INNOVATION AND COMPETITIVENESS IN AGRICULTURE

Warsaw, 7 June 2011

Ministry of Economy

Plac Trzech Krzyży 3/5

The organizing committee deeply thanks Bayer Cropscience and Syngenta for making this publication possible

ISBN: 978-83-934173-0-8

Published by:
Foundation “Education and Science for Agri-Food Sector” [SEFA]
Fabianska 12, 01-472 Warsaw, Poland

Nakład – 260 egz.

Spis treści

Foreword: "Bringing the EU Forward"

Waldemar Pawlak

Deputy Prime Minister and Minister of Economy, Poland

On 1st July 2011, Poland took the lead in the Council of the European Union at the time of an unstable economic situation in Europe. In order to exit from the crisis, a number of actions must be taken, especially in the area of research and innovation. They are of key importance to long-term and sustainable growth.

That's why there is a need to introduce innovative approaches to the policy--making process and innovate our mechanisms for public management. The basis for that consists not only of defining a horizontal innovation policy, but also its implementation in all the policies pursued, including agriculture that is traditionally perceived.

Forecasts of world population growth indicate the need for sustainable development of food production capacity. The Common Agricultural Policy guided by pro-market rules should continually include public goods, including food security and the multidimensional development of agriculture and rural areas.

Agriculture is one of the main pillars of the "Europe 2020" strategy. It plays an important role in the economies of the EU member states. It is the basis for the operation of many industries and provides a large number of jobs. The ongoing reform of the Common Agricultural Policy is in line with the aforementioned goals and will improve the operation of the agricultural economy in Europe. Introducing new technologies and investments indeed offers guarantees for sustainable and profitable agriculture.

I hope, that the conference “Innovation and competitiveness in agriculture”, with the broad participation of experts dealing with new technologies in agriculture, will support the creation of new solutions and will initiate the process of exchanging ideas and best practices applicable in this area.

Introduction: the strategic importance of agriculture and of innovation

Stefan Schepers

Former Director General of the European Institute of Public Administration, Maastricht, Managing Partner EPPA

There is a widespread desire for innovation in Europe but it requires hard work to achieve it. A good start has been made by the Commission but additional efforts must still be made. The Commission has very successfully managed the single market process and the monetary union but one cannot ignore that the first attempt at growth and innovation launched in 2000 is not delivering the results everybody expected. Consequentially, the new attempt under the EU2020 Agenda and its Innovation Europe Flagship requires the support of everyone to make this policy objective a real success. As the Commission and the European Council have clearly stated, innovation is a key competitive element for Europe because we may not have the raw materials but we do have the brains and research capacities to manage the research to market process.

One of the challenges we are facing after the Lisbon Treaty is the growing complexity of managing public policies which make the development of a comprehensive holistic innovation policy in the agriculture difficult. It sometimes has to overcome resistance but I believe that business government cooperation can actually help decision makers to develop innovative policies and create the conditions which allow companies to innovate.

The agriculture sector is facing one of the biggest challenges in the last 50 years: global food security; but a challenge is always also an opportunity. For obvious reasons, agriculture is a very important sector in Poland and the CAP

reform is coming along in Brussels. The key is to increase productivity whilst maintaining sustainability and in the future maybe we should also pay more attention to the functioning of the whole agriculture chain, to logistic issues. To achieve that, we should use all the available technologies and invest in the Research & Development of new ones. It will not be easy because there is not always an immediate acceptance of new technologies. The EU should therefore not be afraid to question how the precautionary principle is going to be applied. We have a responsibility which we cannot ignore in terms of global food security. All the more so since Europe, after having distorted the market which subsidizes export from Europe, now has increased its imports of certain commodities so much that again it leads to distortion of markets and to shortage of commodities in developing countries and to de facto land grabbing. The EP and the Dutch government have raised concerns on this issue of global responsibility, which is not only a moral issue but also an economic opportunity.

The round table and its subsequent brochure have been conceived to think "outside the box" and contribute to the present debates how to improve innovation and competitiveness in agriculture. High-level experts have been invited to challenge established ways of thinking along with representatives of leading firms in innovation who will offer pragmatic but necessary views. The purpose of the discussions is to make the process of innovation even more efficient and to find innovative ideas which can help to overcome the present paradoxes in innovation policies whether at European or national level.

The research-innovation-market chain

Luc Soete

Director of the United Nations University – Maastricht Economic and Social Research and Training Centre on Innovation and Technology

From an economic view and considering the context of the financial crisis, there are three major concerns with respect to research and innovation in the EU: its funding, the direction of technical changes (with a political focus on environmental sustainability & social innovations) and the regional impact of research and innovation policies on the convergence between regions. All three areas raise fundamental questions regarding the multilevel governance of the EU innovation and research policy. They are also relevant to the agriculture sector and that is why the systemic risk associated with innovation and market expansion will be highlighted.

In the context of the financial crisis, some the EU regions are capable of matching EU funds but others are not in a position to use some of those funds. Clearly this raises fundamental challenges because after 50 years of growth convergence, the EU might now face a problem of growth divergence between member states and regions. From that perspective, the old 3% Barcelona target, which puts the investments on the private sector, makes absolutely no sense. Governments must be much more responsible and that is why an alternative 3% knowledge investment target financed by public funds is much more appropriate. The EU has been focused on the volume of investment in research and technology and put too much pressure on industries which are confronted with the fragmentation of the single market. The Lisbon strategy has actually probably failed because of this fragmentation.

The direction of technical changes in new areas is the second major concern. One of the most important American books in this field is the “The moon and

the ghetto" written in 1962. It wonders whether money should be invested to explore the moon or to solve the integration problem. The way the EU wants to manage its money constitutes political decisions and not market issues. It raises a policy challenge in terms of how to have a top-down approach and how to set up a bottom-up organisation for the efforts. The sustainability issue, one of the "Grand challenges", is global and consists of how to reduce our footprint and how we can get developing countries on board. With regard to societal and social innovations, the social science research in Europe is about immigration in an ageing society or European identity. Just like finance, agriculture might well falls in that category. It is a systemic sector, which has constant dynamics but at the same time is moving to market and vulnerability.

Finally, the last point is about the territorial issue and regional cohesion. Some countries, because of their location, benefit from the EU much more: the Netherlands for instance benefit a lot as opposed to countries like Greece. It has to do with the basics of Economic Geography which implies that peripheral regions should be pushed towards smart growth, innovation and sustainability, bearing in mind that there are more synergies at regional level or local level between smart/sustainable and inclusive growth than at national level. Policy makers must think about how regions can be helped in their choice of inclusive and sustainable smart growth and regarding EU multi-level governance. They need to think about what is optimal at what level. Income inequality is widespread in the EU and actually higher than in the US and other large countries. In the Netherlands for instance, there is a concentration of R&D near Eindhoven which implies animal farming and leads to health problems. Systemic risks associated with overconcentration of agriculture are the dark side of innovation. The Netherlands is not confronted with "creative destruction" but with "destructive creation" which benefits a few at the expense of general welfare. This has to be replaced by a new dynamic: the destruction of some industries to the benefit of society. Like in finance, the system risk involved in innovation and productivity gains associated with reaping scale advantages and market expansion might well have been

underestimated. In some areas, market expansion might actually not be the best solution to enhance general welfare.

To conclude, the *research-innovation-market-chain* raises some fundamental questions as does the nature of multi-level governance in Europe especially in agriculture research. The EU needs to move towards a common research policy to attract excellence but also towards an innovative Union, regional commitment and smart choices for specialisation. Furthermore, decision makers have to be aware that the EU impacts the world market and vice versa. At the moment, European policies are not going in that way.

Promoting innovation in small and medium sized enterprises

Krijn Poppe

Chief Science Officer, Ministry of Economic Affairs, Agriculture & Innovation, the Netherlands

A generation type crisis is occurring at the moment which is linked to long-term economic waves based on technology. To overcome the crisis, new types of technology can be used to solve the challenges of the previous wave such as environmental problems and institutional innovations can be asked for. Today there is a lot of insecurity in the food market and prices are high and volatile. It is a period of scarcity and transition, the challenge being to feed 9 billion people in 2050 with less environmental impact. As a result, the debate currently focuses on scarcities: climate change, energy supply, water availability, resistance to industrialization (like in animal welfare). From that perspective, an interesting foresight study has been conducted by DG Agri and DG Research with two narratives: the first one is based on productivity and the other one on sufficiency.

After this macroeconomic introduction, let's focus on the EU food industry. Is it competitive? In a report for DG Enterprise, the findings of my team were that EU competitiveness was rather weak because the EU had been losing market share. Three routes for the future of tje EU food industry were therefore proposed: an increase in the economy of scale, more added value and better exploitation of new technologies.

The monitoring of innovations in agriculture is nearly non-existent and something has to be done. It is better in the food processing industry because food safety issues have given incentives for process and product innovations for

the last ten/fifteen years. Nevertheless, there are real differences between member states: Denmark and the Netherlands stand out for their well-known agri-research compared to Germany for instance. There should be better cooperation between research programmes, SMEs and private industries. Farm size and turnover also vary greatly in Europe and are far from heterogeneous. Farms are improving due to technology and demography but also pressure from the food chain and the changing CAP are making them optimize. Their strategies are usually based on competences or location: efficiency of scale, better management and differentiation (value added, part time, and multifunctional).

In terms of innovation policy, there are two schools of thinking: the macro-economic view which is related to the market and market failures and the institutional and evolutionary economics view (popular with the OECD, the Netherlands and Scandinavia) which also takes into account systemic failures within an industry or network. To promote innovations among SMEs and farmers, more supportive food legislation is needed as well as a reduction of the administrative burden, more help for SMEs and farmers in terms of ICT, management and marketing but also the creation of clusters to link them to R&D and universities. Indeed, farmers do not innovate on their own in Europe: they are supported by suppliers, retailers, governments, knowledge institutes, agro food-business or even NGOs. The Agricultural Knowledge and Innovation Systems (AKIS) should also be re-thought and a system of innovative approach should be chosen because often there are common pool goods.

Choices in society are shifting due to the crisis. With regard to the CAP, innovation and competitiveness should be as important as “green public goods” and innovation needs more than a farm advisory system focusing on cross--compliance. The EU should not focus on farms only but also on learning networks, it should recognize collectives (like producers organizations) and accept that innovation subsidies can fail as its selects risky investments.

An innovation strategy for Europe

Tim Hall

Head of Unit for Agriculture, Forestry, Fisheries and Aquaculture,
DG Research, EU Commission

When the new Commission came in, one of the priorities was to strongly focus on innovation. The first position paper "Europe 2020" set up three main priorities with seven flag initiatives including the "Innovation Union". At this time of crisis, the EU needs to make sure that investments in research, innovation and education are not reduced but rather are increased. The EU is lagging behind the US. There is a massive difference in terms of access to capital and investments in innovation: there is actually still a long way to go to reach the R&D investment at 3% of GDP since member states are barely reaching 2% on average. To improve framework conditions, a "standardization package" including a Communication and a legislative proposal was announced on 1st June. Lessons have been learnt from the evaluation of the 7th Research Framework Programme which highlighted both positive and negative aspects. On the positive side, the cross-border pooling of resources, the increased focus on excellence as well as the training exchange and international activities have been praised, while more progress is needed regarding the simplification of programme rules and procedures as well as in addressing innovation aspects. A better focus on societal challenges, a broader participation and a clearer agenda are also expected. For the post-2013 funding package, the aim is to have a more comprehensive programme where there will be a focus on societal challenges (food security, energy issues, transport issues etc.) whilst maintaining fundamental research and keeping space for key technologies.

In the case of agriculture, innovation should be viewed in a much broader context than just developing new products. Changes in farming practices, for

instance, may not necessarily have direct economic benefits but might rather have environmental benefits. Innovation approaches have not been neglected up to now: a number of European Technology Platforms for instance have been effective in setting research agendas reflecting industry needs and have the potential to act as effective innovation brokers. There are also the Standing Committee on Agricultural Research and the "AKIS" collaborative working group which is looking at information and innovation systems. Other networking activities exist in the ERA NETS and the Joint Programming Initiatives where member states are starting to pool their efforts with innovation in mind. Another point is that a stronger innovation focus is being included in FP7 2012/13 Work Programmes. As it is already possible under the current CAP and particularly the Rural Development Policy Measures to fund innovation, it is hoped to build on what we already have (e.g. the European Agriculture Fund for Rural Development) in the post-2013 CAP. Thanks to knowledge transfer, cooperation measures, etc., the development of new products, new processes and technologies in the agriculture sector can be supported. On top of this there could be more investment in physical assets and the Farm Advisory System could be improved. Structural funds could also be used if regional entities agree.

What about the future? As we move away from a being fully oil-based economy, we will become progressively more dependent on a bio-based economy. We are currently preparing a strategy 'Innovation for sustainable growth: a Bio economy for Europe' which is expected to be published early in 2012. This will address some of the bottlenecks such as achieving better policy coherence or more favourable conditions for introducing bio-based products and will take into consideration the debate on the future of agriculture. Another initiative is the European Innovation Partnership (EIP), the concept of which was introduced in the flagship initiative "Innovation" Union. It is a new approach to innovation which is more societal-challenge driven and cross--sectoral. For the moment, it is being tested with a pilot partnership and the Commission is currently examining proposals for a first round of partnerships in which agriculture is included. The potential EIP "Agricultural Productivity and

Sustainability" would provide a framework for bringing together instruments under both the EU Research and Innovation and the Rural Development policies as well as the private sector funds, in particular, with the overall aim of achieving synergies between them.

Sustainability in the food chain and public trust

Pascal Bergeret

Deputy Director Innovation, Ministry of Agriculture, France.

One of the most important challenges facing agriculture will be to double food production by 2050 whilst ensuring food quality. But if farmers carry on business as usual, irreversible environmental damages will appear including in Europe. The problem is that the current model is too energy intensive. It has environmental and economic costs and does not take into account water scarcity. There is therefore a need to change the current model into a sustainable one economically and socially speaking. To achieve that, it is very important to understand that sustainability is not only a question of short-term sacrifices but also a matter of opportunities with new sources of income and mid-term benefits. In other words, it is crucial to go beyond the dilemma of productivity versus sustainability. There is a consensus that inaction is costly, so action is urgent. In France for instance, the government decided to invest money into research, even at a time of financial crisis.

What changes are needed to agriculture? Biotech and genomics could trigger a revolution comparable to ICT's. Organic farming as well as production systems based on ecological functionalities (i.e. on the way nature works) could also be developed. Those systems rely on technologies that must be adapted to local conditions and not the other way around, which implies that the job of a farmer would be more knowledge intensive. Knowledge of life mechanisms could also be used as inspiration for industrial processes. The sun is the true low-cost energy source and that is why it is important to maximize biomass production. New strategies for soil and water management and agri-landscape should be implemented and environmental services should be encouraged. There is a consensus in favour of an increase in private and public research

efforts and studies carried by the FAO or CGIAR showed that returns on investment in agriculture research is huge. Research into complex issues should be financed and is likely to be successful due to new tools and models which can handle huge amounts of data and be predictive. It calls for a new organization of research: the key words are cooperation and coordination at all levels. It is time for countries to put together their research programmes by developing the Joint Programming Initiative for instance and to push cooperation between private and public research. Policies are needed to achieve sustainability and there are numerous options: internalizing the value of ecological services in commodity prices; putting in place economic incentives for farmers when they provide ecological services; encouraging payments by the states; introducing markets for carbon or bio diversity credits or setting up compensation markets. But incentives should also be combined with eco taxes for ecological damage. Research has to be done to review those policies and extend the best options.

To finish, it is important to say a few words about agricultural knowledge and innovation systems. To stimulate innovation, cooperation must not only involve the research community but all the actors of the agri-food chain: public and private research, entrepreneurs, producers, suppliers, retailers, customers, taxpayers but also the education systems. All of them are part of this Agricultural knowledge and Innovation System (AKIS) and all the links between them have to be enhanced with innovation networks and clusters. Co-innovation is promising, risk management is also very important for those who take risks, as well as collective approaches at grassroots level to share knowledge within learning networks. All this should be achieved within the AKIS and requires policies for different sectors and of different types to be coordinated properly.

Introducing innovative concepts in CAP reform

Jyri Ollila

Member of the Bureau of European Policy Advisers Analysis Team, *European Commission*

The former Commissioner for Agriculture Mr. Fischler said in Brussels that the global security issue of the century will be food security. Last week the former President of the Commission Mr Prodi was calling for a global food security governance system, an issue which was also discussed during the G20. It therefore is a real political issue.

At the moment, the multi annual financial framework and the legislative proposal for agriculture and cohesion are being prepared. The CAP is a highly political topic and has proven to be difficult to agree on. Its policy objectives are clear in the Treaty but they are problematic because of the complexity of the challenges, the uncertainty of developments and the long-term nature of agriculture systems. This is why agriculture is different from other sectors and maybe why EU member states have a particular common policy.

Why is it so complex? Because the challenges are numerous: population growth, climate change, the food chain, but also the issue of consumption, competition challenges, land use, technologies with social-economic aspects and organizational challenges. These multiple challenges require three kinds of solutions. Firstly, the intelligent dissemination of existing knowledge. Secondly, the new solutions to be found through research. And thirdly, innovative policy settings such as good governance and changes in paradigm.

When people talk about innovation in agriculture, they think about improving competitiveness and productivity. But it is not agriculture innovation if EU member states start importing cheap soya from the other side of the world to feed their animals: it is a trade innovation. Agriculture innovation is to find

ways of helping engines of photosynthesis to work and to produce. It is important to be the partners and not the enemies of nature. Furthermore, a better policy mix is needed as well as investments in R&D, an increase in public awareness regarding the challenges and more EU leadership in global development.

What tools are available to face the challenges? The EU 2020 Strategy of course, in which agriculture should position itself and be active to take part in smart, sustainable and inclusive growth. The second pillar of the CAP too, through which aspects like dissemination of existing knowledge and the creation of an innovative environment should be developed. The CAP should enhance local innovations and its administrative obstacles should be removed because they hinder innovation. Another tool is AKIS, a promising programme given its holistic, all-inclusive approach encompassing agricultural research, education, advisory services, farmers, etc. A set of policies is also in place, allowing innovative activities and environment like the Standing Committee for Agricultural Research (SCAR), the framework programme for research and development as well as the Farm Advisory System (FAS).

In the future, advisory services, technology transfer, support for innovative environment and the European Innovation Partnership in Agriculture should be developed. The next research framework programme should on one the hand continue to enhance traditional objectives such as agro-food, rural development, social cohesion, market, health, environment, climate and energy but it should also have the courage to venture into more unknown waters in the fields of new technologies, nutriceuticals, genetics, polymers, plastics, nanotechnology, etc.

To go forwards, public research should be strengthened because, as underlined by the SCAR report, it is the key to making Europe world leader in efficiency and resilience research of food production. Diversity both in agriculture and agriculture research should also be preserved. Finally, the EU should put more flexibility in policy setting to let the farmers and actors “think differently” because it is the key to innovation.

Transformational governance and public-private cooperation for innovation

Andrew Kakabadse

Professor of International Management Development, Cranfield University School of Management

Examining major programmes of change, my colleagues and I have been wondering whether there is a big gap between the creation of excellent policy and its translation into strategy, and then another gap from strategy into operationalization. We found that these gaps and transitions are not well handled for three critical reasons, context, insight and capability. In the previous presentations, the same themes emerged which replicate the results of our surveys, namely fragmentation, too much short-termism, financial innovation only on transactional deals and a lack of long-term strategy.

Top executives agree on a policy of strategy for the future but so often something different happens when the occupants leave the room. Especially concerning vision, agreements are made but not exercised. Ironically our surveys show that the UK's National Health Service has fewer vision tensions than our extensive database of private sector organisations and the Australian Public Service at a particular point in time. The reason for this lack of shared vision is the lack of capability to engage all the relevant managers and agree a strategic way forward. Such findings have implications for innovation policy determination and practice. Our surveys indicate that those in the innovation policy field know only too well when good policy is created but is, in practice, impossible to realise. The reason? Issues at top level being too sensitive to discuss. Hence, in addition to creating vision, encouraging penetrating and insightful dialogue is primary to innovation policy creation and application. Our surveys indicate that the Europeans are more accustomed to addressing

sensitive issues than the Japanese and Chinese. At board level, again the same phenomenon of division and low trust emerges. Particularly the British and American top executives hold least respect for their Chairman and non-executive board directors. This is similarly the case for Abu Dhabi, South Africa and China. In contrast, a much more healthy level of dialogue between board and management exists in Australia. The reason for this is the high quality level of team work at board level and the appetite for open discussion, particularly unearthing blockages to innovation practice.

What emerged from these surveys are two logics. The first is that of a generic policy. Namely the need to create a statement that captures intent. However, that is not sufficient. Those organisations that have made the difference follow a second logic: namely a contextual logic. Contextual logic addresses what needs to be done in the circumstances facing the organisation that adds value. Thus, whether the examination is of a company, a nation or a region, the leaders of that entity know intimately what is happening and what challenges need to be confronted, but may feel powerless to act. Concerning the global financial crisis, back in 2002 banks had already held private and intimate conversations predicting the collapse of the financial system but those conversations were not allowed to enter into the strategic debate.

What is needed is to climb above the sensitivities that paralyse organisations if intention is to be taken into action? Three action-oriented strategies are proposed with regard to innovation. The first is that of concentration or clustering around a particular innovation policy. The second is that of championing, whereby one individual or group promote an innovation strategy but its success is dependent on the survival of the mentor. In order to overcome the limits of the first two strategies, the third requires interventionist governance through engaging leadership. With this strategy multiple stakeholders are empowered to pursue innovation through thoughtful governance application. In so doing, the critical tension points in the innovation chain linking multiple stakeholders are identified in order to ensure that the policy succeeds. The point is to turn competent and clever people into highly

capable individuals able to both solve problems and negotiate their way through organisational and community blockages. Through enhanced capability, making policy work requires surfacing those issues that will derail the policy linkage points of turning policy into strategy into practice. Highly capable innovative managers require resilience and honesty to be able to surface tensions that have held back organisations and communities for considerable periods of time and turn such negative energy into positive outcomes.

Perspective of the Seed & Crop Protection Industry

Alain Dini

Head of European Regulatory Affairs, Bayer CropScience

With a background in Chemistry, Biology and Business Administration, Alain Dini joined Rhône-Poulenc Agro in 1974. From 1974 to 1989 he assumed responsibilities in several departments of the company starting with Industrial Operations, then Research and Development where he spent six years in Environmental Chemistry. He then moved to Global Regulatory Affairs and headed this activity until 1997. In 1989 he also started to work for the Scientific Direction of Rhône-Poulenc Corporate taking care of innovation in the field of industrial uses of agricultural commodities.

In 1997 he took over the newly created position of Director of RPA Biotech, the green biotech business of Rhône-Poulenc Agro. For three years he contributed to defining and implementing the company strategy in that area, and had responsibilities on the boards of several biotech companies in Europe, America and Asia. With the formation of Aventis CropScience, Alain Dini became Head of Global Public and Government Affairs for Biotechnology.

In 2002, with the formation of Bayer CropScience, he became Head of the Biotech business in Northern Europe, then joined the Region EMEA of the company in 2003 as Head of Regulatory, Public and Governmental Affairs.

According to studies, the production of food will have to increase by 70% by 2050 to feed the growing world population. The food safety challenge stands besides the decrease of food stocks, the need for alternative energy feedstock and the climate change. How can the industry contribute to addressing these challenges?

In terms of food supply, the possibility to increase the surface area farmed in the future is limited. Arable land and permanence crops should remain the same in 2050 as now, only 3% of earth surface, and that is why more efficient crop production is strongly needed.

After the green revolution of the 60s/70s, today there is a lower annual progress of yield increase. This trend must be reversed by a second “green revolution” which requires increased efforts in breeding, biotechnology, improved fertilization and crop management technologies.

Besides the food challenge, the availability of fresh water is also crucial. 70% of the water is used for agriculture which is significant. That is why cultivars and cropping techniques with a better efficiency of water use are needed.

Innovation is essential for agriculture. To cope with limited arable land coupled with rising demand, yields from constant land area need to be increased and agricultural production in marginal areas must be expanded. To face climate change, an increased tolerance of plants to climatic variability is expected.

A change in paradigm is happening: a move from surpluses and stable prices to scarcity and volatile prices and the way forward is this new “green revolution”.

In terms of fields of crop production innovation, Bayer increasingly works on sustainable and competitive agriculture beyond the core of its activity (insecticides or seed). The company collaborates with stakeholders and public research because that is the way to be successful. Besides, 11% of its turnover is dedicated to R&D which shows its involvement in R&D.

To conclude, innovation could be encouraged in three ways in the EU. First, there is a resistance to innovation from the civil society that is why addressing their legitimate concerns is the way forward for industry. Second, a positive, enabling and predictable policy environment is needed because the EU regulatory framework is sometimes contradictory. Thirdly, the future CAP should take innovation on board and provides a frame for more sustainability.

Perspective of the Food processing industry

Truus Huisman

Head European Public Affairs, Unilever

Truus Huisman joined Unilever in December 2002. She has over 15 years' experience in European Public Affairs, including 6 years as Secretary General of a European trade association in the field of tourism and 2 years in consultancy at Cabinet Stewart European Affairs. She was a trainee with the US Congress and The European Institute in Washington, DC. She is a regular lecturer at the European Training Institute

Unilever is a global company known for its brands and as a consumer goods company we need to take consumers' concerns into account. We also believe that sustainability is the only way forward given the current constraints.

We want to decouple growth from environment impact, not because of philanthropy but because there is a business case for it. If we look to our R&D organisation, we spend 4% of our turnover on R&D and we employ around 2 000 scientists. We work with a lot of research institutes and the research community according to what we call the "open innovation models". One of the platforms we are involved in is the European Technology Platform "Food for life" which is hosted under the umbrella of the CIAA. Another example is the partnership that we have built with Greenpeace, WWF but also plantations and research institutes to make palm oil more sustainable.

When looking at the European picture, we see that the R&D investment in food by European companies is clearly lagging behind. Within the EU, there are some obstacles to R&D investment that should be removed. The next EU framework should reduce administrative complexity, focus on the development and demonstration of technology and allow smaller consortia to reduce complexity. With regard to the regulatory framework, it is important to remove Internal Market obstacles to marketing because for instance we are still waiting for the nutrient profiles and the Novel Foods Regulation failed.

Unilever's CEO took part in a CEO Taskforce within the framework of the G20. He chaired the working group on food security which came up with recommendations such as the expansion of technology access and R&D.

To conclude, public-private partnerships for technologies and R&D are essential: we need to share best practices in order to formulate answers to challenges. We encourage also well-formulated government policies which provide a clear and efficient regulatory environment, support R&D and ensure the safety of products. Finally, we need to invest in agriculture and nutrition sciences.

Agro-engineering Perspective

Peter Pickel

Deputy Director John Deere, European Technology and Innovation Center

What are the innovations in agricultural engineering and technologies? We believe in the manufacturing executive system and automation in machinery. That is why we are thinking of a fully autonomously operating manufacturing machine, a robot-like tractor. Today we do not have autonomous machines for safety reasons but we believe that automation will "attack" this gap thanks to electric drive. Our engineers are therefore trying to come up with an intelligent system, some of the problems being the control and the communication system. This is our vision for 2020 and beyond.

So what should the future system look like? What can we do under the research umbrella and especially the EU Framework Programme? We have to create a central farm process management system (PCMS) integrating logistics as well as farm resource planning, but also service and documentation, farm networking & general communication and free-acting machines with substantial (but not completely) autonomous operation. All these elements combined with Plug & Play and minimum hardware requirements will form the automated mobile machine system for bio-production. This is what we formulated in our strategic research agenda called "smart sustainable bio-production". It is our system level or holistic approach to sustainable agriculture manufacturing and it has some parallels with industrial production.

Another important aspect for us is energy production and sustainability. I think that energy will play a major role and our vision is decentralised energy supplies in rural areas. Lastly I see bio fuel and electric driven machines.

I think that public private partnerships with the Agricultural Engineering Community are important at EU level. We are close to manufacturing and involved in a number of organizations. I also believe that agricultural engineering should be integrated into NMP and programmes like GREEN CAR. Moreover, we should promote the creation of cross-border projects but also allow new approaches (“think different”), look for small-scale solutions and integrate enabling technologies such as sensors or perception systems.

Perspective of the Fertilizers Industry

Pierre Herben

Chief Technology Official, Yara International

If we look at the past 25 years, we notice that European agriculture has improved continuously and can do better. The efficiency of fertilizers has improved with the doubling of the precision in feeding the plants. Europe has been leading in that sector and we should continue. Furthermore, GHG emissions have decreased whilst productivity has increased at the same time. This is a positive signal but more has to be done to tackle the grand challenges already mentioned of food security, global warming or water scarcity. To handle that, Yara has developed an innovative approach and set up an innovation board which thinks in the long term. This board launches innovation platforms but also corporate and business projects. We opened dialogues with partners and national bodies in Norway or Africa for instance which give us ideas and a vision. To go to the next generation, we need to take risks and invest money but above all to work together because we will not succeed alone.

We believe that climate change and food security are related and can be tackled by innovations. The future of crop production has to involve less use of water, more efficient nutrient use, less dependence on soil quality and minimum environmental impact which requires innovation and knowledge transfer to growers. A key role for Europe is to facilitate such transfers.

Sustainability is on our agenda and we are committed to reducing our carbon footprint. We have furthermore also developed tools to help growers with the correct fertilizer rate to adapt the quantity to what the plant needs. Moreover, we have managed to greatly improve nutrient efficiency although we can still

do better. Lastly, the approach is to ensure food security, affordable food prices, good farmers' incomes and limit the environmental impact.

If I can just conclude on one thing: we need constant evolutions, not revolution, and we are calling for a common and simple EU framework with more guidance.

Conclusions

Tadeusz Nalewajk

Undersecretary of State for Agriculture, Poland

The European Union and the world need a competitive EU agriculture, based on innovation. Only innovative agriculture can help Europe and its member states to build the foundations for future sustainable development.

This is the right time to conduct discussions on the role of innovation in agriculture, especially given the ongoing reform of the Common Agricultural Policy and the serious economic crisis Europe is currently experiencing. Innovation is the key to stimulating and accelerating the development of European agriculture. It is also a way to tackle such challenges as globalization, dietary needs and food security, environmental protection, climate change and finally the public functions of agriculture. The importance of innovation in agriculture is related to multiplicity, diversity and apparent contradictions between the functions and challenges faced by EU agriculture.

The results of the analysis justify the need for further work and improvements to increase the competitiveness of agriculture in Europe. We must therefore still attempt to take actions that make it possible to achieve the objective of competitive agriculture. The key issue in this area seems to be the need to encourage investment in innovation and research in agriculture. Lack of such support may cause negative consequences for the efficiency of the agri-food sector and consequently its competitiveness.

Europe needs to regain its former leadership position in research and innovation, especially in the field of agriculture, because it is the only way to ensure lasting security of food production. Results of tests and studies clearly

show that new technologies and investment are the best instruments to ensure the sustainability of agriculture as well as its profitability.

That's why the issue of innovation and innovativeness should not be forgotten in the ongoing political debate on the reform of the Common Agricultural Policy (CAP). The results of the discussions will form the basis for the EU agriculture model for the next decade. The main challenge of the new CAP is to seek a compromise between the need to increase productivity (quantitative goal) and the fulfilment of the environmental and social functions of agriculture. The role of innovation is the use of synergies and positive interactions between these processes.

Today's CAP contains too many elements of conservative behavior, structure and technology, and too little pro-development elements, that enforce and support the process of modernization, innovation and development of agriculture. For example, the current distribution of funding between member states and the holdings is inadequate for CAP's current and future goals and leads to excessive intensity of production in many regions of the EU, limiting the full potential of other regions in the EU. Moreover, we spent only 20% of the funds available on the second pillar of CAP - folding mechanisms to promote modernization, innovation and sustainable growth in the EU.

New CAP after 2013 should take into account the objective of increasing innovativeness in agriculture and in particular should support the processes for creating and increasing the availability of innovations by *inter alia* financial support to equalize and improve the technical and technological level and management quality in European agriculture.

In addition, an extremely important part of the growth of agriculture is to support innovative education, research, consultancy, training and exchange of experience. We should better use the potential of research centers and improve the co-operation between research centers, private sector and public authorities. Today innovative solutions are an answer to multidisciplinary

problems - this must be included in educational programmes and research policies at various levels of management.

Industry of agricultural inputs, food processing and trade also plays an important role in creating innovation, as they must provide solutions compatible with the dynamically changing legal regulations.

Summarizing, I would like to emphasize, that the ambitions and objectives of the EU 2020 make agriculture a strategic sector for Europe's future, but taking full advantage of opportunities in this area requires an increase of innovativeness in this sector. Therefore, we should increase the social and political awareness of role of agriculture in the development of sustainability and smart growth and ensuring social and territorial cohesion of the EU.

Ministerstwo Gospodarki

INNOVATION AND COMPETITIVENESS IN AGRICULTURE

Warsaw, 7 June 2011
Ministry of Economy, Plac Trzech Krzyży 3/5

Conference room ABC

PROGRAM

Welcome and Introduction

10.00-10.15 ***Bringing the EU forward: the Polish Presidency objectives***
Waldemar Pawlak Deputy Prime Minister and Minister of Economy

10.15-10.30 ***Objectives of the Round Table: The strategic importance of agriculture and of innovation***
Stefan Schepers, Former Director of the European Institute of Public Administration, (Maastricht) & Managing Partner of EPPA

Session 1

10.30-12.00 ***The link between research, innovation, economic change and competitiveness***
Beata Jaczewska, Director of Economy Development Department, Ministry of Economy (Chair)

Prof. Luc Soete, School of Governance, University of Maastricht: *The research--innovation-market chain*

Dr Krijn Poppe, Chief Scientist, Ministry of Agriculture of the Netherlands: *Promoting innovation in small and medium sized enterprises*

Timothy Hall, Head of Unit, DG Research, EU Commission: *An innovation strategy for Europe*

12.00-12.30 Coffee Break

Session 2

12.30-14.00 ***Public policy requirements for transforming innovation in wealth creation***
Dr. Waldemar Guba, Deputy Director of the European Union and International Cooperation Department, Ministry of Agriculture and Rural Development (Chair)

Ministerstwo Gospodarki

Pascal Bergeret, Ministry of Agriculture, Innovation Department: S*ustainability in the food chain and public trust*

Jyri Ollila, Bureau of European Policy Advisors, EU Commission: *Introducing innovative concepts in CAP reform*

Prof. Andrew Kakabadse, Cranfield University's School of Management: *Transformational governance and public-private cooperation for innovation*

14.00-15.00 Lunch offered by the Minister of Economy

Session 3

15.00-16.30 ***Panel debate: A view on innovation and reform from research based industries***

Professor Edward Majewski, Warsaw University of Life Sciences (Chair)

Seed & Crop protection: Alain Dini, Head of European Regulatory Affairs, Bayer CropScience

Food processing: Truus Huisman, Head of European Public Affairs, Unilever

Agro-engineering: Dr. Peter Pickel, Deputy Director European Technology Innovation Center, John Deere

Fertilizers: Pierre Herben, Chief Technology Officer, Yara

Conclusions

16.30–17.00 Tadeusz Nalewajk, Undersecretary of State, Ministry of Agriculture and Rural Development

For additional information please contact:

Beata Lubos: +48 226934226 Beata.Lubos@mg.gov.pl

Eduardo Mulas:+32(0)486996369 eduardo.mulas@eppa.com