

21 September 2007

The Challenge of Developing Organic Farming in Africa



Organic farming is a new industry in Africa, but the majority of African farmers are already organic by default. This apparent contradiction is addressed by our research and development work which can benefit both new and traditional forms of organic farming. This work will be discussed by AVRDC scientists at the Tropentag Conference in Germany in early October involving about 700 experts and students. Dr Shilpi Saxena, Dr Peter Juroszek and Mr Stefan Pletziger are lead authors, or have contributed to research papers that will present our work in organic agriculture for developing countries.

There has been rapid global growth in the demand for organic fruits and vegetables particularly in wealthy countries such as in Europe, and consumers are willing to pay premium prices for such produce. This growth is being driven by consumer health concerns and has been assisted by the development of private certification standards that growers must adhere to. But as Dr Saxena points out, these standards are also forcing vertical integration in the European organic food market, making it difficult for African smallholder farmers to compete.

In Africa, certification standards for exported organic vegetables can often only be met by larger farmers or farmer cooperatives. But there is already a small, but growing market amongst wealthy urban African consumers as well as expatriates for locally-grown certified organic produce, claims Dr Saxena. According to Mr Pletziger this provides the easiest market for smallholder farmers to access, and developing high value domestic markets for organic vegetables will provide a more reliable outlet than the more fickle export market.

Most smallholder farmers in Africa are organic farmers by default because they cannot afford inputs of commercial pesticides or fertilizers. Improved organic farming technologies could lift their productivity, as well as that of certified organic growers.

As Dr Juroszek points out in his paper, successful organic farming requires good soil health, significant crop management skills and a few essential inputs. Amongst organic farmers in the same region there can be major differences in yields and quality due to differences in management practices and farm conditions. Reliable input supplies for organic farmers such as varieties and effective means of pest control need to be developed alongside those of markets for the produce.



Successful organic farming in developing countries will take a combination of growing demand from local consumers as well as increasing the management skills of farmers and providing the right inputs. Training and research will continue to be key components in making both new and old forms of African organic farming successful.

References (soon to be made available through the library):

Shilpi Saxena (2007) Organic vegetables: Domestic and regional marketing constraints and opportunities for small-scale farmers in East Africa

Marc Zossa and Stefan Pletziger (2007) Linking African vegetable smallholders to high value markets: Potentials and constraints in smallholders' integration into EurepGAP-certified and/or domestic African high-value supply-chains.

Peter Juroszek, Chin-Hua Ma, Hsing-Hua Tsai, Deng-Lin Wu and Manuel C. Palada (2007) Organic Farming Research at AVRDC-The World Vegetable Center: Developing Systems for Smallholder Farmers in the Tropics

- Communications

New Publications (Articles & Books) Received by the Library

Borgato, L., Conicella, C., Pisani, F., Furini, A. (2007). Production and characterization of arboreous and fertile *Solanum melongena* + *Solanum marginatum* somatic hybrid plants. *PLANTA*. v.226:961-969.

Leeks, C.F.R., Hampton, J.G., McKenzie, B.A., Dehghan-Shoar, M. (2007). Control of fungal contamination in the accelerated ageing test of *Brassica* spp. *SEED SCIENCE AND TECHNOLOGY*. v.35 (2):380-386.

Masuzaki, S., Yaguchi, S., Yamauchi, N., Shigyo, M. (2007). Morphological characterisation of multiple alien addition lines of allium reveals the chromosomal locations of genes related to bulb formation in *Allium cepa* L. *JOURNAL OF HORTICULTURAL SCIENCE & BIOTECHNOLOGY*. v.82(3):393-396.

Muhammad, A., Singh, A. (2007). Yield of tomato as influenced by training and pruning in the Sudan Savanna of Nigeria. *JOURNAL OF PLANT SCIENCES*. v.2(3):310-317.

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Santos, B.M., Gilreath, J.P., Esmel, C.E., Siham, M.N. (2007). Effects of yellow and purple nutsedge time of establishment on their distance of influence on bell pepper. *HORTTECHNOLOGY*. v.17(3):305-307.

Simonova, E., Henselova, M., Masarovicova, E., Kohanova, J. (2007). Comparison of tolerance of *Brassica juncea* and *Vigna radiata* to cadmium. *BIOLOGIA PLANTARUM (PRAHA)*. v.51(3):488-492.

Wu, T., Zhou, J., Zhang, Y., Cao, J. (2007). Characterization and inheritance of a busy-type in tropical pumpkin (*Cucubita moschata* Duchesne). *SCIENTIA HORTICULTURAE*. v.114(1):1-4.

Priou, S., Gutarra, L., Aley, P. (2006). An improved enrichment broth for the sensitive detection of *Ralstonia solanacearum* (biovars 1 and 2A) in soil using DAS-ELISA. *PLANT PATHOLOGY*. v.55(1):36-45.

Cozzolino, D., Cynkar, W.U., Damberg, R.G., Janik, L., Gishen, M. (2005). Effect of both homogenisation and storage on the spectra of red grapes and on the measurement of total anthocyanins, total soluble solids and pH by visual near infrared spectroscopy. *JOURNAL OF NEAR INFRARED SPECTROSCOPY*. v.13(4):213-223.

New Popular Magazines Now Available in the Library

The Economist: Why they should stay – 15th–21st September 2007

National Geographic (English): Growing fuel – October 2007

PC World: Get more out of your PC – October 2007



Web Link of the Week:

The Global Facilitation Unit for Underutilized Species (GFU)

The Global Facilitation Unit for Underutilized Species (GFU) was created to increase information and knowledge exchange about underutilized and neglected species. Its mission is to promote and facilitate the sustainable deployment of underutilized plant species to increase food security and alleviate poverty among the rural and urban poor. It also aims to

support and strengthen organizations and networks working on different aspects of underutilized species.

Please visit

<http://www.underutilized-species.org/default.asp>

- Source: Fang-chin Chen/Communications

Welcoming Dr. Guy Riba as A New AVRDC Board Member

Dr. Guy Riba has been nominated to serve as a scientific member to the AVRDC Board of Directors effective from 12 September 2007 to the end of the 43rd Board Meeting in 2010.

Dr. Riba is a French entomologist and geneticist, and has written about fifty scientific publications and a book on Plant Protection. From being the director of a research unit in INRA (the French National Institute for Agricultural Research) in the early 1990's, he moved on to become the Head of its Department of Zoology in charge of pests from 1992-to 1996. Between 1998 and 2005 he was Scientific Director of Plant and Plant Products in charge of plant genomics and plant breeding, plant biology and plant health. Today, as

Director General Delegate of INRA, he is in charge of research coordination. He has participated as a member of a range of national committees, including the Biomolecular Committee in charge of GMO assessment, the Biosurvey Committee in charge of GMO crops and the Committee managing the Pesticides Toxicology Assessment (1994-1997). He has also been the President of diverse scientific committees including the Museum National d'Histoire Naturelle (2002-2005) and CIRAD (Centre de coopération internationale en recherche agronomique pour le développement) from 1999 to 2002, as well as those of three other agronomic and technical institutes.

- Source: Dr. Thomas A. Lumpkin/Director General cum Secretary to AVRDC Board

New Staff – Mr. Joko Mariyono Research Associate, Socioeconomics Unit



Mr. Joko Mariyono has been appointed as Research Associate for Socioeconomics in the ACIAR-funded Project No. CP/2004/048 entitled “Integrated Disease Management (IDM) for anthracnose, phytophthora blight, and whitefly transmitted geminiviruses in chili pepper in Indonesia”, for an initial period of one year, effective 15 September 2007. Joko will report directly to Madhu Bhattarai, Agricultural Economist.

Joko is a candidate for a PhD in Economics from the Australian National University in Canberra. He submitted his dissertation entitled “Efficiency and Environmentally Adjusted Productivity Growth of Indonesian Rice Agriculture” for external review in July 2007. He earned his MSc in Agricultural Economics and his University Degree in Agriculture from Gadjja Mada University in Indonesia. His first work experience was with Greg Luther as Research Assistant conducting longitudinal research on soybean ecology in Eastern Java. He then joined a UN-FAO IPM Technical Team to conduct a pesticide-occupational health impact study and later was appointed as National Field Information System Officer of the UN-FAO's technical assistance to an Indonesian IPM Training project. He has ten years professional experience in IPM and socioeconomics. In March 2007, he was hired by AVRDC as consultant during the rapid rural appraisal of the ACIAR/Chili IDM project. He has almost thirty publications to his name and has presented six papers in national and international conferences.

Joko will work closely with the national site coordinator, researchers and development specialists from AVRDC

(Taiwan), ACIAR, NSW-DPI, and CSIRO (Australia), and IVEGRI, AIAT (BPTP)-Central Java, and Bogor Agricultural University (IPB) (Indonesia). This will combine the disciplines of socio-economics, extension, crop management, plant pathology, entomology, and plant breeding. The goal is to enhance the livelihoods of smallholder farmers by reducing losses in chili peppers due to selected fungal and viral diseases, through sustainable and environmentally sound strategies. He is to evaluate the needs of farmers and markets, farmers' perceptions and adoption of new chili technologies and their impacts in the project area. In particular, Joko will (1) conduct farm, household, and market surveys to evaluate the potential and need for new chili technologies; (2) conduct a survey of farmers' perceptions; to evaluate constraints to the adoption of new technologies; (3) depict the adoption path of modern technologies, and prioritize the factors responsible in the adoption of these technologies; (4) evaluate the impact of modern technologies on farmers' income, employment and environment with emphasis on gender, communities, and local and national economies of Indonesia; (5) support the Agricultural Economist at AVRDC HQ in conducting quantitative analysis, writing reports, and preparing presentations; (6) prepare written six-monthly reports. Reports shall give overall view, diagnosis and synthesis of successes and problems of the project and provide specific recommendations; and (7) provide information and reports as required.

We wish Joko every success in his new appointment with AVRDC.

- Source: Lilia Tan Habacon/Human Resources Manager

New Staff—Mr. Christophe N’Guessan Kouame vBSS Project NBU Liaison Officer for Cameroon



Mr. Christophe N’Guessan Kouame has appointed as Liaison Officer for the National Breeding Unit based in Cameroon of the Project “Vegetable Breeding and Seed Systems for Poverty Reduction in Africa” (in short: vBSS Project NBU Liaison

Officer for Cameroon), for an initial period of two years, effective 15 October 2007. He will report directly to Jan Helsen, vBSS Project Administrative Manager.

Christophe received his PhD in Plant Breeding and Agronomy from University of Florida, USA in 1991. He has fifteen years experience in research and development initiatives in the vegetable sector in West Africa. He has a proven excellent record in resource mobilization, coordination, cooperation, networking, administrative management, training and consultancy. In his professional career with Institut des Savanes (IDESSA) and Centre National de Recherche Agronomique (CNRA) of Côte d’Ivoire, he served as the national coordinator of the international pepper trials (AVRDC), regional soybean variety trials (IITA), West and Central Africa Agricultural Research & Development (WECARD) vegetable network, regional yam project (WECARD/IITA/IFAD), on-farm food crops program (INCO/IITA/NARS), West Africa Seed Development Project (IITA/GTZ), FAO/GCP-Vegetable Project, Réseau Africain pour le Développement de l’Horticulture (RADHORT), indigenous vegetable promotion in Sub-Saharan Africa network (INCO-CA), and promotion of improved vegetable varieties in West Africa (AVRDC/WARDA). Participating in the design, implementation and coordination of more than 25 research projects, he was able to increase by more than three fold the contribution of national stakeholders to vegetable research and development program funding.

Before joining AVRDC, he was the Head of the International Cooperation Office of CNRA.

Christophe’s major responsibilities as vBSS Project NBU Liaison Officer for Cameroon are (1) establishment of a National Breeding Unit (NBU) in Cameroon for the vBSS Project, including but not limited to, office site identification, securing licenses and permits, office physical arrangement, establishment of systems and procedures for its operation in accordance to AVRDC’s policies and guidelines; (2) overall management, coordination and leadership of the NBU in Cameroon; (3) coordinate activities with NARES, regulatory agencies (including variety release, seed health and quarantine) and the private sector in the country to facilitate and accelerate the variety release process of new vegetable varieties; (4) coordinate the Project’s in-country vegetable breeding operations, and support outreach to neighboring countries; (5) support demand creation activities, which will be conducted mainly through the relevant NARES agencies and in partnership with NGOs and the private seed sector; (6) be responsible for the links with vBSS Project’s Cameroon NBU and AVRDC, to the other NBUs and the other stakeholders working directly with the NBU (e.g. advanced breeding institutes, international seed companies); (7) ensure timely production of necessary documentation of the vBSS Project related activities; (8) perform any other duties required by the vBSS Project Manager or the Director of AVRDC’s Regional Center for Africa.

Welcome to AVRDC, Christophe! Your presence will surely make us stronger.

- Source: Lilia Tan Habacon/Human Resources Manager

Travel

Dr. ML Chadha, 24-28 September, to Uttarakhand State of India, to participate in a joint Tata Foundation and AVRDC exploratory mission to visit field areas, to

meet officials and scientists to discuss and develop a collaborative project.

- Source: Dr. M.L. Chadha/RCSA

What Can Farmers Do to Prevent Post-harvest Losses of Leafy Vegetables?



Leafy vegetables provide a valuable source of income for farmers and many are very nutritious. But they have one major problem—they wilt quickly. Post harvest losses are a major problem for smallholder farmers trying to sell them, and the RETA 6376 project aims to develop appropriate processing techniques to reduce these losses. The first step is finding out what farmers are currently doing and what processing opportunities are most appropriate.

Surveys are about to be conducted in the poverty-stricken upland areas of Cambodia, Lao PDR and Vietnam (CLV), and the RETA project has just begun training of those who will do the work. Training of enumerators was conducted in Lao PDR on 4-7 September and in Vietnam on 10-14 September. The same training will be done in Cambodia on 24-28 Sept 2007 at the Kbal Koh Agricultural Research Center, Phnom Penh.

This training was designed to build the capability of country team members and enumerators to translate the

Travel

Mr. Oliver Hanschke, 20 September-11 October, on leave.

Dr. Peter Juroszek, 27 September-17 October, on leave. During this period, from 9-11 October, Dr. Juroszek will attend the GTZ PostDoc meeting and the Tropentag Conference 2007 in Germany.

Dr. Ray-yu Yang, 30 September-4 October, to India, to present training lectures at the "Learning Program on Safe Vegetable Production", AVRDC-RCSA.

Dr. Tien-cheng Wang, 29 September-2 October, to USA, to visit Dr. SB Yang, Prof. in Iowa University,

questionnaire into national languages, pretest it to ensure its relevance and to conduct the study. The questionnaire was developed at AVRDC-HQ by Dr. Katinka Weinberger, Project Coordinator, and Mr. Christian Genova, Project Assistant.

In each country 200 farmers and processors will be surveyed in the upland leafy vegetable growing areas of Vangvieng and Kasy Districts in Lao PDR, in Lac Thuy and Thanh Chuong Districts in Vietnam and in Siem Reap and Kampong Cham provinces in Cambodia.



Pretest of survey questionnaires

The survey results will provide a key input into the postharvest R&D and training activities of the project. Initial findings will be discussed during the RETA 6376 Workshop on Best Practices in Postharvest Management of Leafy Vegetables to be held on October 25-27, 2007 in Hanoi.

- Source: Socio-economics Unit

Ames, to learn the technique of simulation modeling using SOYRUST to determine potential environmental factors affecting disease management; 3-6 October, to visit Dr. GL Hartman, Plant Pathologist, USDA-ARS, National Soybean Research Center at the University of Illinois to become familiar with advanced techniques of DNA marker assisted selection for further use in the rust resistance breeding programs; 7-12 October, to evaluate the field performance of AVRDC rust tolerance lines in Tallahassee, Florida.

- Source: Yvonne Ting/ASU