Fabulous fungus finds a following

USAID’s Feed the Future Innovation Lab for Integrated Pest Management organizes a three-day Trichoderma workshop at AVRDC Eastern and Southern Africa

*Trichoderma,* the “fighting fungus,” helps humans in many ways. It is used to give jeans a stone-washed look, increases biodigestibility of barley before it is fed to chickens and, most importantly, is good at eating bad fungi, which makes it a great biological control tool for farmers worldwide. Whether fusarium wilt on tomatoes, clubroot on broccoli, or pink rot in onion, *Trichoderma* kills them all.

In Asia, a large cottage industry produces the fungus and makes its products available to smallholders.

*...continued on page 2*
Trichoderma holds great potential for East Africa, but few entrepreneurs are producing or distributing the fungus, and scientists are not fully aware of Trichoderma’s capabilities. Therefore, on 20-23 July 2015, a three-day course was organized at AVRDC Eastern and Southern Africa to introduce scientists to this fantastic fungus. Professors Sevugapperumal Nakkeeran and Karthikeyan Gandhi, experts in the field, flew in from Tamil Nadu Agricultural University in India to teach the course.

The course was opened by Muni Muniappan from Virginia Tech University, the Director of the IPM Innovation Lab, and AVRDC Regional Director Thomas Dubois. The IPM Innovation Lab, a new $18 million program, is working hard to raise the standard of living for people in Eastern Africa and South Asia by designing and spreading environmentally sound agricultural practices to address emerging pest and disease problems that plague farmers in developing countries.

“Trichoderma has been a godsend in treating fungal diseases in Asia, and local businesses can make good money growing the fungus,” Muni said. “Together with the International Institute of Tropical Agriculture (IITA), RealIPM and Alpha Seeds, AVRDC has been researching the use of Trichoderma as an inoculant for tomato seedlings with great results, so we know what this fungus is capable of doing.”
The course was attended by 22 high-level scientists in the fields of plant pathology, entomology and IPM from Ethiopia, Kenya and Tanzania. Participants visited the field to collect maize and vegetable roots, and isolate their own fungi from these samples. Practical sessions comprised media preparation, screening *Trichoderma* for its efficacy against soil-borne pathogens, identification of *Trichoderma* species, ways to count spore densities, and mass production using cheap substrates. Participants also collected and studied other beneficial soil microbes, such as *Rhizobacteria* and *Pseudomonas*. During lectures, the instructors talked about shelf life, formulations and delivery mechanisms, registration and regulatory issues for *Trichoderma* and other biopesticides, and current low cost mass production technologies.

Getting the numerous fungal isolates, proper culture media, and laboratory teaching materials organized for the in-depth practical sessions required a lot of preparation and planning. **George Mahuku, Juma Yabeya** and **Harun Muriti** from the International Institute of Tropical Agriculture (IITA) in Dar-es-Salaam, Tanzania, were instrumental in ensuring participants had all the necessary tools at hand to properly study the fungus. **Zara Shortt**, Financial Coordinator of the IPM Innovation Lab, as well as **Jason Smith**, AVRDC Entomologist, also helped greatly in preparing the course and ensured all participants returned happily.

One week after the USAID Innovation Lab training on *Trichoderma*, another workshop about the fungus was hosted for private sector representatives and scientists at AVRDC in Arusha. Twenty growers representing Tanzania’s vegetable, tree fruit and flower industries learned a new set of practices for IPM from RealIPM co-founder **Louise Labuschagne**, who explained how to tackle a host of hard-to-beat pests and diseases including whiteflies, fruit flies, thrips, and common foliar and soil-borne diseases. RealIPM offers a range of beneficial fungi, bacteria and mites that, when integrated into IPM strategies, can break cycles of pest resistance to conventional pesticides while reducing farmer reliance upon more toxic alternatives. Biopesticides offer the additional benefit of allowing beneficial insects to thrive in farm fields where they would otherwise be suppressed by conventional pesticide sprays. RealIPM is headquartered in Kenya and has been at the forefront of biological control on the African continent. With such strong interest from the public and private sectors, biological controls are set to boom in the region.
AGROW AWARDS: The 2015 Standard Chartered AGROW Awards took note of the outstanding work of AVRDC partners and participating farmers in a ceremony on 2 August 2015 in Dhaka, Bangladesh. The prestigious nationwide award promotes agricultural innovators and contributions to the sector in seven categories. BRAC, an NGO in Bangladesh and a partner with AVRDC and the International Potato Center (CIP) in the USAID Horticulture Project, received the “Best Associated Organisation in Support and Execution” award. Lal Teer Seed Ltd., which has worked with AVRDC researchers on several initiatives, was awarded as the “Best Associated Organisation in Innovation and Research.” The awards go to individuals as well as organizations: Two farmers participating in the USAID Horticulture Project received awards: Reshma Begum, Mohirn Village, Bagharpara Upazilla, Jessore District, for her sweetpotato nursery, and Bellal Hossain, Laxmipur Village, Bagharpara Upazilla, Jessore District, for his work in tomato production. Matia Chowdhury, Minister of Agriculture, presented the awards.

A NEW CROP: Some of the Center’s 2015 Summer Students gathered for a photo with AVRDC staff on 5 August 2015. Trainees and students at headquarters this year hailed from Bhutan, Cambodia, Germany, Indonesia, Korea, Lao PDR, Malaysia, Pakistan, the Philippines, Senegal, Singapore, Spain, Taiwan, Thailand, USA, Vietnam, and Uzbekistan. Their enthusiasm livened up the labs and fields, and all will take away new knowledge and experiences that will last a lifetime. Best of luck to everyone!

READY TO TAKE YOUR CALL: AVRDC Agricultural Economist Srinivasulu Rajendra promotes VegOneX, an SMS vegetable market information service and foundation seed ordering system for Tanzania.
**Farewell**

**Klaus Fleissner**, Agronomist/Breeder in Vegetable Cropping Systems based in Cameroon, completed his time at AVRDC on 1 July 2015. Klaus joined the Center in January 2014 to work on onion seed production, growing vegetables under cocoa trees, enhancing the productivity and marketing of traditional African leafy vegetables, experiments to evaluate starter solution, and other research activities.

**Sheila de Lima**, Administrative and Training Coordinator, AVRDC East and Southeast Asia, is moving on after four years with AVRDC. Among her many duties, Sheila handled the organization of the annual International Vegetable Training Course, which involved juggling the itineraries of scores of participants from around the world, seeing to their comfort and well-being during the three month-long study modules in Thailand, and ensuring all had a positive, productive learning experience. Sheila has returned to her home country, the Philippines, to pursue other career options.

**Marie Antoinette Patalagsa** recently completed her MSc under the guidance of the AVRDC Socioeconomics group. Marie carried out surveys in Bangladesh and authored two papers on her research, in which she studied the role of home gardens in women’s empowerment and gender equality. Marie is now working toward a PhD at Academia Sinica in Taipei.

Two long-time AVRDC staff retired at the beginning of August: **Lee Yuh-hsu**, Senior Laboratory Assistant, Nutrition, and **Chiu L. Chiu-tao**, Field Assistant, Technical Services Office. Both women worked at Center headquarters for 40 years – almost from the very beginning! Their valuable contributions over four decades were celebrated during a special coffee hour on 6 August 2015.

**NEW VARIETIES FOR CENTRAL ASIA:** The 2015 *Catalogue of Released and Promising Vegetable and Legume Varieties for Central Asia and the Caucasus* offers a look at 98 improved varieties developed from AVRDC germplasm in collaboration with research institutions and universities in the Regional Network for Vegetable Systems Research and Development in Central Asia and the Caucasus. Crops include tomato, hot and sweet pepper, eggplant, mungbean, vegetable soybean, yard-long bean, pea, cucumber, vegetable marrow, custard squash, Chinese leafy cabbage, lettuce, celery, and basil. [http://avrdc.org/download/seed-request/CATALOG_CAC.pdf](http://avrdc.org/download/seed-request/CATALOG_CAC.pdf)

**Best of luck, Sheila, Klaus, Marie, Yuh-hsu and Chiu-tao!**
Spider plant (*Cleome gynandra*) is an important and nutritious leafy vegetable for rural people in West and East Africa as well as South Asia, especially at the beginning of the rainy season when few other vegetables are available. Pilot projects have shown that it has great potential for further development into a commercially important vegetable.

To ensure breeding programs have sufficient genetic material to develop lines with improved nutritional values and optimal adaptation to warmer, drier climates, AVRDC and partners have launched a new project—“Utilizing the genome of the vegetable species *Cleome gynandra* for the development of improved cultivars for the West and East African markets” (Cleonomics). The project, funded by the Netherlands Organization for Scientific Research – WOTRO Science for Global Development, ultimately aims to improve access to healthy food for vulnerable people living in marginal lands in Kenya and Benin, and potentially other African countries.

A project planning and inception workshop was held in Cotonou, Benin from 15-17 June 2015, where representatives of the six consortium members (see sidebar) gathered to provide an overview of their respective roles in the project and report on achievements during the first six months of operation. Genebank Manager Andreas Ebert represented AVRDC.

“The there is considerable variation in spider plant, as expressed in differences in bitterness, anthocyanin content and nutritional value,” said Ebert. “As a C₄ plant, it uses water efficiently and consequently shows drought resistance.” The genome recently has been sequenced, and the African Orphan Crops Consortium will re-sequence a set of 100 *Cleome gynandra* genotypes to facilitate future molecular breeding strategies. The project will focus on the collection and analysis of germplasm for variation in nutritional characteristics, productivity and response to drought.

This project will promote the crop among farmers and consumers as an additional source of income and nutrition, especially for women and children. Adoption of drought-resistant lines of *Cleome gynandra* in vegetable production systems will increase their resilience to climate change.

### The Cleonomics Consortium
- Hortitech’s Development Cotonou, Benin
- Faculty of Agronomic Sciences, University of Abomey-Calavi Cotonou, Benin
- KENRIK: Centre for Biodiversity, National Museums of Kenya, Museum Hill Nairobi, Kenya
- Biosystematics Group, Wageningen University Wageningen, The Netherlands
- African Orphan Crops Consortium Davis, California USA
- AVRDC – The World Vegetable Center
The International Society for Seed Science (ISSS) conducted a Seed Longevity Workshop in Wernigerode, Germany from 5-8 July 2015. The theme of the workshop was “Seeds for future generations – determinants of longevity.” It was attended by 211 delegates from 44 countries coming from 6 continents.

The workshop was dedicated to Patricia Berjak (1939-2015), Prof. Emeritus and Senior Research Associate of the University of KwaZulu Natal (UKZN), South Africa. She passed away in January 2015. Prof. Berjak was Chair of the International Seed Testing Association (ISTA) Seed Storage Committee (1995-2001), President elect (2005-2008) and President (2008-2011) of ISSS.

AVRDC Genebank Manager Andreas Ebert presented a poster co-authored by Assistant Specialist Yung-kuang Huang on: “Are Momordica charantia (bitter gourd) seeds truly orthodox?”

Invited speakers included Christina Walters, United States Department of Agriculture-Agricultural Research Service, Fort Collins; Ola Westengen, Global Seed Vault, Svalbard, Norway; Fiona Hay, International Rice Research Institute Genebank; Andrea Mondoni, University of Pavia, Italy; Leonie Bentsink, University Wageningen, Netherlands; Julia Buitink, INRA (Institut national de la recherche agronomique), Angers, France; Wanda Waterworth, University of Leeds, UK; and Ilse Kranner, University of Innsbruck, Austria.
Spinach fits well in plasticulture cycle

In Pakistan, plastic tunnels are used from October to April to produce off-season vegetables such as tomato, cucumber, and sweet pepper; the plastic covers keep crops warm in cold weather. Although farmers make a significant investment to construct the tunnels, the tunnels remain unutilized from May to September.

To maximize the use of tunnel structures year-round and increase the supply of fresh vegetables, three crops (bunching onion, spinach and coriander) were studied at different locations in 2013-14. Results from the onion and coriander crops were not encouraging, but spinach proved to be a winner.

Spinach is largely cultivated in winter in Pakistan. Summers there can be very hot, and normally spinach will not grow at that time of the year.

However, by swapping the plastic covers of tunnels with green shade net, winter crops can be kept cool during the summer. Early crops of spinach produced under shade net brought a good price, as the produce was available out of season. Availability of the crop coincided with the Ramadan holiday, which further boosted sales.

This year, spinach has been planted under green shade net at 18 different locations in Khyber Pakhtunkhwa and Punjab. The introduction of spinach under shade net is ensuring the profitability of plasticulture per unit area throughout the year.

Better onion on the way

More than 1000 kg of quality onion seed of three varieties (Sariab Red, Chiltan-89, and Phulkara) produced at different locations in Balochistan recently was packed and made available for marketing in the region. This important milestone was celebrated in a ceremony on 7 August 2015 at the Directorate of Vegetable Seed Production, Agricultural Research Institute (ARI), Quetta, Balochistan.

Chief Minister of Balochistan Abdul Malik Baloch and Agriculture Minister Sardar Muhammad Aslam Bazenjo along with Federal Minister of National Food Security and Research Sikander Hayat Bosan participated in the ceremony, and showed keen interest in the initiative and the process of onion seed production and packing. The Chief Minister appreciated AVRDC’s assistance in helping ARI teams in Balochistan transfer innovative seed production methods to farmers along with improved postharvest handling and packing techniques, and suggested that field activities in Balochistan be expanded to reach a large number of farmers. In the third photo at right, AVRDC Team Leader Mansab Ali (left) invites the dignitaries to cut the ribbon.

Quality onion seed packed in 1 and 0.5 kg pouches for distribution and multiplication in the farming communities of Balochistan.
NEWS FROM THE REGIONS

(...continued from page 8)

New approaches to mungbean production

AVRDC South Asia, under the Agricultural Innovation Program (AIP), has introduced mungbean-citrus intercropping in the Sargodha region of Pakistan. Around 0.2 million hectares of land in the Sargodha district is under citrus cultivation. Mungbean, a leguminous short-duration crop, fits well in this system as it provides nitrogen fixation in the presence of Rhizobia in the soil, contains 25% protein in the grains, and is relatively drought tolerant. Although most farmers in the area do not cultivate any other crop in their orchards to avoid causing stress to the trees, more are beginning to recognize the benefits of intercropping with mungbean.

The Thal region of Pakistan, consisting of Bhakkar, Layyah, Khushab, Mianwali and Muzaffargarh districts, contributes 80-90% of the total mungbean production in the country. But farmers in the region use old methods of production—they do not treat seed with inoculum before planting, they sow by broadcasting, and there is little attempt at weed control—and thus they experience low yields even from high-yielding varieties. In 2014, AVRDC began educating farmers on the benefits of line sowing, the use of Rhizobium + PSB inoculum, and use of post-emergence herbicides. Though initially hesitant, farmers are now confident that their yields can increase by 20-30% by following recommended practices. The area under mungbean cultivation increased in the region in 2015.

Seeding new skills

To highlight the importance of establishing nurseries to produce seedlings for protected cultivation, AVRDC organized an exposure visit for 32 Balochistan farmers on 11-13 May 2015 to vegetable growing operations in Chevanda and Bhikhi, Pakistan. AVRDC, the Balochistan Rural Support Program (BRSP) and the Vegetable Research Institute, Ayub Agriculture Research Institute (AARI), Faisalabad coordinated the event, which aimed to increase off-season vegetable production in the region. The farmers visited demonstration plots to better understand sowing, seedling production, mulching, drip irrigation, staking, structure installation, tunnel management in winter months, and the grading, packing and transportation of vegetables. AVRDC’s Alee Khichi and Anam Fatima led the group, while Shiekh Muhammad Iqbal and Akhtar Saeed from AARI demonstrated covered production technology to the farmers.
AVRDC OPENS NEW OFFICE: AVRDC opened its first office in Kenya in June at ICIPE Headquarters in Nairobi. On 6 July 2015, AVRDC’s Regional Project Coordinator of the Homegarden Scaling Project, Ralph Roothaert, and the AVRDC Kenya Site Coordinator, Charles Onyango, met with the Director General of ICIPE, Segenet Kelemu, at the ICIPE campus to mark the opening. AVRDC has launched the project on home garden scaling in Kenya, Uganda and Tanzania to combat malnutrition among children and young women. Having Charles based at ICIPE will greatly facilitate collaboration between the two institutes.

ROOM TO GROW: The AVRDC Assets Committee allocated funds in 2014 for AVRDC Eastern and Southern Africa to build seven new offices. Construction is now complete, and the new spaces will allow researchers and staff to stretch their legs as well as their minds as they plan new experiments, analyze field data, and write papers.
Southern Mali innovation platforms and technology parks

Two innovation platforms (IPs) and two technology parks were launched recently in Koutiala and Bougouni districts of the Sikasso region in southern Mali as part of the Africa RISING project. The IPs aim to facilitate knowledge sharing among all stakeholders. The technology parks are community-based experimental stations where partners can evaluate and demonstrate new technologies, provide hands-on training for farmers and students, and determine farmer preferences for various technologies.

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), World Agroforestry Center (ICRAF), AVRDC, and the Institut d’Economie Rurale, Mali developed joint protocols to use the technology parks as areas to implement activities. Volunteer farmers visit the parks, choose a technology, replicate it on their own farms, and train other farmers to use it.

At the Koutiala launch on 19 May 2015, AVRDC Vegetable Breeder Albert Rouamba discussed plans to organize new intercropping testing trials and capacity building sessions on production and postharvest techniques, biological control, integrated crop management, and the production of seeds for gardening. The tests will be conducted during three different periods [rainy season, early season (August to November) and the normal season (November to April)]. The early season production aims to help farmers produce vegetables for the market at a time when they can earn more money due to favorable market conditions. Training sessions for graduate students will also be held.

At Koutiala, farmer Moussa Coulibaly said, “I have spent 42 years practicing market gardening but have noticed that educated youth dream of working in offices after graduation. The technology park offers an opportunity to combine theory with practice and hopefully attract youth to the agricultural sector.”

The IP sessions in Bougouni on 21 May 2015 provided a forum for farmers participating in the Africa RISING project to share their success stories. Dramane Samake, a farmer from Sikoroni, said many farmers from his village benefited from the improved practices and technologies they adopted. “We tested new dual-purpose varieties of cowpea and soybean, which are also useful as fodder,” he said. “I got a good harvest with the new varieties of okra. The delicious new variety of soybean—‘Soumbalashow’—is a success. Last year I was trained to process the product and could taste and appreciate soybean sauce.” Mr. Samake hopes the positive outcomes from the project will continue: “We hope to find markets for our produce within the innovation platform,” he said. “In our village we do not have a market big enough to sell our products; we are looking for global buyers. With a big purchase, we can earn more money compared to retail buyers.”

Ms Djeneba Mariko Togola, President of the Doukafa Sabati Association (a women’s group), feels that the training offered through the Bougouni technology park will improve income generation activities among women, as well as educate them on various issues. “It is said that Sikasso region is the largest agricultural producer, but it is also the region where malnutrition is the highest,” she said. “Women and children suffer the most due to lack of information on preparing nutritious food. We need to find a good balance in the combination of foods we prepare and the role of women will be crucial.”

Africa RISING is a Feed the Future initiative supported by the United States Agency for International Development (USAID).

Information provided from ICRISAT Happenings, 12 June 2015, No. 1679
The inception workshop for the project "Selection of tropically-adapted lines of vegetables to improve productivity of the vegetable value chain in Southeast Asia" was held on 21-22 July at AVRDC – The World Vegetable Center East and Southeast Asia, Research and Training Station, Kasetsart University, Kamphaeng Saen, Thailand. The project, funded by Ministry of Agriculture, Forestry and Fisheries (MAFF), Japan, aims to enhance the productivity of vegetable growers in Southeast Asia through genetically improved tropically adapted vegetable varieties of tomato, chili pepper, bitter gourd and pumpkin. These crops were selected because of their commercial significance in Southeast Asia and the proven success of AVRDC’s tropically adapted inbred lines.

The project will enhance partner capacity in variety assessment and work with country collaborators to evaluate elite AVRDC vegetable lines against current farmer-preferred varieties in multiple trials at selected sites in Myanmar and Vietnam. Stakeholder representatives including growers, distributors, wholesalers, retailers, and consumers will participate in the trial evaluations.

Lines with superior traits, especially disease resistance and marketable yield, will be demonstrated to the public and seed made available to research institutes and stakeholders for incorporation into national breeding programs or entry in national variety trials for potential release. Seed companies will also have access to the seed.

Workshop participants discussed the evaluation procedures for trials; status and production problems of project targeted crops; and variety release procedures of partner countries. The group also participated in bitter gourd and pumpkin fruit eating quality tests in the field, and gained knowledge about various cultural practices for the targeted crops that are essential for successful field trials.
Boosting incomes and fixing soils in Karnataka

After AVRDC – The World Vegetable Center introduced improved varieties of vegetable cowpea and mungbean in Raichur district, Karnataka, India with the support of the state government, legume cultivation in paddy fallows is helping farmers turn higher profits while providing nutrition for their nitrogen-starved soils.

Forty-five-year-old Khadrayya of Puchaldinni village, Raichur district in Karnataka, India, was quick to realize the potential of vegetable cowpea as a lucrative commercial crop as well as a remedy for tired soils.

With INR 11,500 (USD 180.00) as additional income from vegetable cowpea on his 0.4 ha paddy fallow, he says he has enough to procure inputs for the following season.

“‘My farm is green all throughout the year,’” Khadrayya said. “‘Friends and neighbors see it as a sign of prosperity. At this time of the year usually, we are on the hunt for loans to procure inputs for paddy cultivation in the rainy kharif season. But for once, I can put my worries to rest.’”

Khadrayya harvested 985 kg of vegetable cowpea from his field and sold it at Rs 16/kg. “When fellow farmers come to me, I brief them on how this crop will be a source of nutrition for the nitrogen-starved soil,” he said. “I am expecting enhanced paddy yields this year.

“If all that adds up, I would like to see myself on a motorbike by next year,” he added, before pedaling away on a bicycle with his wife.

AVRDC’s interventions in the district through the Bhoo Samruddhi project focus on increasing the area of legume cultivation in rice fallows as well as diversifying local diets.

Pravin Patil, from Nir Manvi village in the same region, produced 3243 kg of vegetable cowpea from 1.2 ha. The average yield across the district was 2739 kg from the same size area.

“I spent no more than INR 3000 (USD 47.00) on cultivation costs,” Mr. Patil said. “The market conditions are good and there is enough demand for vegetable cowpea.” Neighboring farmers usually spend about INR 5400 (USD 84.00) on cultivation.

In Neermanvi, 60 kilometers from Khadrayya’s village, 50-year-old Subba Rao took up mungbean cultivation on his 0.4 ha paddy fallow. He broadcast 20 kg of seed, which returned a yield of 400 kg compared to the local average of 380 kg.

“Along with it came an additional income of INR 21,000 (USD 330.00),” he said with a grin. The crop fetches INR 70/kg in the nearby markets and farmers report a high demand for it. “The next time around, I wish to cultivate an area of 1.6 hectares.”

With proper technologies and thorough weeding, he is confident that he can gain an additional 300 kg in yield.

“It is our belief that healthy soils mean healthy families,” said Subba Rao. “This practice can surely help make our rural communities even healthier.”

(left): Mungbean farmer Subba Rao in a recently harvested field.
(right): Khadrayya amid a thriving crop.
Success with pickles

The Mvuwo Women’s Group in Arusha, Tanzania meets weekly to make mango pickle, jam and to bottle honey. The products are sold in the area to raise income for group members. Although the group is certified by the regulatory authorities in Tanzania to process, pack and sell produce, the poor quality packaging used did not attract consumers, and sales remained low.

The USAID-funded Postharvest Project managed by AVRDC Eastern and Southern Africa came to the group’s assistance to improve product quality and help members expand their market share.

Five students from ESITPA College in France identified several ideas for the group to try, including 1) improving product labels to increase visibility and meet regulatory requirements; 2) finding solutions to leaking pickle jars; and 3) developing other products to diversify the group’s range of offerings. An attractive new label emphasizing the group’s brand name and unique visual identity also prominently featured a bar code and Tanzania Bureau of Standards certification logo to help assure consumers of product quality. To solve the leakage problem, it was suggested that the group try thermosealing films for the jars. Leakage trials on jars were run in a laboratory, and a consumer survey gauged public opinion of the new logo and label.

The results were presented to the women’s group, and there was a lively discussion about the various solutions and the feasibility of adopting them. A source of metal jar lids was identified to help resolve the leakage problem.

Group members were encouraged to develop new pickle products, including onion, okra, and mixed vegetable pickles. One year later, the group changed its label. Members indicated that their sales have increased, and they are happy with the progress they are making.

Sterilizing glass jars before filling with pickles and jam.

The Mvuwo Women’s Group product line: honey, mango pickle, jams and more. New labels are drawing the attention of customers and increasing sales.
NEWS FROM THE REGIONS

University College of Utrecht students in Arusha

After an intensive three-month course in development studies, 29 international students from the University College of Utrecht (UCU), the liberal arts and science honors college from the University of Utrecht, the Netherlands, embarked on a three-week tour of East Africa. The course, now in its seventh year, includes a half-day stop at AVRDC Eastern and Southern Africa in Arusha, Tanzania.

The students arrived at AVRDC on 29 June 2015 under the leadership of Corey Wright, the coordinator and co-instructor of UCU’s field course in Tanzania and Kenya. After lectures from AVRDC Agricultural Economist Srinivasulu Rajendran and Ralph Roothaert, Project Manager: Homegarden Scaling in Kenya, Tanzania and Uganda, the group took an extensive tour of the seed repository, experimental fields, and the Demonstration Garden. The students took full advantage of their access to more experienced minds and posed numerous questions to the AVRDC researchers, who answered all with their usual wit and intelligence.

AVRDC scientists and UCU faculty met later to explore possibilities for students to conduct internships at the regional office.