

I INTERNATIONAL WORKSHOP ON ANTHROPOGENIC TERRA PRETA SOILS

[NOVOTEL], MANAUS, BRAZIL, 13-19 JULY 2002.

Organized by
INPA, EMBRAPA, UA, MPEG, USP

Saturday, July 13, 2002

08:00 - 09:00h – Registration (R\$100,00 – Students R\$50,00)

9:00h – Opening Session

Chair: Dr. Newton Falcão – INPA (Organizing Committee)

Invited representatives of the MCT, IPAAM, UA, EMBRAPA, INPA, MPEG, USP, UFPA.

Lectures:

- “Soils and Societies: Native Manipulation of Soils in the Tropics” - Dra. Susanna Hecht (UCLA)
- “The archaeological context of Anthropogenic Dark Earths” - Prof. Dr. Eduardo Neves (Univ. de São Paulo-USP)
- “Overview of occurrence, characteristics and of replication possibilities of Terra Preta and Terra Mulata” - Dr. Wim Sombroek and Dra. Dirse Kern (Museu Paraense Emílio Goeldi-MPEG)

12:30h – Lunch

14:00 – 18:10 h – Current Advances in Terra Preta Research in Amazônia

Chair: Estevão Vicente Cavalcanti de Paula, IPAAM, Manaus)

Organizer: Prof. Dr. Johannes Lehmann (Cornell University –USA)

14:00 – 14:05h – Introduction - Prof. Dr. Johannes Lehmann
(Cornell University)

14:05 – 14:20h – Development of Anthrosol Research – Dr. William Woods
(Southern Illinois University)

14:20 – 14:50h – The Origin of Amazonian Dark Earths – Dr. Eduardo Neves
(Universidade de Sao Paulo)

14:50 – 15:10h – Distribution of Anthropogenic Dark Earths – Dra. Dirse Kern
(Museu Goeldi)

15:10 – 15:30h – Use of Anthropogenic Dark Earths – Dr. Italo Falesi
(Embrapa - Belém)

15:30 – 15:55h – Classification of Amazonian Dark Earths - Nestor Kämpf
(Universidade Federal do Rio Grande do Sul)

15:55 – 16:10h – Coffee break

16:10 – 16:30h – Soil Fertility and Production Potential of Dark Earths – Dr. Johannes Lehmann (Cornell University)

16:30 – 16:50h – Soil Organic Matter Stability in Dark Earths – Dr. Bruno Glaser (University of Bayreuth)

16:50 – 17:10h – Anthropogenic Dark Earths as Carbon Stores and Sinks – Dr. Wim Sombroek (ISRIC)

17:10 – 17:30h – Agrobiodiversity in Amazônia and its Possible Relationship with Anthrosols - Charles Clement (INPA)

17:30 – 17:50h – Ethnoecology of Black Earth – Dra. Laura German (University of Georgia)

17:50 – 18:10h – Archaeological Fieldwork on Terra Preta – Dr. Eduardo Neves (Universidade de Sao Paulo)

Sunday, July 14, 2002

Field day south of Manaus: inspection of the archeological sites of Iranduba (bus + ferry)
Organizers: Dr. Eduardo Neves (USP) and Dr. Hedinaldo Lima (Univ. Federal do Amazonas).

Monday, July 15, 2002 (Novotel)

9:00 – 12:30 h – Continuation of the Current Advances in Terra Preta Research in Amazônia –

Chair: Dr. Wim Sombroek e Dr. Bruno Glaser

Organizer: Dr. Johannes Lehmann

9:00 – 9:15h – Archaeobiological Methods for the Study of Amazônian Dark Earths - Santiago Mora (St Thomas University)

9:15 – 9:25h – Organic Chemistry Studies of Anthropogenic Dark Earths – Dr. Bruno Glaser (University of Bayreuth)

9:25 – 9:45h – Microscopic Techniques for *Terra Preta* Research – Dra. Maria de Lourdes Ruivo (Museu Goeldi)

9:45 – 10:05h - Nutrient Availability of Anthropogenic Dark Earths Soils – Dr. Newton Falcão (INPA)

10:05 – 10:25h – Anthropogenic Dark Earths – Biological Measurements - Janice Thies (Cornell University)

10:25 – 10:40h – Coffee break

10:40 – 11:00h – Geochemical and Mineralogical Analyses – Prof. Dr. Marcondes Lima da Costa (Universidade Federal do Pará)

11:00 – 11:20h – Indigenous Soil Management – Dra. Susanna Hecht (University of California at Los Angeles)

11:20 – 11:40h – Contemporary Terra Preta Land Uses – Dr. Mario Hiraoka (Millersville University)

- 11:40 – 12:00h – The effect of Management on the fertility of Amazonian Anthropogenic Dark Earth Soils – a review – Dra. Beata Madari (Embrapa Rio de Janeiro)
- 12:00 – 12:20h – Weed Population and Management on Terra Preta do Indio Soils – Dr. Toni DiTommaso (Cornell University)
- 12:20 – 12:40h – NN (Clark Erickson, University of Pennsylvania)

12:40 – 14:00 h – Lunch

14:00 – 18:00h – Terra Preta Nova Project

Outline for an interdisciplinary research & development of the project called Terra Preta Nova (objectives; activities; expected results; uncertainties; codes of conduct; acquisition of funds; proposal for GEF co-financing)

Chairs: Prof. Dr. William Woods and Dra. Dirse Kern

Organizers: Dra. Beata Madari (EMBRAPA-SOLOS) e Dr. Wim Sombroek (MPEG).

- 14:00 – 14:15h – Projeto Terra Preta - Desenvolvimento de novo insumo orgânico a partir de fontes renováveis: alternativa para o aumento da produtividade e sustentabilidade de solos tropicais de baixa fertilidade – Dr. Vinicius de Melo Benites (EMBRAPA)
- 14:15 – 14:30h – Carbon sequestration and carbon stability – Dr. Johannes Lehmann (Cornell University)
- 14:30 – 14:45h – Caracterização e aspectos de produtividade das TPA´s dos Municípios de Apuí e Iranduba – Dr. Gilvan Coimbra Martins (Embrapa Amazônia Ocidental)
- 14:45 – 15:00h – Disponibilidade de micronutrientes em TPA em comparação com outros solos amazônicos – Dra. Maria do Rosário Lobato Rodrigues (Embrapa Amazônia Ocidental)
- 15:00 – 15:15h - Avaliação de características físicas e hídricas das TPA's e de solos com adição de carvão vegetal – Dr. Wenceslau Geraldes Teixeira (Embrapa Amazônia Ocidental).
- 15:15 – 15:30h – Diversidade microbiológica, atividade biológica e teores de nutrientes da biomassa microbiana em solos TPA e adjacentes (Caxiaunã e Santarém) – Dra. Maria de Lourdes Ruivo (Museu Paraense Emílio Goeldi)
- 15:30 – 15:45h – Processos de formação de solos com Terra Preta Arqueológica na Amazônia. - Dra. Dirse Clara Kern (Museu Paraense Emílio Goeldi)
- 15:45 – 16:00 – Aproveitamento econômico dos resíduos de madeira como alternativa para minimizar os problemas sócio-ambientais no Estado do Pará- Dra. Dirse Clara Kern (Museu Paraense Emílio Goeldi)

16:00 – 16:30h – Coffee Break

- 16:30 – 16:45h - Biota do solo de Terra Preta antropogênica no município de Manacapuru, AM – Brasil. Dra. Lucille Kriger Antony (INPA-CPEC)
- 16:45 – 17:00h – Soil charcoal amendments maintain soil fertility and create a carbon sink
Dr. Christoph Steiner (Institute of Soil Science, University of Bayreuth)

- 17:00 – 17:15h – As áreas de atividades na aldeia Asurini do Xingu: elementos para uma reflexão sobre os processos culturais de formação das terras pretas - Fabíola Andréa Silva (USP)
- 17:15 – 17:30h – O Estudo do Processo de Formação de Terra Preta : um contexto etno-arqueológico - Lilian Rebellato (USP)
- 17:30 – 17:45h – Geoquímica do Selênio, Mercúrio, Arsênio e Outros Metais (Cd, Pb, U) de Impacto Ambiental em Sedimentos Quaternários da Amazônia Brasileira – Prof. Dr. Marcondes Lima da Costa (UFPA)

Tuesday, July 16, 2002

Field day north of Manaus: inspection of Terra Preta sites in the Rio Preto da Eva (bus + car) and experiments with “Terra Preta Nova” at Experimental Station of EMBRAPA

Organizers: Dr. Wenceslau Teixeira (EMBRAPA/CPAA) and Dr. Newton Falcão (INPA)

Wednesday, July 17, 2002

9:00 - 12:00h – Continuation of the Terra Preta Nova Project

Outline for an interdisciplinary research & development of the project called Terra Preta Nova (objectives; activities; expected results; uncertainties; codes of conduct; acquisition of funds; proposal for GEF co-financing)

Chairs: Prof. Dr. Marcondes Lima da Costa (UFPA) e Dr. Newton Falcão (INPA)

Organizers: Dra. Beata Madari e Dr. Wim Sombroek

9:00 – 10:00h – Lecture:

- “Genesis and micromorphological aspects of Indian Dark Earths” - Dr. Carlos Ernesto e Dr. Hedinaldo Narciso de Lima (Universidade de Viçosa – Universidade do Amazonas)

10:00 – 12:00h - Groups of work

Objective: development of data bases; criteria for classification; minimum data requirements per profile; combined field and laboratory studies; field experiments and etc.

12:00 – 14:00h – Lunch

14:00 – 17:00h – Presentation of the works of the referred groups

Chairs: Prof. Dr. Hedinaldo Lima (INPA) e Dr. William Woods

Organizers: Dra. Beata Madari e Dr. Wim Sombroek

Debatedora: Dra. Beata Madari

Compilation of the results: Dra. Maria Emília Sales e Dra. Maria de Lourdes Pinheiro Ruivo

17:00-18:00h – Closing Section

Thursday & Friday, July 18-19, 2002

Two field days in the area west of Manaus: archeological sites and use of Terra Preta in the Acutuba and Novo Airão areas along the lower Rio Negro (by boat).

Organizers: Dra. Laura German (Univ. of Georgia), Dr. Hedinaldo Lima (FUA), Dr. Newton Falcão (INPA) and Dr. Eduardo Neves.

Optional:

Saturday, July 20, till Tuesday, July 23, 2002

Boat or plane travel, at own cost, to the Santarem area. Inspection of Terra Preta and Terra Mulata sites in the Santarém – Belterra [– Arapiuns] area, and visits to LBA sites.

Organizers: Raimundo Cosme (EMBRAPA-CPATU), Antoinette WinklerPrins (Univ. of Michican) and Joe McCann (Arapiuns).

SPONSORED by: IPAAN, CNPq (?), Finep (?), NSF (?)

Workshop Organizing Committees:

International

Wim Sombroek
William Woods
Johannes Lehmann

National

Dirse Clara Kern
Marcondes Lima da Costa
Eduardo Neves

Local

Newton Paulo de Souza Falcão (INPA)
Wenceslau Teixeira (EMBRAPA – CPAA)
Hedinaldo Lima (FUA)
Phone: 092 6421845 ou 092 6431866
nfalcao@inpa.gov.br ou
nfalcao@interlins.com.br

Permanent Secretariat for the TPN project: MPEG-CCTE, Belém, Brazil <kern@museu-goeldi.br>, (0055).91.2490454. [www.geo.uni-bayreuth.de/bodenkunde/.](http://www.geo.uni-bayreuth.de/bodenkunde/) ;
www.museu-goeldi.br/pesquisa/ecologia/tpa/paginas_imagens/tpaindex.htm.