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## SUSTAINABLE INTENSIFICATION

This is a concept that was promoted by Professor Sir John Beddington, chief scientific advisor to the British government. It brings together two opposing principles by aiming to improve in tandem the productivity and environmental management of the same piece of agricultural land. In this way, higher yields and more resource-efficient agriculture would coexist with efforts to stop, and even reverse, ecosystem degradation.

# Need to reconcile agriculture with the environment

Sustainable intensification: Strategy to ensure global food security



Franz Fischler

**F**armers who can cultivate double the amount of crops as before on the same spot of land would do more essential service for their country than the whole race of politicians put together. This was the message former Agriculture Commissioner Franz Fischler gave in his opening speech at the 2014 Forum for Agriculture as he quoted from Jonathan Swift's *Gulliver's Travels*, which emphasised, back in the 18th century, the vital role farmers play in human survival. This set the tone for the conference, which was held at The Square in Brussels on 1 April, where the main theme was sustainable intensification – optimising food production without damaging the same area's environment.

With the population of the world expected to hit nearly nine billion by 2050, the task most pressing is developing a sustainable strategy for food supply. Population increase means less room for manoeuvre and optimising the land available for food production is to the fore.

In discussing sustainable intensification,

Fischler set out how to reconcile what he termed two opposing principles: intensification of agriculture and preserving the environment.

"The challenge now is not only to reverse the negative effects of the past, but also to seek new forms of agricultural practices combined with the production of public goods and services and the preservation of the environment. We are seeking a post-industrial farming system for a more sustainable future," Fischler said.

The feeling was that the task is achievable, but easier said than done and the predicament faced is monumental when attempting to realise sustainable intensification. Despite broad agreement on the term, there seems little cohesion on how to pursue it. To achieve this requires more discussion and exploration.

"Intensity does not automatically mean unsustainable and sustainability is neither well defined nor properly measured. Much work has been done on this matter, but so far it is inconclusive and vague," Fischler said.

This year's forum covered areas including the EU-US Transatlantic Trade and Investment Partnership (TTIP) negotiations, competitiveness and investment in farming and EU policy making in the area of land use and natural resources. Also featured in the programme for the first time were three breakout sessions, two dealing with sustainable intensification in Europe, from policy and practical approaches, and the third on perspectives from beyond Europe.

The conference heard calls for increased innovation, investment in modern technology and knowledge transfer as well as removing trade and regulatory barriers to help achieve sustainable intensification. Fischler called for innovative and "out of the box" thinking and preparation of new policies and new forms of negotiation.

"We need to invest in knowledge per hectare: this is the future yield needed if we would like to be successful. If we achieve some of this mentality change then this conference will be a success," he said when wrapping up the day-long conference. ■

Opening address:

'The future of agriculture: The trade dimension'

# Changing nature of agricultural trade demands new responses

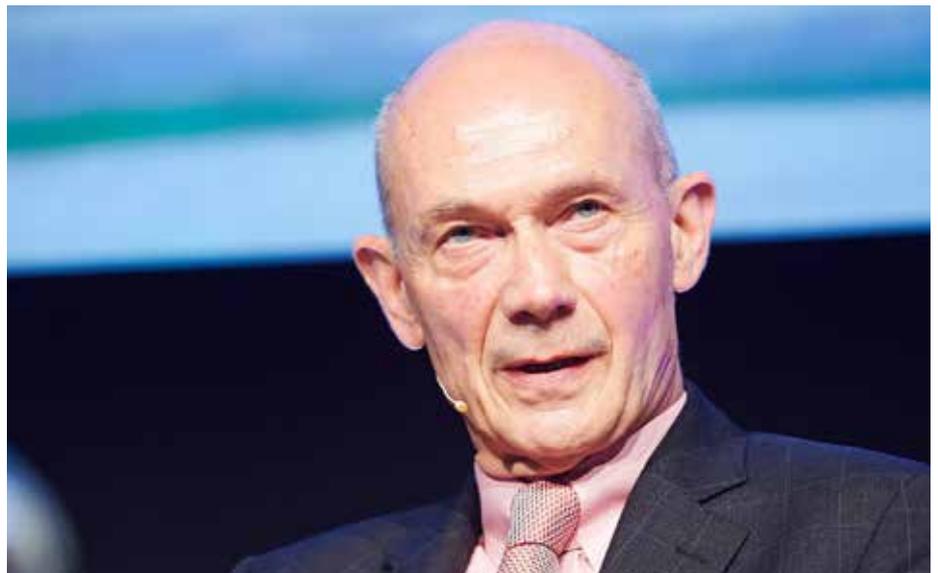
Pascal Lamy calls for the WTO to be given a new mandate for regulatory convergence as traditional tariff and subsidy concerns decline in importance

Pascal Lamy, the honorary president of the Notre Europe-Jacques Delors Institute, approached the future of agriculture from a global trade perspective in his opening address, underlining how this is continuing to evolve.

The first trend has been a striking growth in the actual volume of global farm trade, which now runs at €1 trillion. This will continue to rise and will bring with it different policy issues from the past. At the same time, the actual share of agricultural production entering international trade is relatively small, since food is a very different commodity, compared with consumer goods, for instance. While these specific features will remain, agricultural trade will be influenced by other factors. The first will be quantitative. The balance between supply and demand will come under pressure from the increase in the world's population and changes in nutritional patterns as a growing middle class moves away from dietary staples towards meat, fruit and vegetables. Now some two billion people are in this social category. By 2030, their ranks will have risen to five billion. Climate change is also making its presence felt with the latest research painting a more sombre picture of food production than a few years ago.

The second factor the former director-general of the World Trade Organisation identified is qualitative. This is determined by what society expects from what it eats. Within this, food security is increasingly important. He acknowledged that he had crossed swords in the past on how to address this with Olivier De Schutter, the United Nations' special rapporteur on the right to food, who followed him in the conference with a keynote address.

For Lamy, open markets are the recipe for guaranteeing easy access to food. He maintained that "larger, deeper markets" are what is needed to properly organise supply and demand and prevent the volatility that can



Pascal Lamy

upset that relationship. "So, we go for trade opening and that is what has been done for the last ten years," he explained.

## Changing challenges

However, Lamy, who has also served as trade commissioner, noted that classical obstacles to trade, such as tariffs and subsidies, which were widely applied between the 1960s and 1990s to protect producers, were now losing importance and being replaced by new barriers. In their place are precautionary measures to protect consumers and these, as in the case of GMOs, raise issues that go beyond pure science, he pointed out.

Noting that the regulatory issues involved constitute a very different ball game from traditional trade negotiations, he called for efforts to establish a level playing field for handling this precautionary approach.

As he explained, in traditional tariff reduction negotiations, producers tend to be opposed and consumers in favour. However, in negotiating the administration of precautionary measures, it is the reverse as fears

are raised that the measures will be diluted. How to handle this "is something that probably TTIP negotiators have not yet figured out," he concluded, referring to the Transatlantic Trade and Investment Partnership now being negotiated between the EU and the US.

In the subsequent discussion, Lamy confirmed the shift in emphasis that has taken place in agricultural trade. There is less concern on tariff protection and consumers place greater priority on "quantity, quality, availability and sustainability".

The regulatory convergence to which he had referred earlier requires a new mandate for the WTO, he suggested, since the multilateral trading system is currently not sufficiently equipped to do so. "The WTO should be more firmly mandated to ensure more convergence of regulatory differences," he insisted. At the same time, he pointed out that there are different "mental postures" on issues like GMOs and that the convergence he is advocating should also reflect diversity. ■

Keynote address:

'From feeding countries to supporting countries' ability to feed themselves:  
Trade and investment in the service of resilient food systems'

# Heartfelt plea for change in food production priorities

Olivier De Schutter emphasises the benefits of agro-ecology, a 21st century science that means moving from intensive agriculture to knowledge intensive agriculture



Olivier De Schutter

The United Nations' Special Rapporteur on the Right to Food, Olivier De Schutter, maintained that no one now believes the perceived wisdom of the 1980s and 1990s that trade could satisfy food needs. The consequence of such an approach had been the development of monocultures and large-scale farming to the detriment of small farmers who could not benefit from these global food opportunities.

In addition, more and more poor countries had become dependent on food imports to meet their needs. This had left them vulnerable to volatile prices caused by competing demands from energy markets and the impact of climate change on production. To counter this, he insisted, it was necessary to support the countries' ability to feed themselves.

The need for a change in approach was recognised by the G8 in July 2009 and at a world summit in Rome four months later. This identified the need to support small, poor farmers to increase their incomes as a way of tackling rural poverty and helping develop other sectors of the local economy. In practical terms, with more disposable income, farmers could purchase more inputs and buy these from local service providers. "Investing in small farmers is not charity, but helps the economy to grow faster. It means more trade, not less, that benefits local farmers," De Schutter pointed out. Emphasis, he added, should be placed on rebuilding local and regional food systems, reversing the overreliance on global trade. He identified the need for greater emphasis on nutrition. The focus on a narrow range of commodities, such as cereals,

sedentary life styles and expansion in processed foods had led to less diverse diets and growing phenomena, such as obesity. This could be corrected by rebuilding the connection between agricultural production and health. Shorter food chains, more diverse agricultural production and a policy rethink based on producing better rather than more could help achieve this. Another trend De Schutter identified is growing public concern about the environmental sustainability of food production. This is reflected in soil degradation – 25% of the world's cultivated areas are being degraded – the negative impact of nitrogen and phosphate-based fertilisers, the pressure on fresh water from large scale unsustainable irrigation systems and the impact of climate change.

## Way ahead

Agro-ecology, he advocated, offered the answers to these various challenges. This was not some form of return to the past, but a 21st century science providing a way of relating to nature by understanding its complementarity and complexity. "This does not treat nature as an enemy, but as an ally in the search for sustainable solutions. It means moving from intensive agriculture to knowledge intensive agriculture," he explained. This approach has many advantages. Environmentally, it can ensure better soil and preserve biodiversity. Economically, it reduces the cost of farming for small producers and helps empower them since it harnesses local knowledge in defining food solutions. It also means reorganising trade for the benefit of small-scale farmers and avoiding an overemphasis on global food systems. De Schutter acknowledged that the change in approach requires a cultural shift among policy makers and could be costly in the short term, but he insisted these obstacles should not be used to hold agro-ecology hostage and prevent it from guiding food production. ■

# Environment commissioner emphasises land's many uses

Land is a precious commodity coming under increasing pressure. Its quantity and quality must be carefully husbanded if it is to continue providing society with multiple benefits

Janez Potočnik, the environment commissioner, addressing the annual conference for the fifth time, reminded his audience of the challenges which population growth and growing urbanisation create for sustainable land management. Every year, a surface area the size of Cyprus is removed from agricultural production in Europe.

Unsustainable land use and soil degradation have negative effects on people's livelihoods and wellbeing. They reduce the ability of soil to help tackle climate change through carbon capture, to protect Europe's rich biodiversity and to support a wide range of ecosystem services.

"There won't be sustainable land management across the EU, or indeed the globe, if we don't protect the life under our feet," he warned.

While he accepted there could be forms of intensification which may be genuinely sustainable, he maintained there have been many occasions when it is not. "Before rushing into seemingly obvious 'quick-fix' solutions, let us first properly assess and agree what we mean by sustainable intensification," he counselled.

An opportunity for doing so will come in the

months ahead as the final details of the reformed Common Agricultural Policy are put in place. Potočnik admitted that the Commission's plans for an EU legal framework for soil would remain blocked, but he insisted there was a collective responsibility to tackle soil degradation. Failure to do so would be to the detriment of farmers and environmentalists alike.

The commissioner identified the need to tackle food waste as part of the move towards sustainable consumption and production patterns. The EU, it is estimated, wastes one third of all the food it produces. To address this, the Commission intends to present a discussion paper on sustainable food production before the end of June. In the same month, Potočnik aims to raise the political profile of the many issues involved by launching a debate on 'Land as a resource' and seek possible policy responses in Brussels, on 19 June. He invited and encouraged all those present to attend.

## Wide-ranging discussion

The commissioner's remarks prompted lively responses from the four panellists. Juergen Voegelé, director of agriculture and environ-



Janez Potočnik

mental services at the World Bank, made clear the organisation believes there is "no choice but to have sustainable intensification". However, a sustainable agricultural system is far from being achieved, especially outside Europe. Investment in agricultural research is urgently needed to increase production, develop crop resilience and lower farming's foot print.

Michael Salm-Salm, president of the German Landowners' Association, called on policy makers to show greater faith in the ability of local producers to instinctively understand what is in their long-term interests, rather than resort to regulation. He was applauded when he criticised the attempt to have



EU-wide soil legislation, maintaining measures should be established on a regional basis to take account of widespread soil diversity. In response, Potočník countered: “We and farmers have the same interest – to protect the soil. How we do it, we can discuss”. Ignace Schops, director of Regionaal Landschap Kempen en Maasland (Belgium), whose work involves translating biodiversity into terms people can understand, warned that the farm world is losing contact with society and needed to reconnect. In his experience, fewer people wish to become farmers. He identified the two priorities facing the world, and where Europe should take the lead, as climate change and food security. While he

thought there may be locations in Europe where sustainable intensification could take place, he appealed for more local solutions to global problems.

Bob Young, chief economist and deputy executive director, public policy, of the American Farm Bureau Federation provided a US perspective. The land being lost to agriculture makes essential a discussion on sustainable intensification, which he considered to be more a journey than a destination. This involves considering the use of all available technologies and adapting them where necessary to give environmental benefits as well.

One of the benefits of genetically modified technology, he pointed out, is that by not

breaking the soil’s surface, erosion is avoided. Another is a decline in the use of pesticides and insecticides. Given the strong debate surrounding the technology, he called for greater efforts to inject “the credibility science brings to the table” into discussions on the subject.

Despite several invitations to do so, Potočník declined to give his personal view on GMOs. “Whatever I say will be taken as a Commission view,” he explained, adding: “I have always believed in a scientific approach”. ■

# Promoting sustainable intensification

Views may differ on what sustainable intensification is, but there is no shortage of ideas on how it can be promoted



Erik Mathijs

The very term 'sustainable intensification' prompted differing reactions in the first breakout session focussing on the practical aspects involved. For Erik Mathijs, professor at the University of Leuven, it signifies doing more and better with less. It complements other strategies like reducing food wastage and is a central concept of resource efficiency. It encompasses a diversity of practical approaches and these vary depending on the scale and technologies used. In contrast, Ross Murray, deputy president of the Country Land & Business Association, considered it "a complete car crash, a bad marriage of two words: one pleases the Greens, the other the businesses". He preferred to talk of 'smart farming', which denotes "forward thinking, good technology and the 'F' word – farming".

Professor Alois Heissenhuber of the Technische Universität München considered that producing more with less was not new. The novelty lay in the fact that instead of concentrating on the relationship between inputs and output as in the past, now attention is also being given to leakages and side effects. Claudia Olazabal, head of the Agriculture, Forests and Soil Unit in the European Commission's DG Environment accepted there is

no common understanding of sustainable intensification. But the need to take a long-term view is crucial as is the need to improve the environment. It is not sufficient simply to prevent further degradation.

Education both in agricultural colleges and in distributing the latest research findings to farmers was considered to be a prime mover in promoting sustainable intensification. So too is some kind of incentive system, whether this comes from governments or the market. There was wide agreement that a suitable scale for its application should be a whole farm, perhaps increasing to river catchment level. At the same time, it was felt that sustainable intensification should not focus just on farms, but should include other land use such as forestry, fishing, hunting and recreation.

As one participant summed up: "What we need is technology, technology transfer and time". He explained that it can take farmers four to five years before fully applying policy changes introduced earlier. With policy certainty in place until 2020, Murray noted that now was the time to start inputting into the post 2020 era.

## Policy approaches

"The concept of sustainability in agriculture

is not well measured and defined, but everybody loves it," Allan Buckwell, senior research fellow at the Institute for European Environmental Policy, said, opening the breakout session on policy approaches to sustainable intensification in Europe. He identified a "communication" problem between those who use the concept when drafting legislation and those who have to implement it. "We've been repeatedly told that significant parts of global agriculture, including in Europe, are unsustainable, but the farmers do not admit there is any problem," he noted, adding: "There is a gap in the understanding of the language and the words".

Another challenge is properly measuring farms' environmental performance. Buckwell suggested that one reason the Common Agricultural Policy's (CAP) recent reform on greening is now widely criticised was the lack of a sustainable impact assessment. "In the absence of good arguments we do not get good policy," he explained.

Tassos Haniotis, director of economic analysis, perspectives and evaluation in the European Commission's DG Agriculture challenged Buckwell's views, arguing that the main goal of the CAP reform was "not to solve the problem of sustainable intensification". "We focused rather on areas of the market and policy that failed, including the environment, crisis management, distribution of support and link between second pillar measures and cross-compliance," he pointed out. The greening measures were intended to address such challenges as greenhouse gas emissions, soil erosion and biodiversity.

Marco Contiero, EU policy director on agriculture at Greenpeace's European Unit, blamed the EU decision making process, which he considered too exclusive, for watering down the greening part of the reform. Mairead McGuinness, an Irish MEP on the European Parliament's Agriculture Committee, challenged his view, arguing that the solution to the problem lay not in CAP reform but in "the markets" and suggesting remedies outside the CAP should be considered. ■

# Increase farm jobs by moving model from sustenance to business

African agriculture needs fair trade, diversification and investment to enhance its role as the continent's main job creator

African agriculture is currently based on life sustenance rather than profitable business. As Robert Sichinga, Zambia's minister of commerce (formerly agriculture), explained, it is the 'family first model' that currently dominates. In future, he argued, since agriculture is the main job creator in Africa, it has to move from a model of sustenance to one of profitability and business.

This requires fair trade principles between Africa and the developed world, more investment and increased diversification focusing on the need to grow what's suitable to a particular area. The minister reminded the session that Africa is not a country, but a continent of 54 different economies. "Unfortunately, the world's perception is that Africa is one country. It is a continent. It is heterogeneous with diversity in policies and agricultural practices."

## Fair trade and subsidies

Business opportunities abound in Africa, as natural resources offering potential still need to be developed. While inviting foreign investors to Africa, Sichinga spoke of a decline in trade between Africa and Europe, with China now aggressively investing there.

"Africa will not wait for Europe. We will go ahead and accept deals with China and India. We will do what's necessary for the survival of our people. The Chinese have also supported African governments in developing necessary infrastructure to exploit the agricultural potential," he said.

WTO rules of same terms for all world trade deals mean the EU cannot offer Africa more favourable treatment than other regions. This places African economies at a disadvantage. "The WTO



Robert Sichinga

argues that African and Pacific countries should have the same terms. You cannot have this because different areas have different levels of development," Sichinga emphasised.

The minister defended crop subsidies in Africa. He illustrated this with the Zambian example of having to import yellow maize from the US in 2002 due to drought. Once the government introduced subsidies for seeds and fertiliser, the agricultural sector was able to increase production back to 3.2 million tonnes of maize by 2011 – sufficient to feed Zambia and its neighbours.

In a pointed message to the EU, the minister emphasised that he did not understand why the EU seemed to be against subsidies in third world econo-

mies. "It doesn't make sense. Because it has created jobs and created production, it has a beneficial effect on the rest of the economy."

Replying to EU-Africa trade issues, Roberto Ridolfi, director sustainable growth and development in the European Commission's Development and Cooperation Directorate-General, addressed how the EU can assist Africa with advancing sustainable intensification. He defended the EU stating that it is Africa's biggest sponsor for both trade infrastructure and aid for trade. ■

# Improved technology and freedom from constraints essential

Better market access and a coherent regulatory system can encourage increased investment in farming business



Robert Lewis Carlsson

The role of government is vital in facilitating investment for technology to help farmers achieve sustainable intensification. It can create the environment for predictability via a coherent agricultural system, allowing for greater investment in innovation and technology, according to Maurice House, minister counsellor agricultural affairs at the US Mission to the EU.

"Improved technology is the single largest factor in increased innovation to help farmers do more with less. This is where governments can increase competitiveness, by supporting technology use by setting up a coherent regulatory system ensuring predictability," he said. Robert Lewis Carlsson, president of the World Farmers' Organisation (WFO), spoke of the importance of farmers to world food security and their pursuit of a seat on the UN Committee on World Food Security – a goal they have not yet achieved. As for investment in agriculture, farmers themselves account for up to 85-90% of investors and market conditions have to be conducive for investments to be efficient.

"A farmer will ask – if I make an investment in

new technology, new seeds, new forms of production will I repay that investment," he explained, adding that low prices and government regulations could be barriers to this trend. The audience also heard that guaranteeing enhanced market access would encourage farmers to invest in, and take on, new technologies.

## Constraints and regulations

In the context of EU and national regulations Pierre-Olivier Drege, director-general of the Wheat Growers Association, insisted that an alternative approach is needed – one where trust is placed in the farmer.

In advocating this change, Drege said that farmers need the tools necessary to produce without causing adverse environmental effects. Investment in these tools would allow for voluntary commitments with the local administration. "Policy makers need to change from the systematic administration constraint approach to contractual commitments by the farmer through certification schemes."

The freedom to produce is paramount alongside research, genetics and technological

advance, he continued. EU or government constraints and regulations, which may be of little or no benefit to the environment, must be avoided. For him, the norm should be local rules for local areas.

The example of wheat in Denmark was given to illustrate how national constraints on fertiliser use are so stringent that Danish wheat is of such low quality it can no longer be produced for baking.

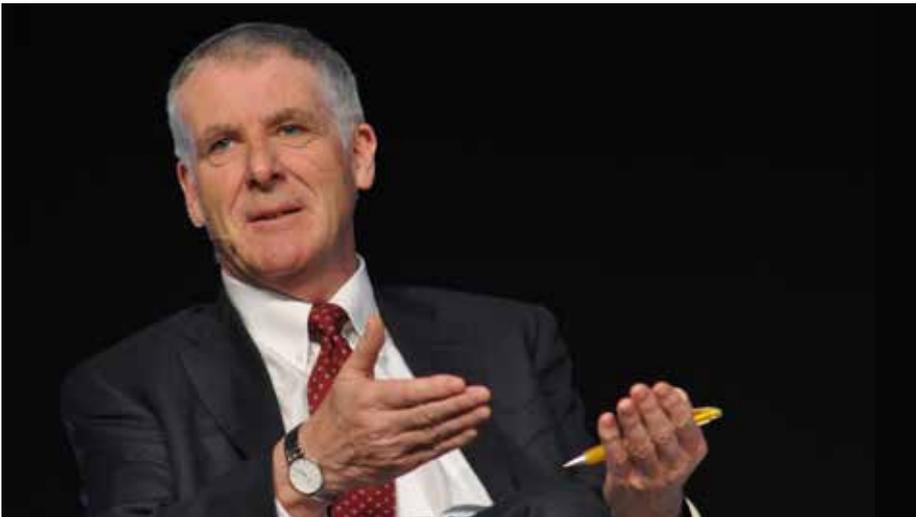
## Investment in logistics

To increase farming performance, appropriate transport logistics are a necessity. According to Drege, these have to be improved and he raised the idea of a possible network of canals linking up some of the EU's major ports. However, despite the available funds, the decision has yet to be taken to start construction. "It's a question of tempo. Compare what is happening at the Black Sea harbours. The facilities were built in a few months, so we need to accelerate the tempo to invest," he insisted. In the context of the developing world, investment in logistics and infrastructure is also needed and can be achieved by setting up bloc areas within countries, whereby everyone within the bloc can access the necessary infrastructure.

"A bloc is not about the land but about the infrastructure inside it, you have everything there – a piece of the first world in the third world. It doesn't cost a lot," said Mikhail Orlov, founder and president of the Ambika group. Improving conditions for farming investment in developing countries depends on performance from the point of view of profit and loss. This can be maximised through vertical integration, eliminating intermediaries and cutting transport costs by using the entire product in question locally. "It's about providing all the necessary incentives to allow capital to find a good harbour for higher returns. If we can increase capital investment in farming in the next 20 years by creating the conditions, feeding the world would be a non-issue," Orlov predicted when stressing the kind of policies he would like to see in place. ■

# EU and US heading towards regulatory approximation

Both sides declare to be ready for mutual recognition of standards as a first stage of an extremely difficult process of regulatory approximation



John Atkin

The EU and US agree on the urgent need to not only eliminate tariffs, but also to reduce non-tariff barriers in their agricultural trade. To achieve this ambitious goal, compromises will be necessary in some highly sensitive policy areas, including food quality and safety standards. Both Washington and Brussels say they are prepared to do so, but under certain conditions.

Darci Vetter, the chief US agricultural negotiator for the Transatlantic Trade and Investment Partnership (TTIP), told the forum: "We are committed to a robust agreement". However, she made clear that for a deal to be acceptable to Congress and American agri-business it had to address current trade irritants. The White House expects the EU to, inter alia, depoliticise and streamline the authorisation system for genetically modified (GM) products, scrap the ban on hormone-treated meat and accept imports of chlorinated chickens.

Those expectations go too far for the EU. Paola Testori Coggi, director-general in the European Commission's DG SANCO, promptly rejected two of the three American demands. "There are certain areas such as the use of

hormones in meat production and the GMO authorisation system where we will not be able to move," she emphasised, adding: "These negotiations are not about compromising consumer safety standards for commercial gain".

Marc Vanheukelen, Trade Commissioner Karel De Gucht's head of cabinet, agreed with Vetter on the need for the TTIP to address the current trade irritants, suggesting that European agri-food producers are also eyeing better access to new markets. He pointed to quality standards for dairy products and burdensome testing procedures for fruit and vegetable imports as two main areas where progress from the US side is required. He mentioned the sensitive issue of protected EU labels as an area where Brussels would seek "a pragmatic solution". Vanheukelen underlined that any concessions on the most sensitive agricultural sectors would only be given "after careful consideration of all relevant information - including the positions of stakeholders".

## Breaking new ground

Both Vetter and Vanheukelen admitted that

it would not be easy to make the two regulatory systems more compatible to prevent future trade problems. The latter pointed out: "Regulatory approximation has never been tried before. We are in uncharted territory". For Vetter, "We are doing something very new." They agreed that strong determination and readiness to compromise were necessary to achieve the progress needed. The starting point should be an agreement on mutual recognition of standards and certificates. "We believe that where one party's measure is different from the other party's, but provides the same level of protection, it should be possible to recognise this equivalence and allow trade to take place," Vetter said. "We have so many areas of regulation where the procedures for controlling compliance are different, but where the safety and other requirements are ultimately the same. In these areas, moving to mutual recognition facilitates trade without any reduction in standards," Vanheukelen explained.

## Hopes and concerns

John Atkin, COO of Syngenta, strongly welcomed the idea of including regulatory approximation in the negotiating efforts. He insisted there is an "urgent" need for the EU and US to work towards compatible food safety systems to create a more stable and predictable environment for both farmers and business. "We've struggled with the burden of different systems for a long time," he said.

He called on both sides to move towards mutual recognition of standards, describing it as "a good start and great help for producers". In contrast, Allen Hershkowitz, senior scientist of the Natural Resources Defence Council, warned against focusing all efforts on regulatory approximation and leaving unanswered other important global challenges such as sustainable agricultural production, biodiversity, or reducing greenhouse gas emissions. ■

