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Mission possible: food for all through appropriate plant protection - IPPC 2015 ends

A great scientific event ended and more than 1200 delegates of over 95 countries returned to their countries inspired by new ideas, new professional contacts and an overwhelming, peaceful atmosphere.

»Mission possible: food for all through appropriate plant protection« – was the headline of the IPPC Congress 2015. What we heard in the 340 oral contributions and the 845 posters presented was promising: The United Nations, expecting a global population of 9 billion people by the year 2050, can be sure that one of the biggest global challenges of the 21st century, food security for the growing population, can be solved.

We CAN feed the world – despite all the difficulties a globalised world might have, despite a changing climate, and despite limited and fewer resources, even using less water, fertilizers and energy. The approach demonstrated by the delegates from all continents bases on a sustainable intensification of crop production. Even more important is an intensification of mutual collaboration of all parties involved in plant production: farmers, extension services, research and education institutions, including scientific civil societies, regulators and administrations, storage and trade companies, retailers, and consumers. One of the key factors to help those who cannot help themselves is a harmonized legal framework for the whole product chain from farm to fork. A generally accepted agro-ethical code of practice should be recognized by interacting countries, delegates said. All pointed out that without political stability the best agricultural system will fail.

All delegates agreed that integrated pest management plays a key role in regard to this mission. An integrated approach to plant protection provides the best means of achieving effective and resilient plant protection strategies. It is knowledge-based and uses scientific understandings of pest population dynamics and the role of natural control mechanisms in order to achieve combined management practices in a sustainable manner.

Foto: © Philipp Jarkusch

DPG-Chairman and Congress Chair Holger Deising opening the IPPC 2015

Hosting the IPPC 2015 in Berlin together with IAPPS, JKI and IVA was an outstanding honor for the German Society of Plant Protection and Plant Health (Deutsche Phytomedizinische Gesellschaft, DPG). The science presented in key note lectures, oral presentations and on posters was excellent and represented the top level of plant protection science of the time. I was happy to see intense discussions during poster sessions and coffee breaks, highlighting the pleasure of sharing scientific progress with colleagues around the world.

One of the major hopes I had was that IPPC 2015 would be an ideal platform for discussions and for starting cooperations between young scientists at an international and intercontinental level, leading to understanding regional problems of plant protection in different areas of the world. This hope was fully met. Indeed, the DPG junior scientists initiated round table discussions at the World Café and attracted many young plant protectors, and student reporters posted the highlights of the congress. I was very happy to experience the outstanding activity of the young scientists. IPPC 2015 was one of the most successful plant protection conferences.

Outstanding success is always connected with the people responsible for scientific events. I am more than grateful and thank the Congress Managing Director, Falko Feldmann, for all his effort. Furthermore, I thank Claudia Tonn and the Conventus team for their help and professional organization skills. And I am indebted to Geoff Norton, Manuelle Tamo and Elvis »Short« Heinrichs of IAPPS for all their support for IPPC 2015 in Berlin.

Holger B. Deising

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Wir gratulieren zum Geburtstag

Zum 94.:
Dr. Dieter Redlhammer 26.12.1921

Zum 93.:
Dr. Peter Schicke 01.10.1922

Zum 92.:
Prof. Dr. Bernhart Ohnesorge 28.10.1923

Zum 91.:
Dr. Hans Georg Prillwitz 22.12.1924

Zum 90.:
Dr. Walter Pinsdorf 28.11.1925

Zum 89.:
Dr. Dietrich Baumert 14.07.1926
Dr. Hans Hopp 06.09.1926

Zum 89.:
Dr. Gerhard Brod 16.10.1926
Prof. Dr. Horst Lyr 24.10.1926
Prof. Dr. Horst Börner 12.12.1926

Zum 87.:
Dr. Hansgeorg Pag 03.11.1928
Prof. Dr. Rudolf Heitefuß 08.11.1928

Zum 86.:
Prof. Dr. Dr. Joze Macek 28.10.1929
Dr. Hans-Dieter Cichorius 14.11.1929

Zum 85.:
Prof. Dr. Klaus Naumann 05.10.1930

Zum 80.:
Dr. Heinrich Lehmann-Danzinger 11.11.1935

Zum 75.:
Prof. Dr. Radosav Sekulic 12.11.1940
Prof. Dr. Sami El-Dessouki 28.11.1940
Dr. Eckhard Lange 30.11.1940
Prof. Dr. Jürgen Ebel 29.12.1940

Zum 70.:
Prof. Dr. Dr. Christoph Reichmuth 22.10.1945
Dr. Subramaniam Nagarajan 07.11.1945
Dr. Meinolf Heil 01.12.1945
Dr. Johann-Albert Pfister 11.12.1945

Zum 65.:
Dr. Constanze Schleich-Saidfar 13.10.1950
Dr. Walter Klaus Kast 09.12.1950
Dr. Karl-Ludwig Nau 19.12.1950
Dr. Hans-Werner Wegen 19.12.1950
Dr. John-Bryan Speakman 21.12.1950

Mission possible ...

Foto: © Philipp Jarkusch

IPPC 2015 - a young congress

Robust varieties, crop rotation, balanced fertilization, and good soil management are important elements in this regard. It also includes – as a last resort – the use of synthetic plant protection products. A huge number of alternatives to chemical control means, including botanicles, plant strengtheners or beneficial organisms like hyperparasitic insects or nematodes were discussed, their limitations highlighted, and their integration into IPM strategies demonstrated. A forthcoming breakthrough research area could be identified in the microbiom sessions and the workshops dealing with endophytes and useful rhizosphere microorganisms for use in agriculture.

It was encouraging to see that all over the planet healthy plants are seen as a prerequisite for overcoming hunger and for feeding the world today and tomorrow. Production of healthy plants requires good practice in agriculture, in particular in plant breeding, plant protection, and crop management. Bearing in mind the whole food chain, there is also a need to minimize food losses and food waste. In respect of the latter, governments have already initiated national campaigns directed at consumers.

Pests, diseases, and due to global warming, invasive species will continue to grow in importance. But, as the delegates were convinced, all problems can be overcome by sharing knowledge and expertise to advance science, and by networking with colleagues around the world like it has been practized during this congress. The importance of networking has been pointed out by the young scientist's world café, the student reporters, the scientific societies´ meetings, and lectures concerned with the integration of education. These excellent initiatives pointed out that scientific civil societies can be a decisive nucleus for the interaction of research, extension services, administration, and industry.

The DPG thanks all delegates for coming – we are looking forward to meeting them in Hayderabad in 2019.

Falko Feldmann,
Congress Managing Director

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Young Scientist's World Café

The DPG Junior Scientists invited to a World Café round table discussion at the IPPC 2015. Participants from all over the world came together and joined at three different tables, each table representing a different topic related to plant protection. After introducing themselves they exchanged their opinions on the specific topic. After 15 minutes, they had to move on to the next table/topic.

DPG Junior Scientists hosted the discussion on the first topic addressing the role of junior scientists in future plant protection. They described their own actual situation and the difficulties they are facing day by day and in general. Junior scientists, especially from developing countries, stated that it is difficult to get traveling funds to participate in international conferences. However, the continuous communication between international colleagues and the establishment of networks were seen as very important. According to a young scientist it is very helpful to have a mentor who supports you and introduces you into existing networks. The participants whished that the contact persist beyond the time of a conference. New media platforms may provide a good opportunity to ensure a lasting exchange.

Read more:

- the second round table discussed quite controversially the use of synthetic plant protection agents …
- and the third topic focussed on global food security through knowledge exchange …

ippc2015.blogspot.de/2015/08/welcome-to-world-cafe-on-tuesday-dpg.html

Fotos: © Philipp Jarkusch

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International Plant Protection Award of Distinction (IPPAD)

Geoff Norton, Brhane Gebrekidan*, Rangaswamy Muniappan*, John Bowman, Jörg Huber, Anthony Youdeowei, Short Heinrichs*
Andreas von Tiedemann, Amer Fayad*, David Bergvinson, Richard Sikora, Zenrong Zhu (accepting for K.L. Heong)

IPPAD: An Award of Recognition established by the Governing Board of the International Association for the Plant Protection Sciences

The Governing Board (GB) of the International Association for the Plant Protection Sciences (IAPPS) has established the International Plant Protection Award of Distinction (IPPAD) to honor individuals and teams who have made significant contributions to plant protection on an international basis and who otherwise have served with distinction in advancing the cause of plant protection sciences.

*Team Bowman

DPG thanks for a great event:

Congress conduct:

Holger B. Deising – DPG (Congress Chair), Falko Feldmann – DPG (Congress Managing Director), Claudia Tonn, Anne Brüche, Lisa-Marie Beyer, Conventus (Local Organisers)

Steering Committee & Program Committee:

Klaus Stenzel – DPG (Chair), Georg F. Backhaus – JKI, Cordula Gattermann – JKI (Excursions & Events), Volker Koch-Achelpöhler – IVA (Industrial Exhibition), Geoff Norton – IAPPS, Elvis A. »Short« Heinrichs – IAPPS, Gerhard Gündermann – IAPPS/JKI, Reinhard Kunze – FU; Bernd Holtschulte – DPG, Carmen Büttner – HU, Marlene Diekmann GIZ/ATSAF, Stephan Winter – DSMZ, Jens Jacob – JKI, Peter Zwerger – JKI, Manuele Tamo – IAPPS, Richard Sikora – IAPPS, Daniel Neuhoff – University Bonn;

Sponsors:

Deutsche Forschungsgemeinschaft DFG, Deutsche Phytomedizinische Gesellschaft e.V., Bayer CropScience Deutschland GmbH, CropLife International, Monsanto Agrar Deutschland GmbH, Horizon Scientific Press.

Driving forces:

1200 presenting authors
150 Session, Workshop and Excursion Chairs
40 technical supporters
12 Student Reporters of the DPG Junior Scientists,

Special thanks go to our colleagues
E. A. Heinrichs, Geoff Norton and Manuele Tamo (IAPPS)

We would do it again !

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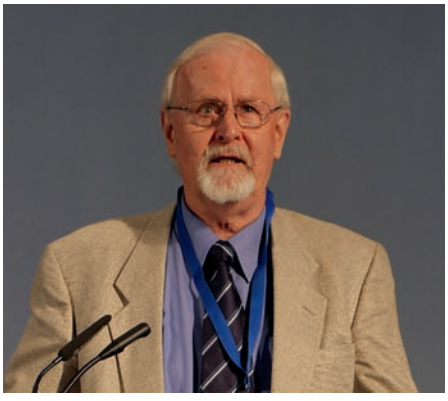
Mission possible: food for all? Keynote messages



»Today, the world is awash in cereals and prices have decreased rapidly during the last three years. Enlightened policies, appropriate investments in research and technological change and better utilization of the currently underutilized productive capacity, are likely to result in continued increases in global food production sufficient to sustain a long-term trend of falling but more volatile real food prices. The mission is certainly possible. Increasing food production is necessary but not sufficient for food security. To be food secure, households must have access to the quantity and kinds of food needed for a healthy and productive life. Appropriate policies along with public and private investments are needed to enhance low-income people's purchasing power or food production capacity. Considering both the supply and demand sides, we will achieve food security for all in the foreseeable future.«

Per Pinstrup-Anderson,
Cornell-University, Ithaca, USA

»Gene- and biotechnology-driven approaches to durable pathogen resistance in crops will be one of the most important factors to fulfill our mission: food for all. Broad-spectrum, quantitative pathogen resistance is of high importance to plant breeders due to its durability. It is usually controlled by multiple quantitative trait loci and challenging to handle in breeding practice. Knowing about the underlying genes would allow its more targeted utilization by allele introgressions. With the available omics tools and data of crops and of its major fungal pathogens at hand we are now enabled to functionally address genes for defense and attack on both sides of plantpathogen interactions at a genome-wide scale. Identify genes for race-nonspecific resistance combined with a functionalgenomics approach based on genome-wide transcript profiling and transientinduced gene silencing, association- and Meta-QTL mapping plus analysis of copy-number variation: promising biotechnology for tailored breeding in the future.«

Patrick Schweitzer,
IPK Gatersleben, DE

»The three-letter acronym IPM has been around for over fifty years and now not only guides research and extension in pest management, markets pesticides and is claimed to be undertaken by many growers, it even resonates with public perceptions and politicians. Whether or not IPM programmes are sustainable in the longer term under the conflicting stresses and strains of the modern agricultural environment is debateable: Any pest crisis will ensure rapid changes in practice and adoption of technologies, which mitigate the short term financial stresses caused; however, regression to former practices tends to follow once a crisis has passed. Changing climate will impact on pest abundance and distribution and the effectiveness of biological control in complex ways. For many systems the future of pest management practice will require a change to landscape or areawide approaches.«

Myron Zalucki,
University of Queensland, Brisbane, Australia

»The world will have to feed 9 billion people by 2050. Considering that fact, Food Security and Nutrition of a growing world population is one of the highest priorities for international development cooperation. In addition to a better distribution of food, eliminating hunger will also require increasing agricultural production in an ecologically, economically and socially sustainable way. Implementing of development- oriented agriculture which fosters agricultural investments and provides an income for the rural poor. Including vulnerable groups is a crucial part in this process of transforming agriculture. Issues such as promoting rural development, developing policies and standards for sustainability, the marketintegration of smallholder farmers, context-specific sustainable agriculture and the empowerment of women and youth are decisive for the mission.«

Stephan Krall,
GIZ, Germany

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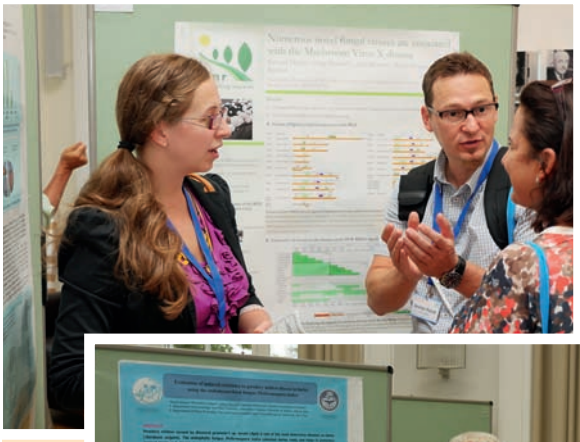
Meeting - Discussing - Networking: IPPC 2015



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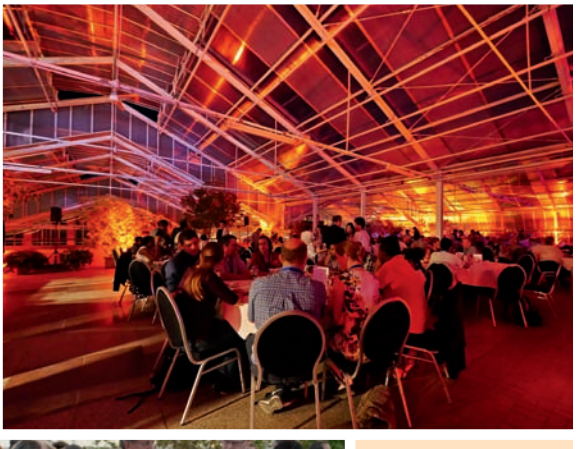
Social Gathering - Understanding - Appreciation: IPPC 2015



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IPPC Day 1: Challenges

Interview by Sebastian Streit & Alexander Pfaff (University of Göttingen) with Per Pinstrup-Andersen

Foto: © DPG

Per Pinstrup-Andersen pointed out three priorities for future action in his keynote speech: Large-scale investments in rural infrastructure, expansion of public investment in agricultural research and enhanced policy incentives for the private sector to invest in sustainable agriculture.

Junior Scientists: Dear Mr. Pinstrup-Andersen, an often-discussed topic is whether food distribution is indeed a big challenge? Is this issue increasing or decreasing?

Per Pinstrup-Andersen: The big problem is that many people have too much food and many people have too little. In theory but not in practice, food could be moved from those having too much to those who have too little. However, this does not solve the actual problems. The real problem is poverty and low productivity in smallholder agriculture. Farmers living in low income countries need to increase their yields and incomes to elevate their supply and improve their own food security. Higher productivity in poor countries will moreover decrease prices for food as the unit cost of production decreases. We already know this occurred during the green revolution - people could suddenly allow themselves things like sending their children to school or building houses. Production should therefore be increased wherever possible. This does not mean that we do not need trade. Some parts in the world just cannot produce what they need: It would for instance be ineffective for Denmark to produce bananas as they can be produced somewhere else more efficiently. On the other hand, Singapore imports virtually all its food. However, that is fine as they have other income sources. Whether it is feasible or not depends on the country and the situation in the country.

Junior Scientists: You have stressed the need for biotechnologies as part of a widespread solution to achieve food security. We are facing serious protest against new biotechnologies in European countries. How can we create a more open-minded, a less ideologydriven view on these techniques?

Per Pinstrup-Andersen: Europe will not starve if it fails to introduce modern techniques into agriculture. We can afford to pay what it costs to produce food using traditional means. Still, Europe is becoming non-competitive and both farmers and consumers are foregoing opportunities for economic and food security gains. It will be difficult to produce food at lower costs while protecting the environment if it refuses to adopt modern sciences. I recently discovered an advertisement for Himalayan salt. The label on it said that it does not contain GMO. Guess which salt was sold the most: Indeed the salt with the label. I am worried about the widespread ignorance about basic biology. GMOs in salt?? Not likely! We have to be careful that people do not develop a fear against anything modern used in agriculture. Using GMOs has been studied in detail. These results were recently described in a meta-analysis by my college Matin Qaim showing very strong positive effects using GMO. We need to get the media involved in our research in the upcoming years to inform the public.

Junior Scientists: In your life, you have achieved a lot of things young scientists can only dream of. What would you recommend to young people? What was your motivation back then when you were a student?

Per Pinstrup-Andersen: I don't have a high school degree. I left school after seventh grade and worked on farms for a number of years. Then I went to the university. But it was never my intention to go into academia. My feeling is, that if you want to be a good scientist, you should spend time outside academia to accumulate experiences. One thing that helped me a lot was that I had mentors along the way: people, who believed in me and opened doors for me. I am very thankful for that and I try to open doors for young people. Equally important: You have to work like hell.

IPPC Day 2: Tradition and Innovation

Interview by Heike Pannwitt & Sabine Andert (University of Rostock) with Geoff Norton

The day started with Patrick Schweizer, an expert in biotechnology, as a keynote speaker with impressive information about functional genomics approaches for durable pathogen resistance. His work reveals astonishing examples of the innovative character of plant protection. Nevertheless, it also became clear in this section that besides genetic resources, traditional breeding strategies still contribute significantly to durable crop protection.

From many discussions in the World Café it became clear that knowledge transfer and networking across disciplines are the key issues to develop future plant protection strategies. Those key issues were also emphasized by Mr. Geoff Norton, the President of the International Association of the Plant Protection Sciences (IAPPS).

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We had the oppurtunity to meet Geoff Norton for an interview.

Foto: © Philipp Jarkusch

Junior Scientists: How important is it for researchers and stakeholders to link tradition and innovation?

Geoff Norton: Wow, that is a big issue. I think that there is not enough done. The importance is the understanding of the full dimensions of the problem. So, an entomologist would see the insect problem and work on population dynamics in detail, but he would ignore what the farmers would do and are interested in. It is important to identify research priorities in terms of what the problem is. In terms of innovation, they have to take place like smartphones. But the important thing is to identify of how does that innovation fit? There are only very few people, who are able to do so. That's a big issue. In Australia for example, a lot of people who are working in plant protection go into molecular biology. That's the new thing because of it's high profile; working in the field is not seen as attractive. There are less people going into the field and who can identify pest, diseases and weeds.

Junior Scientists: What is the future challenge for plant protection worldwide?

Geoff Norton: This is a big question. The integration of how thing are changing. For example climate change. How flexible can we be in terms of changing scenarios and funding? Flexibility is the key thing in the future. Farmers must be flexible, if there are new problems arising.

Junior Scientists: What kind of output do you expect from the IPPC?

Geoff Norton: Well, a better understanding of the multidiscipline complexity. There are a lot of people spending a lot of research time working out monitoring techniques but when you actually looking at what is happening, there is very little happening in terms of scouting. Well, it all goes back to the integration of very specific topics to understand the whole systems of agriculture.

Junior Scientists: What would you recommend to young researchers in their early steps of their career?

Geoff Norton: Geoff Norton: First, what they are interested in the most. What they get funding for. Well, I'd like to solve the real problems. There is quite a lot of work that is under the plant protection label, which probably it too theoretical. But finding out what the real problems are, I got a lot of satisfaction, when working on real problems rather than theoretical problems. The theory of ecology is one thing but practical experience in your research field is important.

Student Reporters

We are the DPG-student reporters:

- Sebastian Streit & Alexander Pfaff (University of Göttingen),
- Heike Pannwitt & Sabine Andert (University of Rostock),
- Verena Schieritz & Roman Blümel (University of Bonn),
- Rania Saleh (University Göttingen) & Katrin Scherer (University Bonn),
- Muhammad Awais Zahid (University of Hohenheim) & Bianca Bohnke (University of Bonn).
- Ali Al Masri & Marlene Leucker (University of Bonn)

Our mission was to go beyond the walls of our classrooms and laboratories by immersing in practices of scientific journalism. We critically shape our desire to influence global debates by searching for opinions and facts that tell impactful stories. Journalism is a tool to build context and community around complex, scietifically and politically charged subjects through meaningful stories. Here we worked with the conference body and mission-driven organizations for investigative topics and event projects during IPPC 2015, covering global meetings and workshops.

Meet the team of DPG Junior Scientists at Facebook:

www.facebook.com/groups/dpgnachwuchs

Find the blog of our reports here:

ippc2015.blogspot.de

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IPPC Day 3: Integration and precision

Interview by Verena Schieritz & Roman Blümel (University of Bonn) with Myron Zalucki

As today's plenary keynote speaker Myron P. Zalucki, professor at the University of Queensland, gave the initial talk. His basic and applied research focuses on plant-insect interactions, in particular on Lepidoptera. Subsequent to his opening speech, we were given the exceptional opportunity to interview Prof. Zalucki for the IPPC student-reporter blog:

Junior Scientists: The slogan of this years' IPPC is »Mission possible - Food for all through appropriate plant protection«. Do you think IPM strategies are a promising approach to achieve this goal - even in terms of climate change - and why?

Myron Zalucki: IPM is an approach for pest management, its idea is to minimize the pest pressure and maximize yields without disrupting life, environment and universe. All IPM systems have to be aware of the valuable impacts of climate - in some parts of the world even more than in others. It's a system that always has to adapt to the given circumstances, because agriculture is always developing. Indeed, food security is the major goal to achieve in future - therefore agricultural production systems are one part, as well as efficient political systems to ensure that those systems are admitted and can be applied.

Junior Scientists: Where might be limitations of IPM?

Myron Zalucki: The limitation of any approach is always its implementation. The issue is how do we change the way people approach agriculture and management, so that they see a benefit in doing things differently.

Junior Scientists: Which steps are most important to take within the implementation of IPM all over the world?

Myron Zalucki: Encourage education - the ability to question knowledge - is to mention first, as well as the obligation to get researchers and research institutes more involved with local farmers to really detect the problems they are faced with. Other aspects are changes in politics and industry. The problem in politics is that it's too opinion- driven and short-term for extensive agricultural changes, that take longer periods to be established effectively.

Junior Scientists: Do you assume that todays plant protection practices are able to adequately monitor, identify and react on alternating pest situations induced by a change of the environment? That is what you do, but is that also generally done?

Myron Zalucki: Growers in the field that detect unknown pests/diseases will alert researchers of these changes. Afterwards people can map changes over the years and create huge databases, which I generally would advice. In addition to this, we also need policy makers, who enable new research projects.

Junior Scientists: In your talk you brought the example of GMO's introduced in the cotton belt in the US resulting in a decrease of Monarch butterflies. Are we capable of identifying changes and their putative effects on this scale?

Myron Zalucki: The sad part is we really should have been able to foresee this ahead of time, but we didn't. That is one of the big challenges for researchers and policy makers. When a new technique to cope with diseases is established, we have to think about the effects it has. A measure of how good science is, is whether it can make predictions over time or not. We have to keep this in regard for future projects.

From Myron Zalucki's talk and the interview with him it became clear, that we need to adapt to a changing world, changing people, landscapes and agriculture. To really progress, we have to be open-minded regarding revolutionary techniques that could help us to ensure food security on earth and in the same way pay enough attention to possible risks that might come with these techniques.

Foto: © Philipp Jarkusch

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IPPC Day 4: How can a chocolate bar improve agricultural development?

Interview by Rania Saleh (University Göttingen) & Katrin Scherer (University Bonn)

Foto: © DPG

As the German Corporation for International Cooperation (GIZ) work seemed to be very exciting, we wanted to know more about it, as well as how we as young scientists could support improving quality of life throughout the world via crop protection. Therefore, we interviewed Dr. Krall, Dr. Jörg Lohmann and Tanja Thekla Pickardt (all GIZ).

Junior Scientists: What is the role of science in developing extension programs?

Pickardt & Lohmann: First of all the role of science is to work with private extension services to coach trainers to work in foreign countries and give advices to farmers. The role of science in developing extension programs has recently changed from research for development into research in development. Linear science forgetting the practical work causes more damage than help. Finally, extension services influence the research to be more practical.

Junior Scientists: Do you think that the misconception towards crop protection in Germany is also wide spread in developing countries?

Krall: There is a broad spectrum of developing countries between which one has to differentiate. In some African countries for instance, there is a lack of plant protection and fertilization. In such countries it is not always wise to supply farmers with pesticides as they are not trained to use them and so their availability could be dangerous for people's health. In various other countries, pesticides are applied but they are not used in the prescribed manner. In such countries, training people seems to be the better option than switching to organic farming.

Junior Scientists: There are many conference contributions from developing countries that deal with biocontrol agents. Do you have any suggestions concerning this strong demand? Did it increase in the last few years?

Pickardt & Lohmann: We can verify that there are many contributions dealing with biocontrol agents. Consuming products contaminated with aflatoxin for instance, may lead to various diseases such as liver cancer. Biocontrol agents can be one approach to fight aflatoxin producing pests. (Workshop Tuesday evening, »Aflatoxin Prevention in Sub Saharan Africa-Challenges and Practical Experience«). Organic farming is not always cheaper, not always easier, but can be an opportunity.

Junior Scientists: Transfer of knowledge between research and practical farm work seems to be problematic in many regions. What do you suggest to improve this problem?

Pickardt & Lohmann: First of all, research findings often end with conclusions directed to other scientists lacking the information relevant for practical application (farmers). All agricultural actors are playing a role and therefore all players in innovation systems need to be considered. A good example for supporting knowledge transfer is the school for innovation, which improves the daily living conditions in Africa. For developed countries the value of an innovation might not be significant, but it could be a solution for developing regions. Keep this in mind!

Junior Scientists: How can young scientists contribute to a better understanding of crop protection in society and support solving actual and practical issues?

Krall, Pickardt & Lohmann: The point is to be open-minded and to get your own impressions. Furthermore, practical development cooperations and NGO's are important to break narrow- minded opinions. If this is successful then we can get rid of the DDT burden for example. It is your turn (i.e. Junior Scientists) to come up with new opportunities, your time to change things, your time to be open minded. Talking to people from the society to clarify some misunderstandings is very important! From Myron Zalucki's talk and the interview with him it became clear, that we need to adapt to a changing world, changing people, landscapes and agriculture. To really progress, we have to be open-minded regarding revolutionary techniques that could help us to ensure food security on earth and in the same way pay enough attention to possible risks that might come with these techniques.

Junior Scientists: If we, as young scientists, want to support international interaction, how could we accomplish this? What would be the first step?

Krall, Pickardt & Lohmann: Work for GIZ! Our suggestions would be to join international student organisations, keeping contact to international partner universities and participating in big international conferences like the IPPC or the Tropentag to make your own experience! Coming back to that chocolate bar story: The Mars company is very interested in producing a nice and tasty chocolate bar. For achieving this, they support ongoing research on rice - so in a wider understanding: A chocolate bar did indirectly improve agricultural development. By the way, the GIZ offers opportunities for internships and theses for young scientists!

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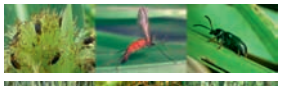
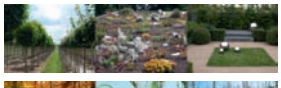
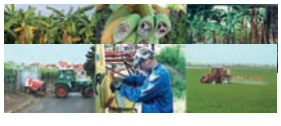
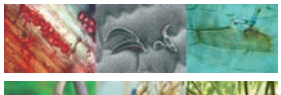
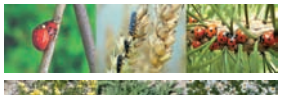
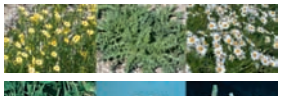
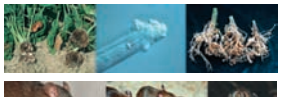
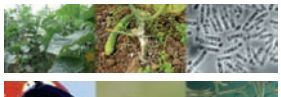
Arbeitskreistagungen der DPG

Die Arbeitskreise der DPG sind wissenschaftliche Foren für DPG-Mitglieder und Nicht-Mitglieder, auf denen aktuelle Forschungsergebnisse oder Erfahrungsberichte aus der Praxis ausgetauscht und diskutiert werden. Die Teilnahme an den Arbeitskreisen der DPG ist kostenlos.

An den jährlichen Arbeitskreistagungen nehmen zwischen 15 und 120 Personen teil. Insgesamt treffen sich so jährlich mehr als 1400 Wissenschaftler aus dem gesamten Fachbereich der Phytomedizin. Organisiert werden die Tagungen von den Arbeitskreisleiterinnen und Arbeitskreisleitern.

Wir würden uns freuen, wenn wir bei den Teilnehmern der Arbeitskreise Interesse an der DPG und einer Mitgliedschaft wecken könnten. Wir ermutigen Doktoranden, sich dem wissenschaftlichen Forum zu stellen und ihre Ergebnisse, auch wenn sie vorläufig sind, mit den Kollegen in den Arbeitskreisen zu diskutieren. Alle Teilnehmer sind eingeladen, ihre wissenschaftlichen Beiträge dem Arbeitskreisleiter als Abstracts zur Verfügung zu stellen.

Nur so können wir nach außen die Aktivitäten der Arbeitskreise darstellen und für die Teilnahme werben.

	Kartoffel	2.3.2016
	Raps	16.2.2016
	Schädlinge in Getreide	17.2.2016
	Krankheiten an Getreide und Mais	1.2.2016
	Gemüse und Zierpflanzen	5.10.2015
	Heil-, Duft- und Gewürzpflanzen	21.2.2017
	Phytomedizin im urbanen Grün	8.9.2015
	Waldschutz	15.9.2015
	Vorratsschutz	11.11.2015
	Phytomedizin in den Tropen und Subtropen	17.9.2015
	Pflanzenschutztechnik	9.3.2016
	Biometrie und Versuchsmethodik	23.6.2015
	Viruskrankheiten der Pflanzen	7.3.2016
	Phytobakteriologie	1.9.2015
	Mykologie	17.3.2016
	Wirt-Parasit-Beziehungen	17.3.2016
	Populationsdynamik und Epidemiologie der Schaderreger	17.9.2015
	Herbologie	23.2.2016
	Nematologie	8.3.2016
	Wirbeltiere	10.11.2015
	Biologische Bekämpfung von Pflanzenkrankheiten	17.3.2016
	Nutzarthropoden und Entomopathogene Nematoden	30.11.2015