

## Web to catch exotic plant pests



**The Khapra beetle, Australia's most serious threat to stored grain, features on the Plant Biosecurity Toolbox.**

Plant pests and diseases coming into Australia can now be identified fast and accurately using a web-based diagnostic toolbox, potentially saving Australian agriculture millions in lost production.

Launched on February 2009 by Mrs Lois Ransom, Australia's Chief Plant Protection Officer, the Plant Biosecurity Toolbox provides a collection of detailed diagnostic information on exotic plant pests that can be used by Australia's diagnostic network to more rapidly and confidently confirm if it is an organism which threatens Australian agriculture.

Developed by the Cooperative Research Centre (CRC) for National Plant Biosecurity, the toolbox includes photographs and details of pests -

and the symptoms and damage they cause, and links them to information and instructions on a range of diagnostic tests to confirm the identity of the pest. "To date, identifying exotic pests has presented real challenges - particularly for plant health workers and others in regional and remote locations without access to specialist advice", Dr Gary Kong, researcher with the Queensland Department of Primary Industries and Fisheries.

"For many on the front line, the main resource used to find information about exotic pests has been 'Google' or, for help in identifying a pest, they quiz their own networks or send a photo to an expert somewhere in the country," he said. "The photo might then be passed around in an effort to find somebody with relevant knowledge

This takes time, and testing is still required to confirm the pest. This might take a week or longer - and by then it could be too late to prevent an outbreak." The Plant Biosecurity Toolbox now provides an encyclopaedia of online information to support rapid diagnosis.

"This improved responsiveness will result in a better chance of containment and eradication of pests and diseases, potentially averting large losses to a number of agricultural industries," Dr Kong said. It is thought that the new tool will save time in the identification of exotic pests and ultimately prevent an outbreak.

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## Newsletter for the Seed Schemes

This new Newsletter is designed to present information to members on recent developments in the seed sector and interesting articles from around the world that are relevant to global seed trade. For articles to be included in the next edition please contact Isabelle Braud:

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## Representatives from 35 countries attend the 9<sup>th</sup> African Seed Trade Association Annual Congress

**NAIROBI, KENYA, MARCH 16, 2009** - The Chairman of the South African National Seed Organization (SANSOR), Mr. Paul Marais, opened the ninth annual Congress of the African Seed Trade Association (AFSTA) held from 2<sup>nd</sup> to 6<sup>th</sup> March 2009 in Cape Town, South Africa. Mr. Clem Sunter gave an interesting key note address talking about "looking at the future" for the delegates to AFSTA congress 2009.

Focused on the main topic of this ninth annual congress 2009, which is "seed trade", the delegates had the opportunity to expand their seed business and to strengthen their knowledge on various topics related to seed trade. Considering the important role and the benefits of a better seed trade in getting seeds of good varieties, this topic on "seed trade" has been selected for the congress 2009.

The 9<sup>th</sup> Annual Congress attracted 230 delegates from 35 countries. Delegates included representatives from regional and international bodies such as the International Seed Federation (ISF), The International Seed Testing Association (ISTA), the Asia and Pacific Seed Association (APSA), the African Organization for Intellectual Property (OAPI), the African Regional Intellectual Property Right Organization (ARIPO), the Union for the Protection of New Plant Varieties (UPOV), and the United Nations Food and Agriculture Organization (FAO). Of keen interest to the group was a half-day workshop on Plant Variety Protection facilitated by UPOV.

The presentations followed by a question and answer session allowed the delegates to deepen their knowledge about the subject.

The UPOV workshop was followed by a half-day seminar on seed care sponsored by Syngenta, during which experts in seed treatment presented various interesting topics such as "seed care application machinery, seed safety and carryover of treated seeds, operator safety and stewardship, and the global seed market" among others. The following topics were discussed at the congress:

- Strengths and weaknesses of the seed trade in Africa vis-à-vis the world seed trade;
- Promoting seed trade in Africa;
- Key seed trade statistics in Africa;
- Opportunities, constraints and latest development on seed trade in Africa;
- Seed Health: Challenges Facing the Vegetable Seed Industry and ISHI-Veg;
- The African seed industry in the face of the food crisis;
- Strategy for the implementation of the harmonized seed regulations to become a reality for the promotion of the seed trade;
- Analysis of the status of the Commercialization and the use of Genetically Modified Crops
- Africa vis-à-vis the rest of the world - The South African case.

AFSTA continues to organize technical training related to seeds to build capacity of its members and dissemination of information on the progress in harmonization with a view to promoting seed trade.

All the papers of AFSTA Congress 2009 are available on request from the AFSTA Secretariat ([afsta@afsta.org](mailto:afsta@afsta.org)).

## New legislation for landraces and conservation varieties

The whole question of biodiversity and the importance of conserving plant genetic resources have grown in recent years and the Commission has now introduced legislation to try and safeguard the loss of this important genetic material by encouraging the conservation of this plant material and the traditional practices it supports.

Many of the landraces and varieties that sit outside the current legislation are naturally adapted to the local and regional conditions in which they are grown, but because their development occurred before the introduction of legislation they have not been eligible for marketing under the EU Directives. Directive 2008/62/C provides a way of ensuring landraces and varieties can be fitted into legislation even though they do not comply with the general requirements.

One of the conditions for marketing an agricultural variety within an EU country is that a variety has to be National Listed in the country in which it is to be marketed. Before it can be NL the variety must pass DUS and show that it meets the requirements for variety cultivation and use (VCU). The new legislation will now make it possible for 'conservation varieties' - landraces or plant varieties that are naturally adapted to local and regional conditions - to be listed and marketed by providing derogations from normal listing and marketing requirements. By authorising Member States to adopt their own provisions for DUS and monitoring the production and marketing of the seed produced within the legislation, the Directive sets out a way for preserving this important genetic source.

## ASTA's First the Seed Foundation Kicks Off Fund Raising Effort

The American Seed Trade Association (ASTA) has launched its first campaign toward raising funds for the First the Seed Foundation. The mission of the First the Seed Foundation is to conduct education, outreach and communication of the value of crops and food produced from seeds. The foundation endeavours to:

- Teach students, communities and consumers of the United States and other countries the impact that seed-derived products have on their daily lives.
- Provide improved economic research to illustrate the value and importance of the seed industry to its consumers and the agricultural community.
- Increase the awareness amongst the general public that the seed industry is evolving and the changing needs in agricultural education programs today in plant breeding, genetics and seed science must be met if we are to keep pace with the new global demands.
- Create new avenues to enable the seed industry to bring meaningful economic and philanthropic impacts to both the developed and developing world through improved agriculture production from improved seed.

This first fund raising effort is being spearheaded by the foundation's board of directors in building support for the strategic goals of the First the Seed Foundation. The seed industry established the foundation to provide education and outreach about today's vibrant seed industry and its promise for the future.

The food, fibre, feed and fuel demands of an ever increasing population make it more important than ever to educate the general public about the story of agriculture and the role of seed, as well as attract the best and brightest minds to agricultural fields of study. Members of the board will outreach to potential donors as part of this initial targeted funding drive. The highest priority of the First the Seed Foundation is the education of today's youth. Efforts of the foundation will begin with outreach about seed to grade schools through multimedia and web-based curriculum to be used in classrooms, development of an introductory video on the seed industry's role in American agriculture, the distribution of seed and informational kits to schools and youth organizations and the promotion of the value of quality seed and the impacts of the seed industry on every person's life who eats food or uses agricultural products. The target audiences will be educators such as high school teachers and college advisors, students, consumers and funders.

The key messages to be conveyed will be:

- seeds are the foundation of human and animal life
- the seed industry has an exciting history of innovation and change and will be a key player in addressing the world's need for food
- the seed industry is a high-tech, science-based "business of the future" with inspiring challenges and the field is wide open and full of career opportunities—today's youth should be aware of them and consider a career in the seed/agricultural industry.

Contributions can be made to the First the Seed Foundation by contacting the ASTA office.

## UC Davis is Conducting an Economic Survey of the California Seed Industry

The California seed industry is one of the most vibrant and diverse in the world. However, the current value of the industry is not known. To gain further insight into the importance of seeds within the California economy, researchers at the University of California, Davis, have set out to determine the economic impact of the state's seed industry.

Between seed producers and retail customers, a seed changes hands many times before it is planted in the ground. Indeed, the seed industry appears to be very beneficial to the state - but precisely how large is its economic impact? To attempt to answer that question, the California Seed Association (CSA) and the California Seed Advisory Board have teamed up with the Seed Biotechnology Center ([sbc.ucdavis.edu](http://sbc.ucdavis.edu)) and the UC Agricultural Issues Center ([aic.ucdavis.edu](http://aic.ucdavis.edu)) at UC Davis to survey the industry.

The goal of the study is to develop a detailed and accurate economic description of the industry, while gaining a better understanding of the important role it plays in adding value to California's overall economy. Compilation of these results will aid the state's industry in communicating the impact of the seed industry to stakeholders, regulators, legislators, and ultimately, consumers. Over 275 surveys were sent out to a broad cross section of seed companies that do business within California. With maximum participation throughout all sectors of the industry, the most accurate results will be achieved. Funding for this study is being provided through fees collected from all companies selling agricultural seeds within the state of California.

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## PGG Wrightson Seeds joins with Plant and Food Research to produce kale x rape hybrids

PGG Wrightson Seeds, based in New Zealand, has a joint forage Brassica breeding program with Plant and Food Research and the joint program is the only one in the world still with a primary focus on forage Brassica for the grazing animal. The Brassica breeding program is innovative and combines molecular biological methods with traditional field breeding and selection, but most importantly the program has a real focus on animal performance.

Plant and Food Scientists start the breeding process by using a method called 'embryo rescue' to produce interspecific hybrids in brassica. Kale (*brassica oleracea*) and rape (*Brassica napus*) are not compatible, and pollinations between these two species result in the death of the embryo. However, if the embryo is "rescued" early in development it can be cultured successfully in the laboratory and healthy fertile plants obtained.

Kale and rape plants were crossed pollinated and immature pods removed after two weeks. Intact ovules were removed and cultured on plant culture medium designed to promote growth and embryos that develop are transferred and multiplied in culture. Once shoots had sufficient root and shoot development there are then transferred to the glasshouse for further growth to promote flowering. These plants can then be used in a traditional breeding program to introduce traits from kale into forage rape, as it was done during the development of Swift Utility and Redstart forage rape.

## Socio-economic impacts of non-GM biotechnologies: Micropropagation

FAO's Research and Extension Division has just published "Socio-economic impacts of non-transgenic biotechnologies in developing countries: The case of plant micropropagation in Africa". The 75-page publication comprises three papers. The first, by A. Sonnino and co-authors, discusses some approaches used in impact assessment of innovations and presents a general overview of the literature about the impacts of non-transgenic biotechnologies. The second, by Z. Dhlamini and co-authors, surveys the extent of micropropagation application in Gabon, Mali, Nigeria, Uganda and Zimbabwe. The third, by P. Warren and co-authors, reports the findings of two field studies, on micropropagation of banana in Uganda and of sweetpotato in Zimbabwe aimed at better understanding the process of adoption of micropropagated planting materials and its impacts on livelihoods. See

<http://www.fao.org/docrep/011/i0340e/i0340e00.htm> or contact [charlotte.lietaer@fao.org](mailto:charlotte.lietaer@fao.org) to request a copy, providing your full postal address.

## Biosafety Decisions and Perceived Commercial Risks: The Role of GM-Free Private Standards

As part of its IFPRI Discussion Papers series, the International Food Policy Research Institute has just published "Biosafety decisions and perceived commercial risks: The role of GM-free private standards" by G. Gruere and D. Sengupta. The paper studies the interactions between importing food companies and their GM-free private standards and biotechnology decision making in developing countries. The paper differentiates three types of relevant commercial risks: real risks, potential risks, and unproven risks.

The results of the analysis are used to suggest a simple framework to separate real commercial risks from others, based on five critical questions designed to aid decision makers when they face pressures to reject GM crop testing, application, consumption or use for fear of alleged export losses.

See <http://www.ifpri.org/pubs/dp/IFPRID/P00847.pdf> or contact [ifpri@cgiar.org](mailto:ifpri@cgiar.org) for more information.



Developing embryo from a kale x rape cross about to be transferred to culture to be multiplied

## Nunhems Hold Mega Field Day in Bangalore

Bangalore, February 26<sup>th</sup> 2009. Nunhems, Bayer CropScience's vegetable seeds business, brought together farmers, retailers, nursery entrepreneurs and exporters at its first Mega Field Day in Bangalore on February 26th. The auspicious event was honored by the presence of Dr. S.V. Hittalamani, Horticulture Additional Director for the Government of Karnataka and Dr. Krishna Reddy,



Principal Scientist on Plant Pathology from the Indian Institute of Horticulture Research.

Due to the growing need of hybrid seeds and the growers' increasing need for knowledge, this magnificent event by Nunhems brought together 1,300 participants on a single platform on which views on Indian horticulture were exchanged. Nunhems showcased its range of assortment in the field to allow visitors to pick and choose the best for their requirements. "At Nunhems we combine global and local knowledge. Our close cooperation with people in the Indian market, together with our resources and experience from other parts of the world puts us in the position to constantly improve our vegetable seed portfolio," said Douwe Zijp, CEO of Nunhems in his opening speech. A team of pathologists and entomologists interacted with the farmers and educated them

on the different diseases and insects of the vegetable crops and measures to control them. Farmers from seven different Indian states including Tamil Nadu, Andhra Pradesh, Maharashtra, Madhya Pradesh and Chhattisgarh as well as from neighboring South East Asian countries viz. Thailand, Malaysia, Philippines, Vietnam, and Sri Lanka came together for this opportunity of knowledge sharing at Nunhems' R&D station in Bangalore.

At the event, Nunhems presented a wide variety of its crops focusing on hot peppers, tomatoes, gourds, onions, cabbages, eggplants and many other root crops. 21 farmers from seven states were awarded for their outstanding contribution in various crops. Other Nunhems locations in India include the head office in Gurgaon, an operations center in Hyderabad, and breeding stations in Murthal and Kullu. Nunhems India Private Limited is a fully integrated vegetable seeds company having a large distributor and dealer base enabling it to reach all major growers in India.

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## Seed Production and Treatment in a Changing Environment

A Symposium on Seed Treatments was organised by BCPC (British Crop Production Council) from 24<sup>th</sup> - 25<sup>th</sup> February 2009 at The Belfry Resort Hotel in the West Midlands. In this fourth Symposium of the series (sponsored by Bayer CropScience) the latest developments and the effects of the current and future legislation on seed production in the UK and Europe were covered in the programme. Among those topics discussed were: seed production and quality, new products and uses, application technology, formulation and safe use, efficacy and legislation and interpretation of results and epidemiology.

The Proceedings of the meeting are published including the complimentary posters in: Seed Production and Treatment in a Changing Environment Proceedings No. 83 and are available from BCPC Publication Sales on line at [www.bcpbookshop.co.uk](http://www.bcpbookshop.co.uk), by email to [publications@bcpc.org](mailto:publications@bcpc.org)



A bird's eye view of 1,300 Farmers at Nunhems' Mega Field Day in Bangalore