasil. In: Claudino-Sales V, Tonini IM and Dantas EWC (eds.) VI Brazilian Ecology Congress, Fortaleza, Brazil. pp. 613-614.

Soethe N, Lehmann J and Engels C 2003 Effects of altitude on the ability of nutrient acquisition in South Ecuadorin mountain forests. In: Karlowski U, Kiel P, Pitsch T, Schöley G, Tagungsband der 16. Jahrestagung der Deutschen Gesellschaft für Tropenökologie (20.02.-22.02.2003 in Rostock, Germany). p. 183.

Soethe N, Lehmann J and Engels C 2003 Seasonal changes of fine root growth at different altitudes in South Ecuadorian montane forests. In: Fernandez L, Mosquera H, Mendoza Z, Carrasco S, Chacon J, Bussmann R, II. Congreso de la Conservacion de la Biodiversidad en los Andes y en la Amazonia (25.08.-30.08.2003 in Loja, Ecuador). p. 217.

Soethe N, Lehmann J and Engels C 2003 Coarse root architecture of some typical tree species at different altitudes in a tropical montane forest in southern Ecuador. In: Third Interntional Symposium on Dynamics of Physiological Processes in Woody Roots (28.09.-03.10.2003 in Perth, Australia). p. 161.

Trujillo L, Luizão FJ and Lehmann J 2003 Dinamica do carbono e nutrientes disponiveis durante a compostagem de residuos organicos sob condicoes tropicais. In: Claudino-Sales V, Tonini IM and Dantas EWC (eds.) VI Brazilian Ecology Congress, Fortaleza, Brazil. pp. 660-662.

Welch S, Riha S, Fernandes ECM, Rondon MA, Wandelli EV and Lehmann CJ 2003 Light and water resource capture by post-pasture abandonment vegetation north of Manaus, Amazonas: effects of time, management, and nutrients. Seventh LBA Science Team Business Meeting, Fortaleza, Ceara, Brazil, Nov 5-8. Abstract No. 13.6.

Falcao N, Comerford N and Lehmann J 2002 Nutrient availability of anthropogenic dark earth soils. I. International Workshop on Anthropogenic Terra Preta Soils. July 13-23, Manaus and Santarem. p. 21.

Feldpausch TR, Fernandes EC and Lehmann J 2002 Enhancing subsoil root activity and uptake of mineral N by gypsum applications to secondary forest regenerating from degraded pastures in Central Amazonia, Brazil. Annual Meeting of the American Geophysical Union AGU, San Francisco, 6-10 December 2002. p.

Gaunt J, Duxbury J, Lehmann J, Yaron G, and Powlson DS 2002 How to get C trading to work? Annual Meeting, American Society of Agronomy, Indianapolis, IN, November 11-14, 2002. CD ROM.

Johnson M, Lehmann J 2002 Soil water repellency and land use change in the Amazon. Large-Scale Biosphere-Atmosphere LBA Program, 2nd International Scientific Conference of the LBA, 7-10 July 2002, Manaus, Brazil. <http://lba.cptec.inpe.br/abstracts/Manaus2002/submitted-abstracts-Manaus-July2002.pdf>.

Johnson MS, Lehmann J and Fernandes EC 2002 Soil water repellency in Amazonian pastures. Annual Meeting of the American Geophysical Union AGU, San Francisco, 6-10 December 2002. p.

Kuczak CN, Fernandes ECM, Lehmann J and Rondon M 2002 Phosphorus fractions in earthworm casts and soils of agroforestry systems, pasture, and secondary forest in the Central Amazon Basin. Large-Scale Biosphere-Atmosphere LBA Program, 2nd International Scientific Conference of the LBA, 7-10 July 2002, Manaus, Brazil. <http://lba.cptec.inpe.br/abstracts/Manaus2002/submitted-abstracts-Manaus-July2002.pdf>. p. 319

Lehmann J, and Kaiser K 2002 Organic nutrients in throughfall and soil solution of a mixed tree cropping systems and forests of central Amazônia. Large-Scale Biosphere-Atmosphere LBA Program, 2nd International Scientific Conference of the LBA, 7-10 July 2002, Manaus, Brazil. <http://lba.cptec.inpe.br/abstracts/Manaus2002/submitted-abstracts-Manaus-July2002.pdf>. p. 330

Lehmann J, Cravo MS, McCann J, German L and Kern DC 2002 Soil fertility and production potential of dark earths. I. International Workshop on Anthropogenic Terra Preta Soils. July 13-23, Manaus and Santarem. p. 13.

Lehmann J, Solomon D, Janzen HH, Amelung W, Lobe I, Martinez CE, DuPreez C and Machado S 2002 Biogeochemical cycling of sulfur in soil. Annual Meeting of the American Geophysical Union AGU, San Francisco, 6-10 December 2002. p.

Schwendener CM, Fernandes ECM, Lehmann J, Rondon M and Wandelli E 2002 Green mulch applications affect Mineral nitrogen beneath cupuaci trees. Large-Scale Biosphere-Atmosphere LBA Program, 2nd International Scientific Conference of the LBA, 7-10 July 2002, Manaus, Brazil. <http://lba.cptec.inpe.br/abstracts/Manaus2002/submitted-abstracts-Manaus-July2002.pdf>. p. 318

Schwendener CM, Fernandes ECM, Lehmann J, Rondon MA and Wandelli E 2002 Efeito de aplicações de adubos verdes sobre a dinâmica de nitrogênio em sistemas agroflorestais. In Maia JMF, Bustamente M, Souza M, Rodrigues R, Salvo L (eds.) Primeiro Congresso de Estudantes e Bolsistas do Experimento LBA, 18-20 March 2002. Campus da Universidade Federal do Pará, Belém, PA, Brasil. p. 38.

Seitz D, Lehmann J, Garcia M, Hanagarth W, Hoffman KH and Zech W 2002 A microcosm experiment to evaluate influence of nutrient release as mediated by diplopods from litter of agroforestry species using 15N marker. International Research on Food Security, Natural Resource Management and Rural Development, Deutscher Tropentag 9-11 October 2002, Kassel-Witzenhausen, <http://mars.wiz.uni-kassel.de/tropentag/proceedings/2002/html/node88.html>.

Seitz D, Lehmann J, Garcia M, Hanagarth W, Hoffman KH and Zech W 2002 Role of diplopods in decomposition and nitrogen release from litter of different qualities in central Amazonian agroforestry. International Research on Food Security, Natural Resource Management and Rural Development, Deutscher Tropentag 9-11 October 2002, Kassel-Witzenhausen, <http://mars.wiz.uni-kassel.de/tropentag/proceedings/2002/html/node89.html>.

Soethe N, Lehmann J, Reuter A and Engels C 2002 Coarse root architecture of *Graffenrieda emarginata* from two altitudes of a tropical montane forest in Ecuador. In: Tropische Biodiversität im Globalen Wandel. Annual Meeting of the German Society for Ecology. Goettingen, Germany. p. 460

Soethe N, Lehmann J and Engels C 2002 Effect of altitude on the ability of fine roots for nutrient acquisition in South Ecuadorian montane forests. In Proceedings of the 16th Annual Meeting of the German Society for Tropical Ecology, Rostock, Germany. p. 183.

Solomon D and Lehmann J 2002 Sulfur K-edge XANES Spectroscopy in soil organic matter studies. Annual Meeting, American Society of Agronomy, Indianapolis, IN, November 11-14, 2002. CD ROM.

Steiner C, Teixeira W, Lehmann, J, Nehls T and Zech W 2002 Soil charcoal amendments maintain soil fertility and create a carbon sink. Large-Scale Biosphere-Atmosphere LBA Program, 2nd International Scientific Conference of the LBA, 7-10 July 2002, Manaus, Brazil. <http://lba.cptec.inpe.br/abstracts/Manaus2002/submitted-abstracts-Manaus-July2002.pdf>. p. 321

Steiner C, Teixeira W, Lehmann, J, Nehls T and Zech W 2002 Soil charcoal amendments maintain soil fertility and create a carbon sink. International Research on Food Security, Natural Resource Management and Rural Development, Deutscher Tropentag 9-11 October 2002, Kassel-Witzenhausen, <http://mars.wiz.uni-kassel.de/tropentag/proceedings/2002/html/node98.html>

Trujillo L, Luizão FJ and Lehmann J 2002 Nutrient use efficiency in abandoned pasture soil under organic and chemical amendments. Large-Scale Biosphere-Atmosphere LBA Program, 2nd International Scientific Conference of the LBA, 7-10 July 2002, Manaus, Brazil. <http://lba.cptec.inpe.br/abstracts/Manaus2002/submitted-abstracts-Manaus-July2002.pdf>. p. 335

Trujillo L, Luizão FJ and Lehmann J 2002 Aplicação de adubos orgânicos na recuperação da produtividade de solos sob pastagens abandonadas na Amazônia Central. In Maia JMF, Bustamente M, Souza M, Rodrigues R, Salvo L (eds.) Primeiro Congresso de Estudantes e Bolsistas do Experimento LBA, 18-20 March 2002. Campus da Universidade Federal do Pará, Belém, PA, Brasil. p. 23.

Kuczak C, Fernandes ECM, Lehmann J, Rondon MA 2001 Phosphorus fractions in earthworm casts and soils of agroforestry systems of the Brazilian Amazon. Annual Meeting, American Society of Agronomy, Charlotte, NC, October 21-25, 2001. CD ROM.

Lehmann J, Renck A, Teixeira W, Dinkelmeyer H and da Silva Jr. JP 2001 Nitrogen efficiency in tree-based cropping systems in the humid tropics. Annual Meeting, American Society of Agronomy, Charlotte, NC, October 21-25, 2001. CD ROM.

Lehmann J, da Silva Jr. JP, Nehls T, Steiner C, Cravo M and Glaser B 2001 O manejo de Terra Preta nova na Amazonia Central. XI Congresso da Sociedade de Arqueologia Brasileira, September 23-29 2001, Rio de Janeiro, Brazil. p. 64.

Lehmann J, da Silva Jr. JP, Nehls T, Steiner C, Cravo M and Glaser B 2001 Managing Terra Preta Nova in the central Amazon. In: Woods WI and Glaser B, Terra Preta Symposium at the Conference of the Latin American Geographers, June 13-14 2001, Benicassim, Spain. p. 15.

Schrumpf M, Lehmann J, Lyaruu HVM, and Zech W 2001 Regeneration tropischer Bergregenwälder am Beispiel des Mt. Kilimanjaro, Tanzania: Wasser- und Nährstoffflüsse. German Society of Tropical Ecology, Annual Meeting 2001, p.

Bähr E, Lehmann J, Wienecke F and Kaiser K 2000 Dissolved organic nutrients and carbon in tree cropping systems and forest sites in the central Amazon. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 171.

Campos CEP and Lehmann J 2000 Contrasting tree effects on soil P sorption and availability on a Xanthic Ferralsol. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 174.

Campos CEP and Lehmann J 2000 Tree effects on soil P availability on a Xanthic Ferralsol. In: International Symposium on Phosphorus in the Soil-Plant Continuum, Sept 17-23 2000, Beijing, China. p. 93.

Cravo MS, Lehmann J and Macêdo JLV 2000 Phosphorus properties and management for perennial crops in Amazonia. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 33.

Dinkelmeyer H, Lehmann J, Kaiser K, Renck A, Treter U and Zech W 2000 Fate of applied N fertilizer in mixed tree cropping systems in the central Amazon. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 172.

Günther D, Lehmann J, Kaiser K, Treter U and Zech W 2000 Spatial variability of soil phosphorus

pools in a mixed tree plantation. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 175.

Huwe B, Teixeira WG, Schroth G and Lehmann J 2000 Soil water dynamics in agroforestry systems. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 48.

Kaiser K, Lehmann J, Bähr E and Zech W 2000 Organic nutrients in soil and soil solution of monocultures, mixed cropping systems and forests of central Amazonia. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 25.

Kern J, Kreibich H, Darwich A, Furch K and Lehmann J 2000 Nutrient availability and transport along the aquatic/terrestrial transition zone of the Varzêa floodplain forest. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 21.

Lehmann J and Cravo MS 2000 Phosphorus management for perennial crops in the central Amazon. In: International Symposium on Phosphorus in the Soil-Plant Continuum, Sept 17-23 2000, Beijing, China. p. 89.

Lehmann J, Teixeira W and Schroth G 2000 Assessing nutrient flux control in agroforestry. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 66.

Lehmann J, Trujillo L and Zech W 2000 Subsoil nitrogen dynamics in Amazonian forest successions. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 176.

Macêdo JLV, Figueiredo NN, Lehmann J and Cravo MS 2000 Evaluation of the nutrient contents of cupuaçu (*Theobroma grandiflorum*) as a function of different levels of fertilizers. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 170.

Marino W and Lehmann J 2000 Rhizosphere effects of perennial crops on microbial biomass, acid phosphatase and P pools of a highly weathered soil in the central Amazon. In: International Symposium on Phosphorus in the Soil-Plant Continuum, Sept 17-23 2000, Beijing, China. p. 23.

Marino W, Marschner P, Göllnitz I, Schroth G, Emmerich S, Gasparotto L, Lehmann J, Uguen K, and Lieberei R 2000 *Bactris gasipaes* H.B.K. - production factors in agro-ecosystems. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 223.

Marques JD, Teixeira W and Lehmann J 2000 Soil water availability as affected by the cover crop *Pueraria phaseoloides* in the central Amazon. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 182.

Menyailo O, Lehmann J, Cravo MS and Zech W 2000 Single-tree effects on denitrification and soil microbial biomass in agroforestry systems and natural forests of the Amazon region. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 177.

Mota MS, Lehmann J and Schroth G 2000 Fertilizer effects on soil P, K, Mg and Ca contents in mixed tree cropping systems in central Amazonia. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 179.

Mota MS, Lehmann J and Schroth G 2000 Soil acidity and pH dynamics in a xanthic Ferralsol as affected by fertilization. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems:

Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 178.

Renck A, Lehmann J, Teixeira W and Huwe B 2000 Rapid water changes in a highly aggregated Xanthic Ferralsols of the central Amazon. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 182.

Renck A, Lehmann J, Teixeira W and Zech W 2000 Soil nutrient leaching in mixed tree cropping systems in the central Amazon. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 181.

Seitz D, Lehmann J, Garcia M, Hanagarth W, Hoffmann KH and Zech W 2000 Litter quality effects on decomposition of central Amazonian agroforest tree species by diplopodes. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 186.

Seitz D and Lehmann J 2000 Fate of litter N as affected by diplopodes determined by ¹⁵N enrichment in the humid tropics. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 187.

Silva Jr JP, and Lehmann J 2000 Importance of Pueraria phaseoloides for the N cycle in tropical tree production. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 184.

Silva Jr JP, Silva RB, Fernandes TP and Lehmann J 2000 Microbial biomass as affected by litter quality and fertilization on a Xanthic Ferralsol. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 185.

Trujillo L, Lehmann J and Cravo MS 2000 Effects of cover crop and fertilization on nutrient dynamics in fruit tree cropping in the central Amazon. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 178.

Uguen K, Silva Jr JP and Lehmann J 2000 Organic matter management for perennial crops in Amazonia. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 24.

Zech W, Cravo MS, Laabs V, Pinto A, Lilienfein J, Glaser B, Teixeira W, Kaiser K. and Lehmann J 2000 New approaches towards sustainability on tropical Brazil. In Voß K (ed) German-Brazilian Workshop on Neotropical Ecosystems: Achievements and Prospects of Cooperative Research, 3-8 September 2000, University of Hamburg, Germany. p. 30.

Dinkelmeyer H, Lehmann J, Treter U and Zech W 1999 Stickstoffdynamik im System Boden-Pflanze perenner Mischkulturen in Zentralamazonien. German Society of Tropical Ecology, Annual Meeting 1999, Ulm. p. 67.

Figueiredo NN, Macedo JLV, Cravo MS and Lehmann J 1999 Evaluation of the nutrient contents of cupuassu (*Theobroma grandiflorum*) as a function of different levels of fertilizers. 2nd Conference on Fruit Tree Production in the Tropics and Subtropics, Bonn 1999. p. 37.

Führböter M, Glaser B, Zech W and Lehmann J 1999 Einfluss unterschiedlicher Landnutzung auf die Bodenfruchtbarkeit in Nord Tanzania. German Society of Tropical Ecology, Annual Meeting 1999, Ulm. p. 68.

Günther D, Lehmann J, Kaiser K, Treter U and Zech W 1999 Einzelbaumeffekte auf Phosphor-Pools eines xanthic Ferralsols in einem Agroforstsystem in Zentralamazonien. German Society of Tropical

Ecology, Annual Meeting 1999, Ulm. p. 87.

Lehmann J, da Silva Jr. JP and Trujillo L 1999 Leguminous cover crops in tropical fruit tree production. 2nd Conference on Fruit Tree Production in the Tropics and Subtropics, Bonn 1999. International Society for Horticultural Science. p. 9.

Marques JDO, Teixeira WG and Lehmann J 1999 Physical and chemical characterisation of a soil profil up to 3m depth in the central Amazon (Caracterização de parâmetros físico-químicos de um latossolo amarelo, na região Amazônica). Soil Science Society of Brazil, Annual Meeting 1999, Brasilia. Session 6: T037-6.

Teixeira W, Schroth G, Marques JD, Lehmann J, Cravo MS, Huwe B and Zech W 1999 Degraded areas of the terra firme in the Amazon basin: soil characteristics and parameters for transport processes. ISSO Meeting 1999, Perdue, USA.

Von Willert W, Lehmann J and Wulf S 1999 Influence of runoff irrigation on plant and soil nutrients. Dahlia Greidinger International Symposium on Nutrient Management under Salinity and Water Stress. The Lowdermilk Faculty of Agricultural Engineering, Haifa, Israel.

Lehmann J 1997 Nutrient cycling in agroforestry. 2nd Symposium for Tropical Useful Plants, Hamburg. p. 21.

Lehmann J, von Willert F, Wulf S and Zech W 1996 Influence of runoff irrigation on mineral nutrition of *Sorghum bicolor* (L.) in Northern Kenya. Conference of the International Soil Conservation Organisation. Bonn. p. 330.

Lehmann J, Droppelmann K and Zech W 1996 Sturzwasserbewässerung von *Sorghum bicolor* (L.) Moench. und jungen Plantagen von *Acacia saligna* als Alternative zur Regenbewässerung in Nord-Kenya. German Society of Tropical Ecology, Annual Meeting 1996, Dresden. p. 60.

Lehmann J, Küper U, Droppelmann K, Berliner P, Nyabundi O and Zech W 1995 Optimizing biomass production in a runoff agroforestry system in Northern Kenya. German Society of Tropical Ecology, Annual Meeting 1995. Hamburg. p. 29.