



## News in December 2007

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## THE TOP 10 NEW ORGANISMS OF 2007

[http://www.wired.com/science/discoveries/news/2007/12/YE\\_10\\_organisms](http://www.wired.com/science/discoveries/news/2007/12/YE_10_organisms)

A Wired News first, here we count down the top 10 organisms that didn't exist on Dec. 31, 2006

1. Ashera GD hypoallergenic cat
2. Butanol-producing E. coli
3. Artful fluorescent tadpoles
4. Insulin-producing lettuce
5. Super CO<sub>2</sub>-absorbing trees
6. Rapid vaccine-making button mushrooms
7. Glow-in-the-dark cats
8. Cancer-fighting Clostridium bacteria
9. Schizophrenic mice
10. Yeast with poison-sensing rat genes

### General

**The 3<sup>rd</sup> call (KBBE-2008-2B) for FP7 of theme 2- "Food, Agriculture, Fisheries & Biotechnology"** was published on November 30, 2007. See [cordis.europa.eu](http://cordis.europa.eu).

This call, with a deadline on 26 February 2008 at 17.00 hrs (Brussels local time), is focused on small research projects and support actions. Its main topics are:

Sustainable production and management of biological resources from land, forest and aquatic environment Fork to farm: food (including seafood), health and well being Life Sciences, biotechnology and biochemistry fro sustainable non-food.

**Opinion** - Which are the European arguments to reject GMO?  
*Klaus Ammann*, Professor at the University of Bern, Switzerland

There are many aspects. From the historical point of view, every time that a new technology is introduced into the world - mainly into Europe - the first reaction is to be opposed. Schopenhauer said that all new things are first ridiculed. Then, in a second stage, they are violently opposed, by creating fears. I can tell you a clear example about this. When the first trains came to Switzerland, a medical committee warned that such high speed could cause brain damage. Moreover, those who looked at the train moving could suffer the same fate.

In Europe has started what I call "the industry of the protest", that took advantage of the people fears. But the facts are quite far from these fears. I can also talk about the Governments, and the NGO that have questionable attitudes. Personally, I can assert that many things they say are lies. And they do lie on purpose, as Greenpeace does. They take advantage of people fears and use them to frighten.

- *What sort of lies?*

Greenpeace organized in India a very important campaign to report that 1,600 sheeps had died after eating transgenic rice - you can find this article at the Greenpeace website. However, toxicological studies revealed that the animals had died due to viral infections that had nothing to do with this crop.

Greenpeace has no shame. They think that being against GMO is a noble attitude. And the media did not follow this story. It remained just as a Greenpeace report. On the other hand, the political populism of some Government employees benefit, in a nice and economical way, those companies that commercialize non-GMO in the European market.

- - *Is it a concealed protectionism?*

- Yes, it is. But they will never admit it. It is an "eco-imperialism". The EU decides what it has to be done with the GMO and their regulation. A good example of this is something that happened in Switzerland. A group of Swiss retailers threatened to cancel rice imports from Vietnam if Vietnamese farmers accepted growing golden rice, a GM rice with enhanced levels of vitamin A. Vietnam is the major rice supplier for Switzerland, but this small country ended up controlling the commercial activities of another country.

- - *The EU has recently approved transgenic corn with stacked genes for feed and food. Do you think that this decision reflects a political change regarding GMO?*

- I am not sure about this. On one hand, there is the Commission, where the majority is pro-biotech, but on the other hand there is a Green Parliament, that is against GMO. And you have also to consider each individual country: Austria is anti-GMO, and UK is moving towards the positive side. The EU is a chaos from the regulatory point of view, because there is not a clear position on the topic. Moreover, it does not matter if the EU approves or not these foods, because anyway each country can do what they want.

## Books & Articles

### **The OECD and the Risk/Safety Assessment of Modern Biotechnology**

<http://www.oecd.org/dataoecd/18/8/39718027.pdf>

One of the challenging issues that countries have faced in recent years is the assessment of the safety of products derived from modern biotechnology, especially as genetically engineered crops are increasingly cultivated worldwide and as human food and animal feeds derived from such crops are being marketed.

At the same time, products of modern biotechnology are rigorously assessed by governments to ensure that they meet standards that ensure human food, animal feed and environmental safety.

Publications are available electronically, at no charge, on the OECD's Web site:

[www.oecd.org/biotrack/](http://www.oecd.org/biotrack/)

### **OECD Consensus documents**

#### **GMO:**

[http://www.oecd.org/document/51/0,3343,en\\_2649\\_34385\\_1889395\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/51/0,3343,en_2649_34385_1889395_1_1_1_1,00.html)

Consensus Document on Safety Information on Transgenic Plants Expressing *Bacillus thuringiensis* - Derived Insect Control Protein

No. 42, 2007, [ENV/JM/MONO\(2007\)14](#)

Consensus Document on Biology of *Pinus banksiana* (Jack Pine)

No 40, 2006, [ENV/JM/MONO\(2006\)28](#)

#### **Food and Feed:**

[http://www.oecd.org/document/9/0,3343,en\\_2649\\_34385\\_1812041\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/9/0,3343,en_2649_34385_1812041_1_1_1_1,00.html)

Consensus Document on Compositional Considerations for New Varieties of

Sunflower: Key Food and Feed Nutrients, Anti-Nutrients and Toxicants  
No. 16, 2007, [ENV/JM/MONO\(2007\)6](#)

**Nature India**, launching early 2008, will be a one-stop shop for information on Indian science. Visit Nature India for jobs, research highlights, events, features and news articles, to give you an unbiased view of science in India. Find out more and sign up for e-alerts, go to:

<http://ealerts.nature.com/cgi-bin24/DM/y/hiK50SoD1T0Hjf0Bec20Et>

**Biofuels for Transport: Policies and Possibilities:** OECD Policy Brief  
<http://www.oecd.org/dataoecd/18/8/39718027.pdf>

## About biofuels

SciDev.Net picks a path between doomsayers and utopians, and looks at the reality of biofuels research and development in the developing world.

- **William Dar**, director general of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), addresses the lack of [research on the yields of biofuel crops](#), such as jatropha, and the uncertainty this brings energy economies and their farmers.
- **Maureen. R. Wilson**, chemist/laboratory manager at the Sugar Industry Research Institute in Jamaica, argues that [biofuels are a lifeline for sugar-producing countries](#) hit by the European Union's 2006 sugar reforms, and focuses on improving technology to produce ethanol from crop residues.
- **Siwa Msangi**, research fellow at the International Food Policy Research Institute (IFPRI), demands [strong international policies](#) to stop the biofuel revolution threatening food security for the poor.
- **S. Arungu-Olende**, secretary-general of the African Academy of Sciences, calls for ['massive investment' in energy resource development](#) and use, and the putting in place of mechanisms for capacity building in the energy sector.

In an accompanying [editorial](#), I suggest that, despite the many promises of biofuels, the potential severity of their side-effects means we should proceed with caution. It also means that more research is needed to enable us to take sound evidence-based decisions on biofuels policy, and avoid a reckless leap of faith.

Finally two of our freelance correspondents describe how biofuels research projects are developing on the ground. Carla Almeida highlights [Brazil's biofuel success](#) and the country's need to develop new applications of ethanol. Kimani Chege explores what is being done to [harness Africa's vast biomass resources](#) and the research needed to achieve better yielding biofuel crops and more efficient fuels.

We have also collated SciDev.Net's coverage of [relevant news](#) and created a collection of links to [key background documents](#) and [organisations](#).

## [Food Quality and Safety catalogue.](#)

This catalogue highlights the challenge undertaken by Food Quality and Safety during FP6.

## GM Crops in Europe: How Much Value and for Whom?

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EuroChoices, Volume 6 Issue 3 Page 46-53, December 2007

<http://www.blackwell-synergy.com:80/doi/abs/10.1111/j.1746-692X.2007.00075.x>

Who gains from genetically modified (GM) crops in Europe? We review the global impact literature and assess the potential value of GM crops for Europe and how this value is shared among stakeholders. The literature suggests that, on average, two thirds of the global benefits are shared 'downstream', i.e., among domestic and foreign farmers and consumers, while only one third is extracted 'upstream', i.e., by gene developers and seed suppliers. Can this global rule of thumb be extrapolated to the EU? We review studies on GM maize, sugar beet and oilseed rape in Spain, Hungary, the Czech Republic and the EU-25. The potential annual value of GM technologies for single Member States ranges from €0.1 million to €42 million, distributed according to the same rule of thumb. With a global annual value of €668 million, herbicide tolerance in sugar beet cultivation is the EU's most promising 'first-generation' GM technology. The new Member States could also substantially benefit from GM crops. While the Czech Republic embraced GM maize in recent years, Hungary imposed a de facto ban on GM crops. By denying farmers access to potentially cost-reducing technologies, banning GM crops could be counterproductive for the future competitiveness of EU agriculture.

### **Report Says Gene Flow From GM Crops Not Likely to Harm Environment**

UC Davis (press release), Dec. 12, 2007

[http://www.news.ucdavis.edu/search/news\\_detail.lasso?id=8459](http://www.news.ucdavis.edu/search/news_detail.lasso?id=8459)

Gene flow from genetically modified crop plants to their wild relatives will have little overall impact on human health or the environment, predicts a team of researchers in a report released today by the Council for Agricultural Science and Technology.

"Regulatory requirements and market standards that are specific to crops developed using biotechnology have resulted in much closer monitoring of gene flow than has been done in the past," said plant scientist Kent Bradford, a co-author of the report and director of UC Davis' Seed Biotechnology Center.

"After analyzing a wide range of crop-trait-location combinations, it was determined that relatively few of these combinations present the potential for gene flow to adversely affect the environment or human health," Bradford said. "Gene flow within a given crop can result in economic impacts for specific markets but these can be managed through proven strategies that make it possible for genetically modified crops and nonbiotech crops to co-exist."

The full text of the paper "Implications of Gene Flow in the Scale-up and Commercial Use of Biotechnology-derived Crops: Economic and Policy Considerations," is available online at <http://www.cast-science.org>. The Council for Agricultural Science and Technology is an international consortium of 38 scientific and professional societies that assembles and interprets science-based information and disseminates it to the public.

## Nature Biotechnology 25, 1355 (2007)

### GM soybeans—revisiting a controversial format pp1351 - 1354

Irina V. Ermakova  
doi:10.1038/nbt1207-1351  
[Full Text](#) | [PDF](#)

### GM soybeans—revisiting a controversial format pp1354 - 1355

Brian John  
doi:10.1038/nbt1207-1354  
[Full Text](#) | [PDF](#)

### GM soybeans—revisiting a controversial format p1355

Mae-Wan Ho and Peter T Saunders  
doi:10.1038/nbt1207-1355a  
[Full Text](#) | [PDF](#)

### GM soybeans—revisiting a controversial format p1355

Carlo Leifert  
doi:10.1038/nbt1207-1355b  
[Full Text](#) | [PDF](#)

### GM soybeans—revisiting a controversial format pp1355 - 1356

Jack A Heinemann and Terje Traavik  
doi:10.1038/nbt1207-1355c  
[Full Text](#) | [PDF](#)

### GM soybeans—revisiting a controversial format p1356

Joe Cummins  
doi:10.1038/nbt1207-1356a  
[Full Text](#) | [PDF](#)

### Response to GM soybeans—revisiting a controversial format pp1356 - 1358

doi:10.1038/nbt1207-1356b  
[Full Text](#) | [PDF](#)

### Response to GM soybeans—revisiting a controversial format pp1359 - 1360

doi:10.1038/nbt1207-1359  
[Full Text](#) | [PDF](#) | [Supplementary Information](#)

## Intellectual Property Management in Health & Agricultural Innovation

The IP Handbook and Executive Guide, a testament to the committed, excellent work of MIHR, PIPRA, and bioDevelopments-International Institute; will be of interest to many EFB members Visit [www.ipHandbook.org](http://www.ipHandbook.org) to see it, understand it, and be a part of it

## Events

### November 2007

#### Policy strategy seminar "Knowledge for Growth" 7 November Brussels

The summary and specific contributions from speakers and participants are available.

December 2007

#### 4 December: BioEthics conference, Brussels

For more information, please contact EuropaBio's [Adeline Farrelly](#) or visit the website by clicking [here](#).

#### 4 December: EPPOSI workshop on patients safety, Luxembourg

This workshop concerns "Best Practices on Communicating risks and the Value of Safety to Patients with Chronic Diseases".

To learn more, contact [giovanni.asta@epposi.org](mailto:giovanni.asta@epposi.org).

#### 7 December: France Biotech holds hearing on the Value of Research

For more information, please click [here](#) to visit the website.

#### 7 December: Expert Meeting on Jatropha, Brussels

The tropical shrub *Jatropha curcas* is an oil crop that raised interest in several

tropical regions over the world. The oil from the seeds can be processed for different purposes from biodiesel production to fine chemicals or pharmaceuticals. The remaining press cake contains two different toxins. Before it can be used as animal feed detoxification is necessary. However, in the centre of origin, in Latin America less toxic varieties exist, which could be used in a breeding programme.

## **January 2008**

### **14-15 January 2008; Plant International Meeting 2008; Angers, France**

Value Creation. R&D, intellectual property, market needs, route to market, promotion will be the issues developed at this meeting. For more information please contact Nadia Chibouti, [n.chibouti@ouest-atlantique.org](mailto:n.chibouti@ouest-atlantique.org)

### **BIO-Asia 2008 [Register here!](#)**

[> Click here for Japanese language brochure](#)

The Biotechnology Industry Organization (BIO) is proud to announce the **fifth annual BIO-Asia Partnering Conference**, January 28-29, 2008, in Tokyo, Japan at the Grand Hyatt Tokyo. This exclusive, customized partnering forum brings together biotechnology and pharmaceutical companies from North America, Europe and the Asia Pacific region to explore doing business together. In 2007, BIO-Asia attracted 500 participants representing more than 270 companies from 25 countries.

The conference format features private, pre-arranged one-on-one meetings between senior-level executives and is an unrivalled opportunity to meet with the leading international pharmaceutical and biotech companies in one place at one time.

## **February**

The University of Miami, Nature Publishing Group and Scripps Florida present Miami 2008 Winter Symposium

Regulatory RNA in Biology and Human Health

February 2-6, 2008 \* Miami Beach, FL

The 2008 symposium will look at our current understanding of the mechanisms of action and biogenesis of small regulatory RNAs and how this is being applied to create a new generation of therapeutics and diagnostics.

For more information visit:

<http://ealerts.nature.com/cgi-bin24/DM/y/hh4X0SoD1T0HjC0BahG0Er>

## **Eurofins International Seminar**

Feb. 20-22, 22, 2008, Paris, France

<http://quest.cvent.com/EVENTS/Info/Summary.aspx?i=42706fe1-41ac-4328-8784-0887f3377c77>

The programme of the 2008 eurofins international seminar has been updated. The agenda now features the names of the international expert speakers and the "hot" topics, all relevant to supply chain stakeholders, which will be addressed all along the plenary and breakout sessions.

Today biotechnology development is moving towards new food products addressing health, safety, and nutrition. Such products will co-exist with traditional and organic products. Therefore, handling and managing such systems will require multidisciplinary competences and expertise. The aim of the annual symposium from now on is to cover all these topics and provide delegates with an update on recent developments in analytical expertise in seed, feed and food safety.

## **March 2008**

6-8 March; European Course for Life Sciences Executives (ECLE); Basel,

## Switzerland

ECLE is conceived as an interactive Course for Life Sciences managers who prepare for leadership positions and, therefore, seek an intensive preparation and repetition for how to effectively run a successful enterprise or department. For more information, please visit: [www.ecpm.ch/eclc](http://www.ecpm.ch/eclc)

### **12-14 March: BioSquare 2008; Basel, Switzerland**

The three-day event features a full program including panels and workshops led by corporate executives and biotech experts. BioSquare also features a company presentation track including not only the up and coming biotech companies but also the largest Life Sciences companies presenting their in/out licensing strategies. For more information, please visit: <http://www.biosquare.com/>

### **April 2008**

**17-19 April; European Course for Life Sciences Executives (ECLE); Basel, Switzerland**

### **May**

#### **Analysis of microbial cells at the single cell level III**

This meeting will be held at Elbresidenz, Bad Schandau, (near Dresden) in Germany from 22 to 25 May 2008. The meeting is being organised by Susann Mueller, with help from Hazel Davey. Details of the programme, invited speakers, registration and call for abstracts are available on <http://qbab.dbs.aber.ac.uk/sc2008/>

Submission of abstracts is open until 31 January 2008.

### **June**

#### **Forthcoming Workshops:**

- EC-US Workshop on nanobiotechnology  
June 3-4, 2008, Joint Research Centre - Ispra, Italy

### **September**

#### **Recombinant Protein Production V (RPP V)**

The follow-up conference of this series will be held on Sardinia, Italy, at the Porto Conte Bay near Alghero, from 24-28 September 2008. The meeting is being organised by Enrico Berardi, with help from Jeff Cole, Diethard Mattanovich and Guido Grandi. The programme has been detailed, speakers are currently being invited, and registration will be opened soon. Potential participants are advised to check the website frequently as the meeting has to be strictly limited to 220 participants and is expected to be overbooked. Web address: [www.ing.univpm.it/rpp2008/](http://www.ing.univpm.it/rpp2008/)

## Global

### **Organic agriculture can contribute to fighting hunger But chemical fertilizers needed to feed the world**

10 December 2007, Rome –

FAO has no reason to believe that organic agriculture can substitute for conventional farming systems in ensuring the world's food security, Dr. Jacques Diouf, FAO Director-General, said here today.

<http://www.fao.org/newsroom/en/news/2007/1000726/index.html>

## Europe - EU

### **Innovative Medicines Initiative (IMI)**

The Innovative Medicines Initiative is a unique Public-Private Partnership (PPP) between the pharmaceutical industry represented by the European Federation of Pharmaceutical Industries and Associations (EFPIA) and the European Communities represented by the European Commission.

### **Albania joins EU research programme**

Today, Albania will sign a Memorandum of Understanding (MoUs) with the European Commission allowing it full participation in the EU's Seventh Research Framework Programme (FP7). "Associated status" allows Albania to participate in all calls for proposals and compete on an equal footing with the EU Member States for research co-operation and support actions funded by FP7, as of 1 January 2008.

### **A Health European research project offers new insight into the cardiovascular diseases process.**

Two European researchers, Giovanni Davi and Carlo Patrono, have been able to demonstrate persistent platelet activation in association with major cardiovascular risk factors, including diabetes mellitus and visceral obesity. Platelets play a key role in atherothrombosis. Antiplatelet therapy can reduce vascular mortality and prevent stroke recurrence by about a quarter.

### **Big differences still exist between Member States in attitudes to science in the media**

While the public in Member States that were part of the EU before 2004 are generally open to science news, with more than 62% saying that they are interested in scientific research, this figure falls to just 38% for those Member States that joined since 2004. The differences range from 80% in Sweden to just 24% in Bulgaria. This is just one of the findings in a new Eurobarometer survey on scientific research in the media.

### **European Researchers' Night 2008**

- Information on how to apply for the European Researchers' Night 2008.

### **EU Commission sends proposals to ministers for authorisation of GM potato, maize**

Forbes, Dec. 18, 2007

<http://www.forbes.com/markets/feeds/afx/2007/12/18/afx4451484.html>

BRUSSELS - The European Commission said it has transmitted proposals to ministers for the authorisation of four genetically modified (GM) maize and potato products.

This is the next step in procedure following the failure of the commission's standing committee on the food chain and animal health -- which comprises officials from all EU member states -- to reach a definitive opinion either for or against the proposed authorisations on Oct 10.

The four GM maize products, produced by US biotech group Monsanto (nyse: MON - news - people ) Corp, are hybrids, produced from combinations of GMOs already authorised at European level. The proposal is to authorise them for food and feed use and for import and processing, but not for cultivation.

The GM potato 'Amflora', produced by German chemicals group BASF (nyse: BF - news - people ) AG, is genetically modified for a higher starch yield, and would be used primarily for industrial purposes. The by-products from the industrial processes would also be allowed for use for animal feed.

### **Directive action required**

**Nature 450, 921 (13 December 2007) | doi:10.1038/450921a;**

**Published online 12 December 2007** - Editorial

## Abstract

Europe's handling of applications to grow genetically modified crops amounts to bad governance.

It took many years of acrimonious debate for the European Union (EU) to agree a directive regulating the cultivation of genetically modified (GM) crops. In many member countries, the public was ready to accept genetic technologies in the service of medicine but not, as they saw it, in the service of the agricultural industry. That industry, aggressively in favour of GM crops, continues to be powerful and influential. European publics remain strongly opposed.

There was extensive consultation in formulating the directive, and science was recruited in support of each side. But six years after it was passed, not a single application has been approved for cultivation. Many EU countries are showing their continuing distaste for GM crops by refusing to grow the only one currently approved (authorized before the new rules came into effect), Monsanto's MON810 insect-resistant maize (corn). And last month, environment commissioner Stavros Dimas prepared to reject applications for two varieties of insect- and herbicide-resistant maize, from Syngenta and Pioneer Hi-Bred International, by inappropriately overturning the recommendation of his scientific advisers ([see page 928](#)).

This all highlights the problematic framework within the EU bodies. The approval process calls on the commission to make a science-based decision, gives member states the chance to decide politically on that science-based decision and then, if they can't agree, leaves the final decision entirely up to the commission. In the current cases, the commission is at war with itself, with powerful commissioners such as those for agriculture and industry trying to get Dimas to change his mind and recommend approval of the two crop varieties.

Dimas has misused science to tip the balance of his analysis of risks and benefits with which he justified his decision. Central to the process is the European Food Safety Authority (EFSA), which operates independently of the commission and the member states, and is mandated with securing independent scientific advice for them. Dimas is free to seek further, or even alternative, scientific advice. But his draft decision cites 11 papers purportedly demonstrating environmental risk that were published during the shamefully long period that the EFSA's report sat on his desk, without evaluating them in the context of the body of scientific literature. He has declined to respond to questions about how this selection of publications was made. This is neither in the letter nor the spirit of the directive. His decision to say 'no', where the EFSA said 'yes', is a political, not a scientific, move.

At this point, whatever the commission proposes in terms of these two crop applications, the member states are unlikely to be able to decide with the necessary majority one way or the other. And so the infighting commission will make the final decision.

The directive needs to be revised to ensure that the checks and balances put in place to reassure opponents, while not crushing innovation, cannot be abused by the political motives of one side. Most importantly, scientific input must be handled appropriately. So the proposal of German agriculture minister Horst Seehofer for a single agency dedicated to such tasks, which makes decisions based only on science and does not need to send every application for individual political approval, makes sense. This won't happen soon given the politics, but there is every reason to support the idea.

Scientific input must be handled appropriately.

Scientists and others cannot reiterate too often that crops optimized to particular environments by genetic enhancement will be of significant benefit to societies in rich and poor countries, for example by increasing yields, allowing crops to grow in poorly fertile regions and reducing the amount of external chemical control required to maintain a healthy crop. The available evidence indicates that their potential for damaging the environment is small. Rigorous science-based risk assessment is likely to favour the cultivation of GM crops, subject to appropriate surveillance.

But whatever science indicates, member states want to protect their veto rights on crop applications because of opposition to GM crops by their publics. Benefits from the technology can be expected to become more apparent, for example in cheaper and better foods, or locally grown foods that help prevent famine. Until that time, advocates will need to persist against a strong political tide. Meanwhile, a directive that makes the fate of such crops dependent on the conflicted perspectives of individual commissioners is failing and needs repair.

### **Stavros Dimas suggest to ban Bt corn**

<http://www.iht.com:80/articles/2007/11/21/business/GMO.php>

European Union environment officials have determined that two kinds of genetically modified corn could harm butterflies, modify food chains and disturb life in rivers and streams, and they have proposed a ban on the sale of the seeds, which are made by Pioneer Hi-Bred, Dow Agrosiences and Syngenta.

The preliminary decisions, seen by the International Herald Tribune, are circulating within the European Commission, the EU executive, which has the final say. Some officials there are skeptical about a ban that would upset the powerful biotechnology industry and could exacerbate tensions with important EU trading partners like the United States.

In the decisions, the EU environment commissioner, Stavros Dimas, says that the genetically modified corn, or maize, seeds - which are not now available on the European market for cultivation - could affect certain butterfly species, specifically the monarch, and other beneficial insects. For instance, research from 2007 indicates that larvae of the monarch butterfly exposed to the genetically modified corn "behave differently than other larvae."

### **EU 'wasting' cash on lobby groups**

Simon Cox, Radio 4 (BBC), Dec. 6, 2007

<http://news.bbc.co.uk/1/hi/world/europe/7127182.stm>

The European Commission is giving millions of pounds of taxpayers' money to environmental campaigners to run lobbying operations in Brussels, the BBC has learned.

Among the organisations to benefit is Friends of the Earth Europe (FoE), which received almost half of its funding from the EU in 2007.

Siim Kallas, a vice president of the Commission in charge of the EU's anti-fraud operations, told Radio 4's The Investigation he had been assured this funding was not taking place.

He said: "The European Commission is not financing anybody to lobby ourselves - nobody is supported just for being there."

'A bit schizophrenic'

But the EC Environment Directorate has said it does give money to

environmental groups to lobby. It says this is an attempt to put such groups on an equal footing with corporate lobbyists in Brussels, although it has admitted this is "a bit schizophrenic". In 2006 the EU gave more than 7.7m euros (?5.5m; \$11.2m) to at least 40 environmental organisations to help them lobby in Brussels.

### **EU finds Bayer's biotech rice safe**

Jacqui Fatka, Feedstuffs, Dec. 6, 2007

The European Food Safety Authority has declared Bayer Ag's biotech rice variety LLRice62 (LibertyLink) safe, following a report released by its Scientific Panel on Genetically Modified Organisms. The report concluded that "LLRice62 is unlikely to have any adverse effect on human and animal health or on the environment in the context of its intended uses." The European Commission has yet to decide whether to allow the rice into the European market. Because of the lengthy EU approval process, it is unknown whether the product would even be introduced. LLRice62 is tolerant to herbicide and is the first rice product to receive EFSA's scientific approval.

### **EU decision on GMO testing opens door for U.S. rice**

Lisa Shumaker, Reuters, Dec. 20, 2007

<http://www.reuters.com/article/rbssHealthcareNews/idUSN2020353820071220>

CHICAGO - A decision to stop testing U.S. rice for genetically modified traits when it arrives at its destination should help restore trade with the European Union, which has virtually stopped since August 2006, said U.S. rice traders on Thursday.

The EU Standing Committee of the Food Chain and Animal Health made the decision on Thursday and it could take effect as early as mid-January.

[ID:nL20887446]

"It is a good sign. There's been a bit of a pickup in shipments going there," said Neuman Coleman, an analyst and rice broker in Brinkley, Arkansas. "It's all proven to be GMO free. This is another positive step."

The discovery in August 2006 of the LibertyLink trait, developed by Bayer CropScience, a division of Bayer (BAYG.DE: Quote, Profile, Research), in commercial supplies triggered a disaster for the U.S. rice industry.

The industry quickly moved to stop planting of the varieties identified as having the GMO trait, which resulted in less than 0.5 percent of this year's crop being affected, according to USA Rice Federation, a trade organization.

"The decision opens the door," said David Coia, spokesman for USA Rice. "Now, another layer of work begins where we have to begin to rebuild the market. This certainly helps tremendously."

A U.S. government investigation was unable to determine how the biotech rice entered the commercial supply chain. The GMO strain has gotten U.S. approval but no GMO rice is authorized for import or sale in the 25-member European Union.

### **EU caught in quandary over GMO animal feed imports**

Jeremy Smith, Guardian Unlimited (UK), Dec. 7, 2007

<http://www.guardian.co.uk/feedarticle?id=7134548>

BRUSSELS - Europe faces a stark choice between empty supermarket shelves or feeding its animals so long as it keeps up a slow rate of approving new genetically modified (GMO) crops suitable for feed use, industry sources warn.

EU feedmakers have long complained of problems sourcing raw material,

warning that the consequences of Europe's extreme caution and "zero tolerance" of unauthorised GMOs, even in tiny amounts, could be catastrophic for the food and feed sectors.

"Consumers may have to face empty shelves as certain food ingredients used in many processed foodstuffs ... could become unavailable," EU industry body FEFAC said on its website. "EU livestock producers could be out of business overnight should soybean meal become unavailable due to the presence of such traces, with no alternative supplies," it said.

## Europe

### **DG Research publishes EuropaBio position on biofuels**

Biofuel targets not possible without biotech, says EuropaBio

[http://www.europabio.org/positions/Biofuels\\_EuropaBio%20position\\_Final.pdf](http://www.europabio.org/positions/Biofuels_EuropaBio%20position_Final.pdf)

Cultivating energy crops on set-aside and non-cultivated land will contribute to meeting the EU's biofuel targets, but alone will not be sufficient. The solution is increasing output per hectare and boosting crop quality through plant science, according to EuropaBio, the EU association for bioindustries.

In the integrated energy and climate change package proposal, endorsed by EU Heads of State and Government earlier this year, the Commission set the ambitious goals of increasing biofuel use in the EU to 5.75% by 2010 and 10% by 2020.

In order to meet these targets, the EU must turn to biotechnology, claims EuropaBio. Biotechnological techniques can be used to:

- increase biomass yield per hectare while reducing the needs for production inputs;
- improve crop quality so that they offer more fermentable carbohydrates or higher oil content;
- make it easier to grow energy crops in areas with marginal conditions;
- develop efficient micro-organisms and enzymes to convert (hemi)cellulose to sugars, which can then be fermented into biofuel;
- convert agricultural waste into biofuels.

### **Guardian says Brussels and US deal will bring huge expansion in biodiesel**

<http://www.guardian.co.uk/business/2007/oct/26/usnews.energy>

The EU and America are expected to agree international standards for trading biofuels that could see a huge expansion in the global market for alternative sources of power senior US diplomats said yesterday. C Boyden Gray, US ambassador to the EU, said he expects the two sides to signal the adoption of "pretty firm" international standards at a meeting of the new Transatlantic Economic Council (TEC) in Washington on November 9. These could be fully adopted by the end of the year.

### **France Suspends Commercial GMO Seed Use, Studies Safety**

Tamora Vidaillet and Valerie Parent, Reuters via PlanetArk, Dec. 7, 2007

<http://www.planetark.com/dailynewsstory.cfm/newsid/45840/story.htm>

PARIS - France formally suspended on Thursday the commercial use of genetically modified (GMO) seeds in the country until early February and ordered a biotech safety study.

The future of GMOs has long been the subject of heated debate in France -- Europe's top grain producer -- and the country's reluctance to use GMO crops

compares starkly with the United States, which is far more tolerant of the technology.

The French agriculture ministry said it had charged a newly set-up committee with assessing the environmental and health implications of using GMO seeds reliant on the MON 810 technology developed by US biotech giant Monsanto.

"As a result, there is a need to suspend the end-use of MON 810 maize seeds and related sales while awaiting the results of this mission," it said in a circular.

Thursday's formal suspension until February 9 at the latest, when parliament is slated to vote on a new biotech law, only concerns MON 810 maize, as it is the sole GMO technology permitted for cultivation in France and the European Union.

Pro-GMO farmers have urged Paris to speed up plans to create a higher GMO authority and pass a biotech law well before April in the hope that the dispute can be settled and MON 810 seeds can be bought well in time for the next sowings.

### **France Says to Extend GMO Ban Unless Proven Safe**

Sybille de La Hamaide, Reuters via Planet Ark, Dec. 20, 2007

<http://www.planetark.com/dailynewsstory.cfm/newsid/46133/story.htm>

PARIS - France will extend its ban on the use and sale of the only genetically modified crop grown in the country unless a newly set-up committee on GMOs can prove it is safe, senior government officials said on Wednesday.

France said this month it was suspending the commercial use of maize seeds using MON 810 technology developed by US biotech giant Monsanto until Feb. 9. This would give it time to look into the environmental and health implications of its use. Concrete results, expected ahead of schedule, on Jan. 11 would shape government decisions on the use of MON 810, French Environment Minister Jean-Louis Borloo told a news conference.

"The decree to suspend (GMO use) will shift to a safeguard clause if opinion reflects reservations," said Nathalie Kosciusko-Morizet, the secretary of state for ecology. "Otherwise, the decree will be lifted if opinion proves extremely positive in favour of the (MON) 810."

### **Germany Ends Ban on Monsanto GMO Maize Type**

Michael Hogan, Reuters via Planet Ark, Dec. 7, 2007

<http://www.planetark.com/dailynewsstory.cfm/newsid/45841/story.htm>

HAMBURG - A temporary sales ban on US biotech giant Monsanto Co.'s genetically modified (GMO) MON810 maize was lifted after the company agreed to extra crop monitoring in Germany, German authorities said on Thursday. Germany had in May this year imposed a temporary ban on commercial sales of MON810 citing concerns about safety of the maize (corn), which is resistant to several types of butterflies which are pests to the grain in Europe.

The German government's consumer protection and food safety agency said in a statement on Thursday the ban had been ended after Monsanto had agreed and submitted an additional monitoring plan for commercial cultivation of the maize in Germany.

A spokesman said the decision had immediate effect.

### **Agriculture biotechnology-free zone**

PORTUGAL -- Portuguese authorities just established their first agriculture biotechnology-free zone. The Portuguese Ministry of Agriculture, Rural

Development and Fisheries reportedly claims that the biotechnology-free declaration is the first of its kind in Europe in that it is based on an European Union-approved national legislation. Farmers in the zone produce mostly citrus so the declaration appears to be more symbolic, possibly an enticement by the local authorities to bring in more Northern tourists.

Read This Report: <http://www.fas.usda.gov/scripts/gd.asp?ID=146292979>

### **Ukraine adopts law on biosafety in creating, testing, transporting and using GM organisms**

Black Sea Biotechnology Association (press release) via Seedquest, Dec. 21, 2007

<http://www.seedquest.com/News/releases/2007/december/21298.htm>

Ukraine has adopted its Law «On the State System of Biosafety in Creating, Testing, Transporting and Using Genetically-Modified Organisms», which regulates relations between executive authorities, manufacturers, vendors (suppliers), developers, researchers, scholars and consumers of genetically-modified organisms and products manufactured by technologies envisaging their development, creation, testing, study, transportation, import, export, marketing, discharge to the environment and use of genetically modified organisms in the Ukraine, and ensuring biological and genetic safety. The Law shall not apply to humans, tissues and individual cells being part of a human body. The text in the Ukrainian, English (informal translation), and Russian (informal translation) languages is available.

Since November 1<sup>st</sup>, 2007 Ukraine also enforced the Government's Decree #985 from August 1<sup>st</sup>, 2007 «On Matters Related to the Circulation of Food Products Containing Genetically Modified Organisms and/or Microorganisms», which enacts compulsory labelling of such products and bans "import, manufacturing, and sales of children's food products containing genetically modified organisms and/or microorganisms". According to the text of the resolution such measures are taken "...in order to bring Ukrainian laws into compliance with the standards of the European Union".

The text of the law can be found at <http://www.bsbanet.org/ukraine.php?ln=en>

## **Russia**

### **Registration Procedure for GMO Feeds**

RUSSIAN FEDERATION -- This report provides an unofficial translation of the procedure to register feeds produced from genetically modified organisms (GMOs). In accordance with the resolution of the Russian Government that transferred the testing and registration of biotechnology feeds from the Ministry Of Agriculture to the Federal Service for Veterinary and Phytosanitary Surveillance (VPSS), VPSS developed the administrative statute (procedure) for registration. The draft was posted on the Ministry of Agriculture's website for comments and discussion at the end of August 2007. Sources report that VPSS has already accepted applications based on the procedures described in the draft.

Read This Report: <http://www.fas.usda.gov/scripts/gd.asp?ID=146292888>

### **Federal Law sets Biotech Labeling Threshold at 0.9 Percent**

RUSSIAN FEDERATION -- On October 25, 2007, Russian President Vladimir Putin signed Federal Law #234-FZ titled "On Amendments to the Federal Law of the Russian Federation On Protection of Consumer Rights" and to the "Second Part of the Civil Code of the Russian Federation". Russia's new law is consistent

with European Union regulations, and raises the threshold for mandatory labeling of food ingredients made from genetically engineered material (GMOs) to 0.9 percent. Prior to the amendment, trace amounts of GMO food ingredients required labeling.

Read This Report: <http://www.fas.usda.gov/scripts/gd.asp?ID=146292887>

## Africa

### **Algeria and China forge scientific partnership**

<http://www.scidev.net/News/index.cfm?fuseaction=readNews&itemid=4089&language=1>

Algeria and China signed an agreement last week to collaborate in agricultural science and desertification.

## America

### **Association of farm management practices with risk of Escherichia coli contamination in pre-harvest produce grown in Minnesota and Wisconsin.**

Avik Mukherjee, Dorinda Speh and Francisco Diez-Gonzalez, International Journal of Food Microbiology (Vol. 120 no. 3, pp. 296-302, doi:10.1016/j.ijfoodmicro.2007.09.007), Dec. 15, 2007

The use of animal wastes for fertilization of produce plants increased the risk of E. coli contamination in organic (OR = 13.2, 95% CI = 2.2-61.2, P-value < 0.0001) and semi-organic (OR = 12.9, 95% CI = 2.9-56.3, P-value < 0.0001) produce significantly. Improper ageing of untreated animal manure significantly increased this risk in organic produce (OR = 4.2 95% CI = 1.7-12.3, P-value = 0.005) grown using such manure as a fertilizer. Organic growers who used cattle manure for fertilization of their crops showed significantly greater risk of contamination with the E. coli (OR = 7.4, 95% CI = 1.6-36.8, P-value = 0.003), compared to those who used other types of manure-based fertilizer.

### **GM wheat future**

Dale Hildebrant, Farm & Ranch Guide, Dec. 20, 2007

[http://www.farmandranchguide.com/articles/2007/12/20/ag\\_news/production\\_news/farm13.txt](http://www.farmandranchguide.com/articles/2007/12/20/ag_news/production_news/farm13.txt)

Wilson, a professor of Agricultural Economics at North Dakota State University who has done extensive research in cereal grains, expects the first use of biotech wheat will probably come from a country like Australia, where drought is a regular occurrence. In fact, they are in their second year of field trials in the province of Victoria and have spent around \$30 million in GM (genetically modified) wheat research in the area of drought resistance. According to Wilson, work in biotech wheat in the U.S. is being focused in three areas - Roundup Ready wheat, Fusarium resistant wheat, and drought resistant wheat. However, none of those research efforts are even close to being ready for the market place.

One of the reasons for the slow pace of biotech research work in wheat is the large costs involved and the shrinking acreages planted to wheat, thereby making it more difficult to recoup the research expenses. Wilson figures that at this time, researchers in the U.S. have expended more than \$62 million for biotech Fusarium resistant wheat and \$41 million in Roundup Ready wheat, both of which are still in the developmental stage.

There is also reluctance to start using GM wheat unless the entire list of end users agree to use it, Wilson noted. "I was pretty appalled at the lack of understanding by these companies about biotech issues.

Finally, Wilson noted, any segregation and traceability program that becomes necessary in the U.S. because of GM wheat will need to be initiated by the buyers. "Sellers can't do that, farmers can't do that, the trade associations can't do that," he said. "It's the end user who has to define the protocols of the product he wants to buy of specified varieties and specified traits."

### **Biotechnology driving U.S. farm growth**

Roy Roberson, Southeast Farm Press, Dec. 13, 2007

<http://southeastfarmpress.com/grains/121307-biotechnology-agriculture/>

Nationwide farm equity has risen over \$200 million per year for the past five years. The farm to debt ratio is at its lowest ebb in over 45 years. Though the profitability has been redistributed somewhat to grain crops in the past two years, the whole arena of biofuel productions offers new options to many farmers.

The U.S. produces over half the worldwide acreage of bioengineered crops (135 million acres). In the U.S. 90 percent of the soybean crop, 85 percent of cotton and 50 percent of field corn is bio-engineered or genetically manipulated organisms (GMO). Worldwide 60 percent of soybeans and 28 percent of cotton are GMO varieties.

Regardless of the location, farmers have found some uniform benefits to using GMO varieties. These plants require less total pesticide, allow farmers to plant more acreage with less labor and equipment, better pest management, and more economic gain to the farmer, despite the high price of GMO seed.

### **Duty-Free US Corn Imports Force Mexico GMO Debate**

Mica Rosenberg, Reuters via Planet Ark, Dec. 21, 2007

<http://www.planetark.org/dailynewsstory.cfm/newsid/46146/story.htm>

SAN SALVADOR EL SECO, Mexico - Cheap US corn will flood into Mexico in January when trade barriers are lifted, pitting local farmers against each other over how to protect the crop that has fed Mexico for thousands of years.

Mexican growers are debating whether to turn to genetically modified strains of corn to resist the US challenge, or to mechanize production but keep local corn strains GMO-free.

Either way, millions of Mexican farmers, many of them living just above subsistence, will struggle to compete with heavily subsidized US corn despite high international corn prices.

Corn tariffs have gradually been phased out since the trade deal was implemented in 1994, and imports of yellow corn from the United States to Mexico have skyrocketed by about 240 percent compared to the decade before NAFTA. Mexico imported over 7 million tonnes of US yellow corn in 2006.

Imported yellow corn, mostly used for animal feed, now accounts for close to 35 percent of local consumption and is likely to increase next year.

The biggest worry for Mexican farmers is that zero barriers could give US producers incentives to grow more white corn, Mexico's principal crop, which is used to make tortillas and other famed foods.

A law to allow experimental planting of GMO strains in northern Mexico was passed two years ago but was never signed. Agriculture Minister Alberto Cardenas said this week the law could go into effect in a matter of weeks. "We don't want to be behind. We have to start testing now," said Catalino

Flores, a geneticist working with Salazar's organization in San Salvador El Seco.

Corn yields in the United States can be more than three times those in Mexico, according to Mexican growers.

"There will be drought resistant corn in 5 to 10 years. If you don't plant something like that when everyone else is, you'll be down the drain," Flores said.

About half of US yellow corn sent to Mexico comes from genetically modified seeds. Mexico's agriculture minister reckons GMO seeds smuggled in from the United States are already being planted in northern Mexican states. But some farmers worry introducing that GMO seeds could contaminate hundreds of wild blue, red and multicolored corn varieties planted for centuries in Mexico.

The ancient Maya, who lived in southern Mexico over 1,000 years ago, believed the gods made men from maize. The plant was adopted over 500 years ago by Spanish conquerors and spread to the rest of the world.

However the debate plays out, the radical changes to the landscape of rural Mexico are already well underway.

Some 2 million farm jobs have been lost since NAFTA was signed, according to Mexico's National Employment Survey. Many farmers around San Salvador El Seco have left the land and emigrated.

"Now we are saving a lot of time but we are also losing a lot of jobs," said Martin Rodriguez, 57, marveling at a new machine recently brought to San Salvador El Seco that can harvest in one day what it would take a dozen workers two weeks to pick.

### **CANADA - Agricultural Biotechnology Report**

This report updates CA6036. 2006/2007 data on crop average sown and crop size dedicated to genetically modified varieties was largely unavailable. Data based on planting surveys suggest that the amount of acreage planted to GM corn and soybeans in Quebec and Ontario in 2007 increased from 2006 levels. In addition, the provincial acreage dedicated to GM crops has also increased in those provinces. In Western Canada, acreage seeded to canola in 2007 also increased from 2006 levels. Areas of this report have been updated to include data on crops submitted for regulatory approval, field trial submissions, and approved biotech crops.

Read This Report: <http://www.fas.usda.gov/scripts/gd.asp?ID=146292649>

## **China**

### **DuPont Joint Venture with Chinese Biotech Firm Strengthens Gene Discovery Research Efforts**

Partnership Will Focus on Identifying New Biotech Traits to Improve Farmer Productivity

BEIJING, China, Dec. 3, 2007 DuPont and Beijing Weiming Kaituo Agriculture Biotechnology Co., Ltd. (BWK) today announced the formation of a joint venture to accelerate the discovery of genes for high value agronomic traits such as stress tolerance and efficient nutrient utilization to improve the performance of important crops for farmers in China and throughout the world. For DuPont, this marks another step toward the globalization of its R&D capabilities to accelerate new product launches and drive business growth for its worldwide seed business, Pioneer Hi-Bred. The financial terms of the agreement were not disclosed.

Peking University and its affiliate, Peking University Weiming Biotech Group Co., Ltd., are significant participants in the joint venture through an ownership stake in BWK.

"China has emphasized that its growth efforts need to place a greater emphasis on sustainability and the environment," said Douglas Muzyka, president of DuPont Greater China and Du Pont China Holding Co., Ltd. "Clearly, DuPont's core values and global strategies for growth align with China's vision to develop its agricultural sector and overall economy. This research-focused joint venture will allow us to develop more sustainable technologies to address the global challenges of improving agricultural economics - enhancing farmers' quality of life and securing the world's food supply on a decreasing amount of cultivatable land."

### **Quality and quantity: China-CIMMYT wheats take prize**

<http://www.cimmyt.org:80/english/wps/news/2007/dec/china.htm>

The three varieties were sown cumulatively on more than 8.0 million hectares in China during 2002-2006, adding an additional 2.4 million tons of grain to Chinese wheat production and some USD 411 million to wheat farmers' incomes, according to analyses by the Agricultural Economy and Development Institute of CAAS. "Farmers benefited by an additional USD 101 million in quality-based premiums," says He, "and USD 8 million more was generated through marketing seeds of these varieties. Finally, the improved quality of these wheats has greatly benefited the milling and food industries."

Chinese and CIMMYT wheat researchers have carried on joint research since the early 1970s, helping both parties to develop varieties with enhanced disease resistance and higher yields, among other traits. CIMMYT has contributed particularly to the quality of Chinese wheats. Two of the varieties emerging from the work described above were improved for grain quality through cross-breeding with the CIMMYT wheat genotype Saric F74. The breeder who developed them, Liu Jianjun, attended CIMMYT training courses and did his MSc thesis on noodle quality under the supervision of He and of Roberto J. Peña, head of industrial quality at CIMMYT. CIMMYT and China have jointly organized more than a dozen training courses, workshops, and conferences involving at least 1,000 Chinese researchers.

## **Asia**

### **Syngenta's Corn MIR604 Approved in PHILIPPINES –**

The Philippine Bureau of Plant Industry recently approved Syngenta's Corn MIR604 making it the 26<sup>th</sup> Transformation Event approved for food, feed and/or processing in the Philippines.

Read This Report: <http://www.fas.usda.gov/scripts/gd.asp?ID=146292988>

### **Biotech Forestry Suggests Genetically Engineered Trees**

Islam Online, Dec. 1, 2007

<http://www.islamonline.com/news/newsfull.php?newid=63168>

MANILA -- Whether we like it or not, genetically modified forestry will come to the Philippines.

Abraham Manalo, executive sdecretary of Biotechnology Coalition of the Philippines (BCP), made this prediction in a seminar on forestry biotechnology held at the Bureau of Plant Industry in Quezon City on Wednesday.

He urged the country to be ready for such an eventuality. The need for genetically engineered trees is forthcoming because the present forest condition

is in bad shape. This is a quick response to mitigate climate change, secure water reserve, develop livelihood for Filipinos, conserve biodiversity and produce biofuels, among others, he said.

In a paper presented in the forum, Dr. Saturnina Halos, BCP director for research, debunked the present fears on GMOs saying that forest modification is safe based on experiments that have been conducted. Some countries, notably, the United States, Papua New Guinea and Australia are already into genetic engineering of trees.

Scientists choose the traits that are beneficial such as insect- and disease-resistance of trees. Examples of popular trees mostly planted under experimental conditions are the falcata, gubas, narra and gemelina.

### **The high price of planting palm oil forests**

New data shows that massive amounts of carbon dioxide are being released from tropical Southeast Asian peatland after the conversion of natural swamp forest to oil palm or pulpwood tree plantations. The findings are in accordance with other recent reports on the growing negative environmental impacts of planting palm oil and pulpwood forests. Ironically, many experts believe that the oil palm plantations will release up to 30 times more carbon dioxide than the fossil fuels that they are supposed to replace. It has been estimated that producing 1 tonne of palm oil will cause carbon dioxide emissions of between 15 and 70 tonnes over each 25-year planting lifecycle due to forest clearance, fires drainage and peat decomposition.

[http://ec.europa.eu/research/infocentre/article\\_en.cfm?id=/research/headlines/news/article\\_07\\_12\\_21](http://ec.europa.eu/research/infocentre/article_en.cfm?id=/research/headlines/news/article_07_12_21)

## **Other**

### **Academy endorses GM crops**

Jewel Topsfield, The Age, Dec. 18, 2007

<http://www.theage.com.au/news/national/academy-endorses-gm-crops/2007/12/17/1197740182396.ht>

GENETICALLY modified crops will play a critical role in alleviating malnutrition, combating climate change and removing allergens from food - and the technology must be embraced in Australia, according to Australia's top scientists.

The prestigious Australian Academy of Science has released a statement strongly endorsing the controversial crops and claiming state-based legislation should be consistent with the national system.

"Sometimes the lack of full certainty, in an environment of manageable risk, should not be used as the reason to postpone measures where genetic modification can legitimately be used to address environmental or public health issues," the statement says.

### **High lysine corn gazetted**

New Zealand Food Safety Authority (press release) via Scoop, Dec. 20, 2007

<http://www.scoop.co.nz/stories/PO0712/S00273.htm>

High lysine corn is being gazetted today at 1pm. This corn is used as an animal feed, but it has had its safety assessed as if for human consumption. Food containing this GM variety can now be imported and sold in New Zealand, although such products would have to adhere to GM labelling requirements, says NZFSA Director (Joint Food Standards), Carole Inkster.

### **Successful third year field trial of Evogene's candidate gene for improving yield and abiotic stress tolerance**

*Three years of field trials of Evo133 consistently demonstrate yield increases of up to 25% under normal conditions and up to 20% under abiotic stress conditions*

Evogene, Ltd. (press release) via Seedquest, Dec. 19, 2007

<http://www.seedquest.com/News/releases/2007/december/21277.htm>

Rehovot, Israel - Evogene Ltd. (TASE: EVGN) today announced successful third year field trial results for Evo133, one of its candidate genes for improving plant yield and tolerance to abiotic stress conditions. Transgenic tomato plants over expressing Evo133 demonstrated an increase of up to 25% under normal conditions, and up to 20% under abiotic stress conditions compared to control plants under the same conditions. Results from this third field trial are consistent with two previous field trials conducted in 2005 and 2006.

## News in Science

### **An inducible transposon system to terminate the function of a selectable marker in transgenic plants**

Yuh-Chyang [Charnq](#)<sup>1</sup>, Kuan-Te Li<sup>1</sup>, Hung-Kuang Tai<sup>1</sup>, Na-Sheng Lin<sup>2</sup> and Jenn Tu<sup>2</sup>

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**Molecular Breeding**, 1380-3743 (Print) 1572-9788 (Online), DOI 10.1007/s11032-007-9137-3

<http://www.springerlink.com/80/content/6720mj4607787451/?p=3c79ad37742f4e4fa77130f361884de7>

Received: 5 June 2007 Accepted: 23 September 2007 Published online: 15 November 2007

**Abstract** Since the maize transposon Ac can move to a new location within the genome, it has been used in removing selectable markers in transgenic plants. In this paper, we developed an inducible transposon system to truncate a selectable marker in transgenic plants. In this system, the marker gene was accompanied by the inducible transposon, but one end of the transposon was located in the intron of the marker gene. As an example of a marker gene, we isolated the rice 5-enolpyruvylshikimate-3-phosphate synthase (epsps) and modified it for glyphosate tolerance. The transposon contained Ac transposase, which fused with the promoter of the inducible gene for pathogenesis-related protein 1a (PR-1a). This construct was engineered into an expression vector pCAMBIA1300, harboring a hygromycin-resistant gene. The construct was first transformed into rice calli, and transformed plants were selected on hygromycin-containing medium. The stably transformed calli underwent determination for normal transcripts and tolerance to glyphosate. The results were applied to a rice transformation with the same construct, but using glyphosate as the selective agent. By determining the transformation efficiency, T-DNA copy patterns, we demonstrate that the modified epsps could be a suitable selectable marker to create transgenic rice. Furthermore, after obtaining stable transgenic plants and inducing transposition by salicylic acid, the transposon was excised, the marker gene became truncated, and its expression was terminated. This strategy could be applicable to yield self-stabilizing transposon by locating the transposon's end in the transposase gene's intron.

Electronic supplementary material The online version of this article (doi:

[10.1007/s11032-007-9137-3](http://10.1007/s11032-007-9137-3)) contains supplementary material, which is available to authorized users.

### **MTT's barley gene transfer technique ready**

Checkbiotech, Dec. 3, 2007

[http://www.checkbiotech.org/green\\_News\\_Genetics.aspx?infoId=16312](http://www.checkbiotech.org/green_News_Genetics.aspx?infoId=16312)

MTT Agrifood Research Finland has introduced an Agrobacterium-mediated gene transfer technique for barley. Genetically modified barley is at the same time the main opening in plant gene transfer research at MTT.

Development of gene transfer methods forms part of the Disease Resistant Barley project, which provides genomic tools for managing and monitoring barley net blotch. The project, which started in 2005 and runs until 2011, is implemented in cooperation between MTT, the University of Helsinki, and Boreal Plant Breeding Ltd.

### **Chinese scientists: Cloned bamboo genes may mean more food for people**

China View, Dec. 6, 2007

[http://news.xinhuanet.com/english/2007-12/06/content\\_7209249.htm](http://news.xinhuanet.com/english/2007-12/06/content_7209249.htm)

BEIJING -- Scientists in east China said that they had succeeded in copying some genes of the bamboo plant, a development that they said could lead to better food supplies for people. Genetic material extracted last week from bamboo plants could delay the flowering and seeding phases of paddy rice, which could improve the crop yields and pest-resistance of a staple food for China's 1.3 billion people, the researchers said.

The experiment was the culmination of 10 years of research by Lin Xinchun, associate professor of Zhejiang Forestry College, and his colleagues.

The trigger for bamboo flowering, which occurs as part of the plant's natural life cycle every 60 to 120 years, has long confounded scientists. "Even if a scientist starts studying bamboo the moment he is born, the chance is rare for him to observe bamboo flowering," said Lin.

### **Fungal Symbiosis in Rice Requires an Ortholog of a Legume Common Symbiosis Gene Encoding a Ca<sup>2+</sup>/Calmodulin-Dependent Protein Kinase**

Caiyan Chen, Muqiang Gao, Jinyuan Liu and Hongyan Zhu, *Plant Physiology* 145:1619-1628 (2007)

<http://www.plantphysiol.org/cgi/content/abstract/145/4/1619>

In natural ecosystems, many plants are able to establish mutually beneficial symbioses with microorganisms. Of critical importance to sustainable agriculture are the symbioses formed between more than 80% of terrestrial plants and arbuscular mycorrhizal (AM) fungi and between legumes and nitrogen-fixing rhizobial bacteria. Interestingly, the two symbioses share overlapping signaling pathways in legumes, suggesting that the evolutionarily recent root nodule symbiosis may have acquired functions from the ancient AM symbiosis. The *Medicago truncatula* DMI3 (DOESN'T MAKE INFECTIONS3) gene (MtDMI3) and its orthologs in legumes are required for both bacterial and fungal symbioses. MtDMI3 encodes a Ca<sup>2+</sup>/calmodulin-dependent protein kinase (CCaMK) essential for the transduction of the Ca<sup>2+</sup> signal induced by the perception of Nod factors. Putative orthologs of MtDMI3 are also present in non-legumes, but their function in AM symbiosis has not been demonstrated in any non-legume species. Here, we combine reverse genetic approaches and a cross-species complementation test to characterize the function of the rice (*Oryza sativa*) ortholog of MtDMI3, namely, OsDMI3, in AM symbiosis. We

demonstrate that OsDMI3 is not only required for AM symbiosis in rice but also is able to complement a *M. truncatula dmi3* mutant, indicating an equivalent role of MtDMI3 orthologs in non-legumes.

Full text (.pdf): <http://www.plantphysiol.org/cgi/reprint/145/4/1619>

### **Moss Is A Super Model For Feeding The Hungry**

Science Daily, Dec. 14, 2007

<http://www.sciencedaily.com/releases/2007/12/071213152550.htm>

The moss *Physcomitrella patens* is a primitive plant, similar to the first plants which began to grow on land around 450 million years ago. The ability of mosses to survive severe dehydration and then regrow when watered could be of enormous use in crops grown in drought-stricken areas of the developing world.

Scientists from the University of Leeds, with colleagues from Germany, Japan and the USA, have sequenced the genome for *Physcomitrella* -- the first non-flowering or 'lower' plant to be sequenced -- and their findings are published in the December 14 issue of the journal *Science*. The moss is also able to integrate new DNA into a defined target in the genome -- unlike most plants which integrate new DNA randomly. This means that modification of the moss genome is far more controlled than with other plants and allows the moss to be adapted as a 'green factory' to produce pharmaceutical products.

*Physcomitrella*, with a genome of just under 500 million nucleotides and possessing nearly 36,000 genes (about 50% more than are thought to be in the human genome), is the first bryophyte to be sequenced. "The ease with which genes can be experimentally modified in *Physcomitrella* will facilitate a wide range of studies of the cell wall, the principal component of terrestrial biomass.

### **Nanotube-producing bacteria show manufacturing promise**

Nanotubes may have high-tech applications, study involving UCR engineers reports

University of California - Riverside (press release) via EurekAlert, Dec. 7, 2007

[http://www.eurekalert.org/pub\\_releases/2007-12/uoc--nbs120707.php](http://www.eurekalert.org/pub_releases/2007-12/uoc--nbs120707.php)

The team, including Nosang V. Myung, associate professor of chemical and environmental engineering in the Bourns College of Engineering, and his postdoctoral researcher Bongyoung Yoo, found the bacterium *Shewanella* facilitates the formation of arsenic-sulfide nanotubes that have unique physical and chemical properties not produced by chemical agents. Two members of the research team, Hor Gil Hur and Ji-Hoon Lee from Gwangju Institute of Science and Technology (GIST), Korea, first discovered something unexpected happening when they attempted to remediate arsenic contamination using the metal-reducing bacterium *Shewanella*. Myung, who specializes in electro-chemical material synthesis and device fabrication, was able to characterize the resulting nano-material.

The photoactive arsenic-sulfide nanotubes produced by the bacteria behave as metals with electrical and photoconductive properties. The researchers report that these properties may also provide novel functionality for the next generation of semiconductors in nano- and opto-electronic devices. In a process that is not yet fully understood, the *Shewanella* bacterium secretes polysaccharides that seem to produce the template for the arsenic sulfide nanotubes, Myung explained. The practical significance of this technique would be much greater if a bacterial species were identified that could produce nanotubes of cadmium sulfide or other superior semiconductor materials, he added.

Study results appear in today's issue of the early edition of the Proceedings of the National Academy of Sciences.

### **The majority of consumers view the development of nanotechnology favourably**

The BfR study does, however, reveal that the majority are against nanoparticles in food Newsfood.com, Dec. 19, 2007

<http://www.newsfood.com/Articolo/Internacional/20071219-majority-consumers-development-nanotech>

The majority of consumers view the development of nanotechnology favourably, however, many are against the use of nanoparticles in food, this is one of the results of a representative survey of 1,000 consumers commissioned by the Federal Institute for Risk Assessment (BfR) which has just been presented in Berlin. 66 percent of the respondents believe that nanotechnology offers more benefits than risks. But they do not accept nanotechnology to the same degree in all application areas. «We observed that consumers use emotional criteria rather than facts when judging nanotechnology. The so-called perceived risks play a major role in how consumers see the new technologies», said BfR President Professor Dr. Dr. Andreas Hensel. The study also revealed that over the last three years consumers have become far more familiar with nanotechnology. When it comes to seeking out information, they do not however place the same amount of trust in all information providers. The respondents felt that they got the most reliable information from consumer associations and the least reliable from politicians.

### **Arsenic threat in rice**

Reducing arsenic levels in rice through improved irrigation practices

19 December 2007, Rome – High levels of arsenic in rice could be reduced by applying improved irrigation management practices in Asia, FAO said today in a new report entitled [\*Remediation of Arsenic for Agriculture Sustainability, Food Security and Health in Bangladesh\*](#).

Bangladesh has the highest percentage of contaminated shallow tube wells and an estimated 30 million people are dependent on those wells for drinking water and irrigation. Of the four million hectares under irrigation, 2.4 million ha are irrigated with approximately 900 000 shallow tube wells. Approximately 95 percent of the groundwater extracted is for irrigation. Planting rice in raised beds around 15 centimetres above the ground and not in conventional flooded fields counteracted yield losses and resulted in lower arsenic levels in crops and in the soil, a pilot field study in Bangladesh conducted by FAO and Cornell University revealed. In addition, the raised bed rice buffers against floods and drought and serves as a measure in climate adaptation.

### **Research on how plants transport sugars.**

Krishna Ramanujan, Cornell University, Dec. 20, 2007

<http://www.news.cornell.edu/stories/Dec07/McCaskillPhloem.kr.html>

Using genetic engineering techniques, Cornell researchers have finally proven a long-standing theory of how plants ship sugars from their leaves to flowers, roots, fruits and other parts of their structure.

The theory of transporting sugar, the polymer trap model, was first proposed in 1991 by Robert Turgeon, Cornell professor of plant biology. He is also the senior author of the latest research published in the Dec. 4 issue of the Proceedings of the National Academies of Science. Ashlee McCaskill, Ph.D. '07, who worked in Turgeon's lab, is the paper's lead author.

Once in the phloem, molecules of sucrose polymerize to larger sugars, which

become too large to flow back into the leaf. The polymerized sugars are then forced to move away from the leaf to parts of the plant where they may be used or stored. Turgeon and McCaskill genetically engineered *Verbascum phoeniceum*, so that two genes involved with polymerizing sucrose into larger molecules were silenced. When they did so, sugars backed up in the leaves. When the sugars move out of the leaves, the rate of photosynthesis and carbon intake increases. If we could increase the plant's phloem-loading rate, the potential would be to increase photosynthetic rate and yield.

### **Sweet delivery – sugar translocators as ports of entry for antisense oligodeoxynucleotides in plant cells**

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<http://www.blackwell-synergy.com:80/doi/abs/10.1111/j.1365-313X.2007.03287.x>

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#### Summary

Antisense oligodeoxynucleotides (ODNs) are short (12–25 nt long) stretches of single-stranded DNA that may be delivered to a cell, where they hybridize to the cognate mRNA in a sequence-specific manner, thereby inhibiting gene expression. Here we used confocal microscopy to monitor the uptake and trafficking of ODNs in barley tissues. We conclude that uptake of ODNs across the plant plasma membrane is mediated by active transport of mono- or disaccharides through sugar translocators. We demonstrate that sugar transport can deliver ODNs to barley seeds, and that this strategy may be employed to suppress gene activity in endosperm cells by antisense ODN inhibition. We further found that sucrose compared favorably with oligofectamine as a vehicle for ODN delivery to human cells in a low-serum environment.

### **Robots can influence insects' behaviour**




[http://ec.europa.eu/research/infocentre/article\\_en.cfm?id=/research/headlines/news/article\\_07\\_12\\_07](http://ec.europa.eu/research/infocentre/article_en.cfm?id=/research/headlines/news/article_07_12_07)

Scientists have developed robot cockroaches that behave so realistically they can fool the real thing. They were created as part of an EU-funded study for testing theories of collective behaviour in insects, using groups of cockroaches as a model.

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