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14TH INTERNATIONAL CONFERENCE
FOR RENEWABLE RESOURCES AND PLANT BIOTECHNOLOGY
(NAROSSA® 2008)

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NAROSSA® 2008 conference was held in the Maritim Hotel Magdeburg (Germany) in the period June 8–10, 2008. This conference was organized under the patronage of Minister of Agriculture and Environment of Saxony-Anhalt Land. The organizers of the conference were OHMI Consulting GmbH, BIO Mitteldeutschland GmbH and Institute of Natural Fibres (INF).

Prof. Dr. Ryszard Kozłowski (INF) and Dr. Frank Pudel (OHMI Consulting GmbH) were co-chairmen of the conference. Dr. Melvyn F. Askew (Central Science Laboratory, York, United Kingdom), Dr. Peter Bloss (Kunststoff-Zentrum in Leipzig gGmbH, Leipzig, Germany), Dieter Bockey (UFOP e. V., Berlin, Germany), Dr. Susanne Brandt (Landesbauernverband Sachsen-Anhalt e. V., Magdeburg, Germany), Torsten Graf (Thüringer Landesanstalt für Landwirtschaft, Dornburg, Germany), Dr. Jens A. Katzek (BIO Mitteldeutschland GmbH, Halle (Saale), Germany), Dr. Paul P. Kolodziejczyk (Olds College School of Innovation, Olds, Alberta, Canada), Dr. Katalin Kövari (Bunge Europe Research and Development Center, Budapest, Hungary), Prof. Dr. Ryszard Kozłowski (Institute of Natural Fibres, Poznan, Poland), Prof. Dr. Lothar Mörl (Otto-von-Guericke-Universität Magdeburg, Magdeburg, Germany), Ass. Prof. Dr. Marijana Perifanova (Higerher Institute of Food and Flavour Industries, Plovdiv, Bulgaria), Prof. Dr. Ingo Schellenberg (Hochschule Anhalt, Bernburg, Germany), Dr. Heike Schimpf (Landesanstalt für Landwirtschaft Forsten und Gartenbau, Bernburg, Germany), Dr. Ralph Thomann (Institut für Getreideverarbeitung GmbH, Bergholz-Rehbrücke, Germany), Prof. Dr. Grete Bach (IfN – Institut für Neuwertwirtschaft GmbH, Tröglitz, Germany), Dr. Ute Bauermeister (Fördergemeinschaft Ökologische Stoffverwertung e. V., Halle (Saale), Germany), Dr. Matthias Gohla (Fraunhofer IFF – Institut für Fabrikbetrieb und -automatisierung, Magdeburg, Germany), Prof. Dr. Gennady E. Zaikov (N. M. Emanuel Institute of Biochemical Physics, Moscow, Russia) were members of Scientific Committee of the conference.

The scientific program of the conference included 3 plenary lectures and 35 oral presentations, which were divided into two sessions. The poster session included about 70 reports.

Prof. Kozłowski, Dr. Pudel and Mrs. Petra Wernicke (Minister of Agriculture and Environment of Saxony-Anhalt Land) took part in the opening ceremony.

The topic of the first plenary lecture was biomass for energy, possibilities and constraints (Martin Kaltschmitt, Daniela Thrän, Franziska Müller-Langer, German Biomass Research Center, Leipzig, Germany). The second plenary lecture was devoted to polymers and chemicals from the agro-resources (Ryszard Kozłowski, Krzysztof Bujnowicz, Institute of Natural Fibres, Poznan, Poland). Food vs. fuel, the problems and the opportunities were discussed in the third lecture (Melvyn F. Askew, Agricultural and Rural Strategy Central Science Laboratory Sand Hutton, York, United Kingdom).

The first session of the conference had 18 oral presentations. Cornelia Deimer and Thorsten Breitschuh (Landgesellschaft Sachsen-Anhalt mbH, Halle, Germany; BELANU, Werdeshausen, Germany) spoke about selective findings of the biomass potential study 2007 Saxony-Anhalt. S. Uma Maheswari and R. Babu Rajendran (Bharathidasan University, Tiruchirappalli, India) gave presentation about identification of polyhydroxyalkanoates (PHA's) producing bacteria from sago waste effluents (a preliminary study). The lecture of Otto Pulz (IGV Institut für Getreideverarbeitung GmbH, Nuthetal, Germany) was devoted to combined CO₂ fixation and bio fuel production by micro algae. The results of the study of integrated systems for the utilization of biomass in fuel cells were included in the talk of Sascha Thomas, Andre Herrmann and Eyck Schotte Fraunhofer (Institute for Factory Operation and Automation, Process and Plant Engineering, Magdeburg, Germany). Frank Pudel, Thomas Krause (PPM Pilot Pflanzenöltechnologie Magdeburg e.V., Magdeburg, Germany) and Mikkel Nordkvist (ISO-MIX A/S, Ishøj, Denmark) spoke about improvement of the

oxidation stability of vegetable oils and biofuels by deoxygenation. Beate Bahl and Ulrike Schümann (University of Rostock, Rostock, Germany) spoke.

The lecture of Zuhair Saleem and Frank Pudel (PPM Pilot Pflanzenöltechnologie Magdeburg e.V., Magdeburg, Germany) was devoted to derivatives fatty acid esters for improving cold flow properties of biofuels. The information on the development of a mathematical model for computing mixtures of different oils for biodiesel production was included in the lecture of Mathias Rohrbeck and Frank Pudel (PPM Pilot Pflanzenöltechnologie Magdeburg e.V., Magdeburg, Germany). Einar Kikkas (Ministry of Agriculture of the Republic of Estonia, Tallinn, Estonia) spoke about promotion of the use of biomass and bioenergy in Estonia.

The lecture of Gunther Fleck and Frank Pudel (PPM Pilot Pflanzenöltechnologie Magdeburg e.V., Magdeburg, Germany) was devoted to investigations in the use of lipases for biodiesel production. The problems of anthocyanins, their role, processing, and application were discussed by Anna Bakowska-Barczak (Olds College School Of Innovation (OCSI), Olds, AB, Canada), Jae-Yong Lee and Paul P. Kolodziejczyk (Department of Biochemistry, Hallym University College of Medicine, Chuncheon, Korea (South)). Aleksandra Luwanska, Alicja Talarek, Grazyna Mankowska, Karolina Wielgus (Institute of Natural Fibres, Poznan, Poland) spoke about efficient micropropagation of white mulberry (*morus alba* l.) in vitro culture. The effect of addition of flaxseed oil to the diet of laying hens on the nutritional value of the eggs was discussed by Jadwiga Kozłowska, Marcin Biskupski, Marta Gromek, Stanislaw Wezyk, and Katarzyna Poltowicz (Institute of Natural Fibres, Poznan, Poland).

The last five oral lectures were devoted to the following problems: use of *jatropha curcas* L. in biobased materials (Peter Gerth, Melanie Poschke, Hochschule Magdeburg-Stendal (FH), Magdeburg, Germany and Watana Pinsem, King Mongkut's Institute of North Bangkok, Bangkok, Thailand); study on the utilization of *jatropha* for power generation purposes on the Galapagos Islands (Dieter Sonnenholzner, Christoph Wieland and Andreas Schuster (Technische Universität München, Munich, Germany)); profiles of *jatropha curcas* oil as sustainable source of energy and raw material in guinea (Sékou Traoré, Polytechnic Institute, University of Conakry, Conakry, Guinea, M. Thiam, Department of Agriculture, Dinguiraye, Guinea and K. Becker, University of Hohenheim, Stuttgart, Germany); impressions of *jatropha* in lao pdr - agronomic potential and aspects for plant breeding approach (Frank Hirsinger, Düsseldorf, Germany, Thomas Pircher, Lao Institute for Renewable Energy, Walpertskirchen, Germany and Jakob Rietzler, Lao Institute for Renewable Energy, Vientiane, Lao PDR);

investigations for production and processing of *jatropha* oil for its application as fuel (Hans-Gerd Brandt, Frank Pudel PPM Pilot Pflanzenöltechnologie Magdeburg e.V., Magdeburg, Germany).

The second session of the conference had 17 oral presentations. Melanie Oey (Max-Planck Institute of Molecular Plant Physiology, Potsdam, Germany) gave presentation about chloroplasts as bioreactors for the high-yield production of an active bacteriolytic protein antibiotic. Gotthard Kunze (Institute of Plant Genetic & Crop Plant Research (IPK), Gatersleben, Germany) spoke about detection of estrogenic activities in environmental samples, urine, and milk by a novel yeast biosensor. The title of presentation of Angelika Rubick (ofi-Forschungsinstitut, ökoteknik, Vienna, Austria) was "Horsepower - new potential for use of horse manure". The lecture of Wolfgang Behns, Hartmut Haida, Carmen Behns, Sabine Schlüsselburg, Lothar Mörl (Otto-von-Guericke-University Magdeburg, Magdeburg, Germany) was devoted to fluidized bed extraction of spice plants using superheated steam. The information about cellulosic nanofibre composites was presented by Martien van den Oever and Gülden Yilmaz (Wageningen UR Agrotechnology & Food Innovations, Wageningen, The Netherlands) and the information about bioplastics reinforced with cellulose spun fibres was included in the presentation of Johannes Ganster, Rainer Rihm and Hans-Peter Fink (Fraunhofer IAP, Materials development, Golm, Germany).

Industrial applications of injection moulding was discussed in the lecture of Peter Gerth, , Thomas Bagusch, Melanie Poschke, Johann Zimprich (Hochschule Magdeburg-Stendal (FH), Magdeburg, Germany), and Sirisart Ouajai (King Mongkut's Institute of North Bangkok, Bangkok, Thailand). Katrin Schwikal, Bodo Saake, Thomas Heinze, and Frank Meister (Thüringisches Institut für Textil- und Kunststoffforschung e.V., Rudolstadt, Germany) spoke about new paperadditives based on xylan. The problems of new applications for natural based epoxides were discussed by Jochen Gottfriedsen and Bernhard Adler (Dracosa AG, Bitterfeld-Wolfen, Germany) while André Wufka and Eberhard Friedrich (Fraunhofer-Institut für Keramische Technologien und Systeme IKTS, Dresden, Germany) discussed the problems of novel process management for improved biogas production.

Bernhard Ingwersen and Claudia Mueller (Norddeutsche Pflanzenzucht Hans Georg Lembke KG, Holtsee, Germany) gave presentation under the title "Breeding of forage grasses for utilization as biogas substrate under aspects of climate change". The lecture of Rolf Hommel, Grete Bach (IfN GmbH, Esterau, Germany), Christian Müller (Agricola Agrarverwaltungsgesellschaft mbH & Co. KG, Rehmsdorf, Germany), and Marcel Schmidt (GALA-

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MIBRAG-Sevice GmbH Esteraue Germany) was devoted to vetiver-grass – a new potential energy plant in Saxony-Anhalt. The information about ensiling and biogas-production with the recultivation plant *Vetiveria zizanioides* was included in the lecture of Reinhardt Pätz, Jan-Henryk Listewnik (University of applied science Anhalt, Bernburg, Germany).

The last oral presentations were devoted to the following problems: treatment of digested substrates with the anaerobic process (Ute Bauermeister, GNS - Gesellschaft für Nachhaltige Stoffnutzung GmbH, Halle (Saale), Germany); results of experimental cultivation of kenaf in the conditions of INF experimental station in Petkowo (Lidia Grabowska, Grzegorz Oleszak, Józef Jakimcio-Turowski, Institute of Natural Fibres, Poznan, Poland);

the methods to increase fibre flax resistance to biotic and abiotic stress (Krzysztof Heller, Aleksandra Andruszewska, Malgorzata Byczynska, Katarzyna Wielgusz, Institute of Natural Fibres, Poznan, Poland); the effect of sowing density on seed and panicle yields of industrial hemp (Henryk Burczyk, Lidia Grabowska, Malgorzata Strybe, Institute of Natural Fibres, Poznan, Poland).

Poster session included 70 reports covering some aspects of plant biotechnology and renewable resources.

The problems which were discussed during this conference are of great importance both for pure and applied science.

The next NAROSSA® conference will be hosted by the Institute of Natural Fibres, Poland, in June, 2009.