

Successful Plant ETP High-Level Conference Confirms Importance of Plant Innovation for European Agriculture

On 17th May 2011, the Plant ETP High-Level Conference *'How to Improve the Flow of Plant Innovation to the European Agriculture'* which took place in Brussels revealed that stakeholders ranging from academia to farmers agree on a need to "get our act together". Some ten areas for improvement were identified that included strategic public research, policies on new breeding technologies and protection of innovation, and measures to promote knowledge transfer. Central appears the need for the agricultural sector to improve its dialogue on these topics with society and policy makers.

The event brought together more than 100 leaders of European companies and organisations active in the plant-based agri-food chain, the main players from the academic world and the farming community, policy makers and administrators with responsibility for the EU's research and innovation funding schemes, including the Hungarian EU Presidency, the upcoming Polish EU Presidency, the Cabinet of the Commissioner for Research and Innovation, and high-level representatives of the European Parliament.



On invitation of the European Technology Platform 'Plants for the Future' (Plant ETP) whose major stakeholders are ESA (European Seed Association), EPSO (European Plant Science organisation), COPA-COGECA (the European farmers' and agricultural cooperatives organisation), Syngenta, BASF, Bayer, KeyGene, Limagrain, KWS, Nestlé and Südzucker, participants discussed practical possibilities to tackle the grand challenges while at the same time strengthening EU's competitive position in the agri-food



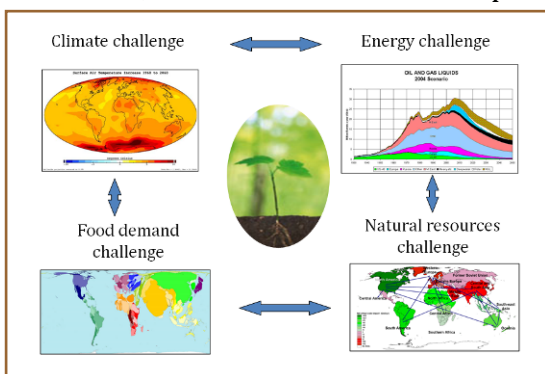
sector in an environmentally sustainable way. "We need to produce more and we need to produce better!" **Marc Cornelissen**, Chair of Plant ETP, brought forward that the European plant sector has a perspective to successfully address the challenges ahead. Plant sciences are rapidly developing applicability and lead to new product opportunities, new instrumentation,

new technologies and new work flows ready for adoption by the sector. Tackling the grand challenges requires a global competitiveness of the sector, and the question is whether Europe offers a supportive environment: are all stakeholders, including the society, aligned in the same direction? Do we speak the same language when different value chain participants talk to each other? Do we have the skill sets available at the right amounts? Are our policies and other instruments having the desired effect? Is our industry structure that combines numerous SMEs and few large global Ag players appropriate to address successfully the challenges ahead? Do we oversee the impact of global competition?

The plenary session offered a chance to hear the views from farmers, academia, industry, and policy makers. **Christian Pèes**, President of Euralis group and Vice-President of Copa, stressed that plants are the starting point of all downstream concepts and of all high value products. The European agriculture sector is vital for maintaining jobs for more than 40 million people and for economic growth in the European rural areas. Research and innovation to produce more and better while reducing the environmental footprint are vital for the productivity and economic competitiveness of European agriculture while addressing key challenges such as climatic change, drought resistance, water scarcity, the development of new pathogens and new diseases. Public fundings need to concentrate on the true needs of farmers in order for research to deliver added value to the European agriculture economy: knowledge-based agriculture, sustainable agriculture, agriculture integrated into the overall European economy. One of the bridges between farmers and research/innovation is experimental farming and this should be done as close as possible to the local conditions. Science has an essential role to play in agriculture and the scientific voice needs to be heard better when communicating the benefits to the society.



Uli Schurr, Vice-President of the European Plant Science Organisation, positioned plant research as the focal area for innovation: plants and sustainable plant production are at the centre of the global challenges. Research priorities for sustainable agriculture identified by the Plant ETP stakeholders are: (1) improvement of plant productivity and qualities; (2) reduction and optimisation of the environmental impact of agriculture; and (3) enhancement of biodiversity. Research may affect at multiple levels the development of new plant varieties and new or improved cultivation methods: through basic research, through discovery



research, through novel technologies and concepts (e.g. precision agriculture, predictive breeding, synthetic biology) and through integration/application of findings in other disciplines into the Ag-industry and farming. Therefore, plant sciences need in the short term to become part of new networks to secure a best use of advanced knowledge throughout the innovation pipeline. European plant scientists are providing new opportunities for innovation through a balanced process of curiosity-driven and strategic research, which are delivering knowledge to each other. They favour a better integration with industry and the farming community to translate knowledge to innovation. The joint management of funding opportunities between the farming community, industry and research has proven to be very efficient in other parts of the world: it gives the opportunity to set up a joint agenda and create a return on investment. European plant scientists are willing to contribute overcoming bottlenecks and hurdles in the innovation process and they are prepared to play their role in communication with public and politics.



Joachim Schneider, Head of BioScience at Bayer CropScience, outlined what is at stake for plant innovation in Europe from an R&D company's perspective. He reconfirmed that the global innovation drivers in plant production include addressing challenges in climate change, population growth, resource efficiency and economic stability and he postulated that a second green revolution is needed to reach the necessary productivity gains. In addition, plant innovation is a strong and credible source of economic, environmental and social benefits contributing to sustained growth. However today, Europe's farmers do not have access to the same plant innovations as their counterparts in the Americas and Asia competing to supply the world with sufficient and affordable food, feed, fibre and renewable resources. Whilst plant innovation thrives closer to accepting markets, embraced by pragmatic policies and inspired by increasing investments, Europe risks falling further behind.



Europe has today a competitive and collaborative environment that fosters partnering between large and small, private and public, academia and entrepreneurs. In principle, this creates the perfect condition for exchange of knowledge and skill sharing. Yet it is haunted by a long dark cloud of mounting cost and time to market that appear insurmountable and potentially spoil opportunities to deliver much needed technologies in, for example, wheat to farmers. An action-oriented stakeholder dialogue and a focus on promoting the benefits of plant innovation are needed to win support and appreciation from the European public. Our policy makers increasingly have a lot to answer for to enable plant innovation in Europe. Plant innovation in Europe requires support from modern breeding techniques, consistent and pragmatic policies and predictable intellectual property mechanisms recognising breeders' rights.

Patricia Reilly, member of the cabinet of Commissioner Geoghegan-Quinn for Research and Innovation, presented the plans to improve research and innovation in Europe. European agriculture is a topic of wide societal concern, not just in terms of farmers' income but in terms of the overall societal benefits. Today, it is right at the top of the political agenda and agriculture will grow in popularity in the agendas of the coming years. Agriculture is very intertwined with public goods and policies, i.e. it is a unique system delivering commercial products but also wider ecological and societal outputs. It is important that research questions address these manifold roles and thereby support the reform of the Common Agricultural Policy with its proposed increased focus on ecological services through agricultural activities. Research alone will not be sufficient to deliver innovations but needs to be part of a wider innovation strategy bringing together funding, policies, legislation and actors. Within Europe 2020, the flagship initiative on Research and Innovation, the Joint Programming Initiative and the up-coming Bioeconomy communication are considered to be an appropriate framework for action. It will help to mobilise effectively the various "knowledge" resources, engage into cross-sector partnerships between sectors, integrate various policies and translate inventions to deliver the appropriate innovations to meet the needs of current and future European agriculture. Agricultural research is particularly suited to benefit from these new instruments and approaches, since it is an area in which the innovation pipeline is very complex, requiring diverse knowledge delivery pathways and involving a wide range of private and public actors. The need for Europe to have a more predictable regulatory environment will be extremely helpful for the plant sector and we all have a role to play: the EC has a role to play in communications, so has the industry and all the other stakeholders. We all have a duty to educate and communicate in a balanced open and fair way the risks and benefits of the sector so that the public and by default the politicians who represent them can take decisions on the basis of facts and of balanced information.



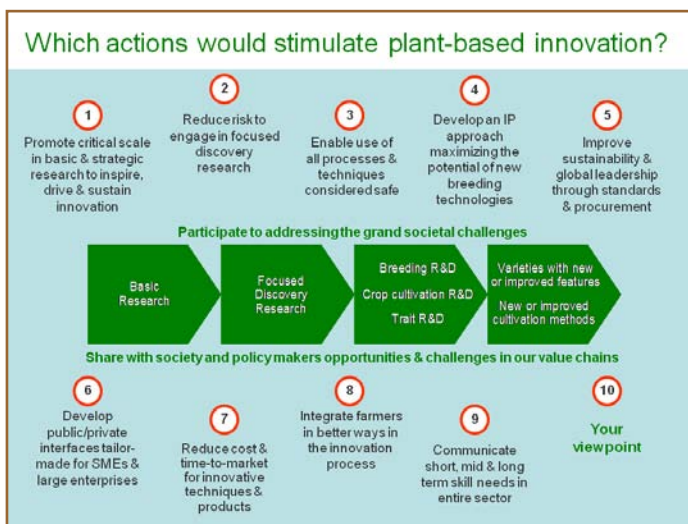
Sándor Fazekas, the Hungarian Minister for Rural Development, summarised the programme of the Hungarian Presidency to promote research and innovation in the agricultural sector. The role of agriculture in Europe has considerably changed over the past few decades, reflecting also the changes taking place in the European society and economy. The Common Agricultural Policy (CAP) post 2013 proposal of the Hungarian presidency received considerable success. The need for innovation is emphasized. Through innovation, the European agriculture will be able to meet the environmental and economic challenges. The CAP is an effective instrument to encourage innovation and application of results. Innovation must appear as an integrated tool in the future CAP and CAP should encourage the exchange of information between the different actors in order to ensure that scientists receive sufficient feedbacks from the field and understand farmers' needs. Agriculture is strategic for the EU and innovation is one of the most important sources for economic growth. Hungary has notified in its new constitution the necessity to prevent the spread of GMOs within the EU: maintaining agricultural biodiversity is essential and food products must be traceable. The Minister concluded that if Europe wants to be competitive at a global scale, high levels of investments and public private partnerships are key for research and innovation.



In the afternoon, a panel composed respectively for the farmers sector by **Jean-François Isambert** (Secretary General of the French wheat producers association and Vice-President of Copa-Cogeca working parties on cereals), for the academia sector by **Heribert Hirt** (President of the European Plant Science Organisation), for the plant breeding sector by **Christoph Amberger** (President of the European Seed Association), for the food industry by **Pierre Broun** (Head of Nestlé R&D Center Tours), for the processing industry by **Matthias Moser** (Head of Südzucker group Corporate R&D) and for the European Commission by **Timothy Hall** (Head of Unit, Agriculture, forest, Fisheries, Aquaculture, DG Research and Innovation) was invited to discuss on the future EU policy on research and innovation in plant sciences and agriculture.



The panel identified some ten areas for improvements to overcome the key hurdles for innovation. The participants recognised that future productivity and competitiveness of the plant sector is at risk and that this in turn may put society at risk as the sector is part of a global economy where facilities and jobs can be moved easily elsewhere. However, are we organised to put in place a concrete action plan that helps us to go forward?



With respect to basic research, European competitiveness would enhance by having a better coordination for the existing budget that is within Europe. It was widely acknowledged that this particular broad sector of agriculture and bioeconomy in general have not received significant EU funding and that large long term research projects is the only scale programme allowing to go from basic research to the development of new varieties. Of course it would be beneficial to have an increased budget at EU level, but above all a better insight into the instruments that are available should be developed, like the Joint Programming Initiative. Clarity of goals is another important aspect which was raised by the farming community: goals put in place by the farmers' organisations should be carefully translated so that public research understands what needs to be developed from an enabling technology perspective and from a content

perspective. We can do better, and we have to take care that we build such bridges and integrate better all actors of the value chain. We should ensure that the money spent on R&D is translated into value for farmers. Moreover, the concept of demonstration farms implies that plant genetic technology will be integrated into a system that will also include other technologies, machinery, fertilizers, crops protection chemistry and agronomy knowledge, but those topics are often underfunded or not funded at all in EU innovation programmes. Therefore, there is an issue for multidisciplinary cross cutting applied R&D projects.

From an IP perspective, we need to take care that we put in place policies that secure a good return from innovation, as this is the fuel for sustainability of the companies. It was pointed out that a fair return on the high level of investment was needed, also to enable further sustained investments; practical and enforceable intellectual property rights could help to strengthen the innovation capacity of the industry and at the same time to recognise breeders' rights as central to variety development.

Sustainability was raised in multiple contexts: sustainability of our society, sustainability of welfare, etc and its potential impact on global leadership. All participants recognised that this is important, yet it appeared we have difficulty to recognize the opportunities that "sustainability" offers to enhance productivity and competitiveness of Europe. Concrete actions have not been proposed, and follow-up discussions are planned to identify options to develop global leadership through smartly exploiting sustainability and exploiting its opportunities in line with the challenges.

The importance of reducing cost and time to market was further discussed. This topic is closely linked to how policies on GM and new breeding technologies develop. Here, a specific focus was placed on the often heavy regulatory conditions under which new technologies and their products may be placed on the market. The costs placed on companies by European regulation of plant innovations is a major hurdle, in particular for small and medium sized companies. The discussions specifically focused on the current debates on novel foods and new breeding techniques: if the EU regulates these new breeding technologies the same way as GMOs, another set of technologies will be lost for Europe's farmers while these innovations will be used by our competitors at our expense. In this complex matter, a shift from a process-based to a product-based authorisation scheme would make the difference. Central to our society is that products are safe, and, to avoid any misunderstanding, the technologies and processes that are used to develop such products need to be safe as well. However, this should be assessed separately.

The importance of the public/private interfaces to promote a proper flow of innovation was emphasized. Such know-how transfer is happening in wheat at the interface of public research and breeding. It appeared worthwhile to look into this example and see to what extent the learnings can be copied. Adoption of molecular breeding technologies in our sector is today critical to secure productivity gains and create competitive breeding pipelines. Very likely "phenotyping" will be the next wave of innovation where each of the players cannot independently afford to bear the development costs, and where pre-competitive consortia would make the difference and bring Europe in a leadership position.

We thank our chair, Marc Cornelissen, all the speakers and panelists, and all the participants for their contributions which made this event a major success.

For more information, [view the Conference Brochure](#) with articles on innovation partnerships, R&D structures, the EU's innovation flagship initiative and the importance of new breeding techniques.

The conference programme and all presentations can be found [here](#).



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