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EU commodity market development: Medium-term agricultural outlook

*Proceedings of the
October 2017 workshop*

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Foreword

The workshop on the '*EU commodity market development: Medium-term agricultural outlook*' is part of an annual workshop series on market modelling and development¹. The workshop is an integral part of the intensive validation procedure of the results of the European Commission's report on '*Prospects for EU agricultural markets and income*'. It provides a forum for presentations on preliminary projections to 2030 of EU agricultural commodity markets and for discussing in-depth the EU prospects in a global context.

This report contains a summary of the presentations and subsequent discussions from the 2017 workshop, held on 19 and 20 October at the University Foundation in Brussels (Belgium). The workshop was jointly organised by the Sustainable Resources Directorate (D.4) of the European Commission's Joint Research Centre (JRC) and the Directorate-General for Agriculture and Rural Development (DG AGRI).

Participants in this year's workshop included high-level policymakers, modelling and market experts from various countries, stakeholders from the agri-food industry, and representatives from international organizations, such as the Organization for Economic Co-operation and Development (OECD), the Food and Agriculture Organization of the United Nations (FAO) and the World Bank.² Special attention was given to the sensitivity of the projections to different settings and assumptions (e.g., uncertainties regarding macroeconomic conditions, specific policies, supply and demand drivers).

Comments made during the workshop were taken into account to improve the final version of the '*Prospects for EU agricultural markets and income, 2017-2030*'. The final outlook report, previous versions, background information on how projections are made and the methodology used for analysing market uncertainty are available online:

<http://ec.europa.eu/agriculture/markets-and-prices/medium-term-outlook/>

¹ Previous workshop proceedings are listed in the Annex 4.

² Please note that the views expressed are those given and presented at the workshop and may not in any circumstances be regarded as stating an official position of the European Commission or of the other institutions that participated in the workshop.

Acknowledgements

We would like to acknowledge contributions made by all participants (see Annex 2) and their consent to share their expertise and comments, as well as the JRC staff involved in the organisational arrangements, particularly Els De Rademaeker. We thank all contributing and participating colleagues from JRC (Giovanni Di Santi, Giampiero Genovese, Frank Dentener, Jean-Michel Terres and Maria Bielza), DG Agriculture (Tassos Haniotis, Pierluigi Londero, Benjamin Van Doorslaer, Koen Mondelaers, Sophie Hélaine, Sylvie Barel, Barthelemy Lanos, Carl-Johan Linden, Marijke van Schagen, David Pérez Zaitegui, Andrea Capkovicova, Koen Dillen and Fabien Santini) and DG Environment (Cladia Olazábal). Finally, we thank the following invited external experts who were involved in the chairing of sessions, formal presentations and discussions:

Invited participant	Affiliation
John Baffes	World Bank
Stefano Baldi	Nomisma spa
François Cadudal	ITAVI
Philippe Chotteau	Institut de l'Elevage
Claudiu Covrig	Kingsman - S&P Global
Claus Deblitz	Thünen Institute / agri benchmark
Andrée Defois	Tallage sas
Pierre Henri Dietz	Tereos
Lukasz Dominiak	National Poultry Council - Chamber of Commerce
Jared Greenville	OECD
Olli Honkamaki	Valtra
Diego Iscaro	IHS Market
Claus Keller	F.O. Licht Commodity Analysis
Christophe Lafougère	Gira
Rohaise Low	LMC International
Doris Marquardt	European Environment Agency
Holger Matthey	FAO
Ferdinand Meyer	University of Pretoria
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Mark Routt	KBC Advanced Technologies
Petra Salamon	Thünen Institute
Harry Smit	Rabobank
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Abstract

The workshop 'Medium-term Outlook for the EU Agricultural Commodity markets' is an integral part of the intensive validation procedure of the results of the European Commission's report 'Prospects for EU agricultural markets and income'. It provides a forum for presentations on preliminary medium term projections of the most relevant EU agricultural commodity markets and discussing in-depth the EU prospects in a global context. This year the workshop was held on 19-20 October in Brussels. The workshop was jointly organised by the Joint Research Centre (JRC) and the Directorate-General for Agriculture and Rural Development (DG AGRI). Participants included policy makers, modelling and market experts from various countries, as well as stakeholders of the agri-food industry. This document summarises the presentations and discussions on the macroeconomic and energy assumptions associated with this outlook, and on each of the EU agricultural markets addressed: biofuels, cereals and oilseeds, sweeteners, milk and dairy, meats and wine. Additionally this year international challenges, environment and climate change were also discussed.

1 Introduction

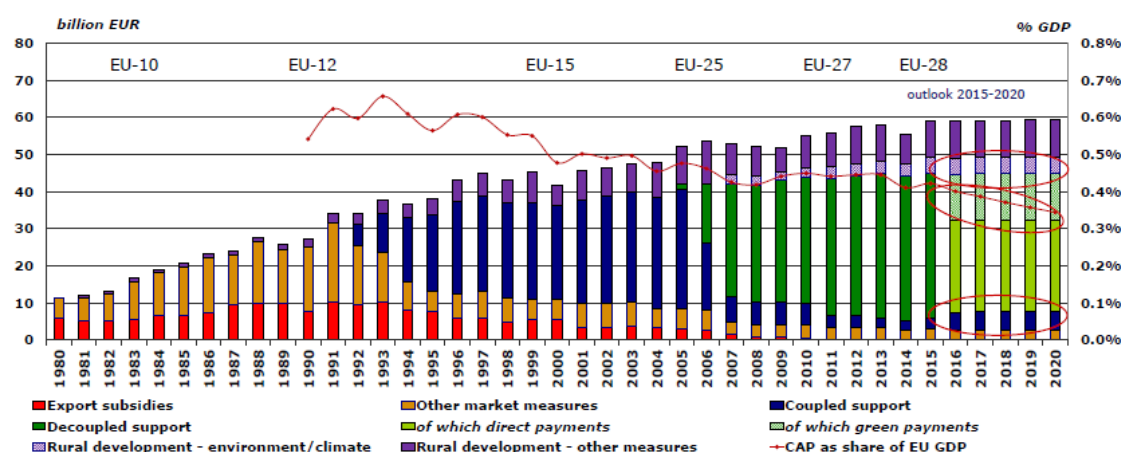
Giovanni De Santi (JRC Ispra), Tassos Haniotis (DG AGRI) and Giampiero Genovese (JRC Seville) set the scene for the workshop on the medium-term outlook for the EU agricultural commodity markets by presenting challenges and drivers for the Common Agricultural Policy (CAP) of the EU and providing background information on the EU agricultural outlook and its yearly construction process. Giovanni De Santi opened the workshop and highlighted the importance of policy and science working together. He also pointed at the medium-term outlook as a good base for discussion between stakeholders.

1.1 Agricultural policies at a crossroads - Global challenges and drivers for change: any lessons from the Common Agricultural Policy?

Mr. Haniotis (DG AGRI) highlighted the importance of the agricultural outlook exercise, in particular the annual construction of a baseline and the use of scenarios in answering policy questions. He started his keynote by emphasizing the importance of the CAP which is not only important for agriculture but also transcends to other areas, such as environment. He also pointed out that the present outlook extends until 2030, which is an important milestone for the international policy agenda (i.e. Sustainable Development Goals).

He presented the CAP debate by pointing at the achievements and the shortcomings of the CAP reform path, and drivers and challenges in the future. Among the achievements, he reported about the closure of the gap between world and EU farm prices (thus increasing EU farmers' competitiveness), the importance of turning the EU into a net agro-food exporter, and the provision of relative income stability in a very volatile income and price environment. Among the shortcomings, he mentioned the need for improving environmental performance in EU agriculture, investing in research or innovation-driven productivity growth, and designing a simpler and more equitable CAP able to provide a safety net to farmers. Among the drivers and challenges, he mentioned the changing commodity, economic and price environment, the changing trade environment (from multilateral to regional trade agreements), and the new climate change, environmental and sustainability priorities.

Figure 1: Evolution of the Common Agricultural Policy in terms of payment types



Source: Slides of T. Haniotis (DG AGRI)

Mr. Haniotis touched upon some of the issues that the CAP is currently facing. The first is the slight increase in coupled support in the last few years as a response to price volatility, payments that could potentially be in the WTO blue box (see Figure 1), while the large part of the payments are now decoupled. The second issue is the distinction

between voluntary and mandatory policy measures, and the third is the cost of the CAP in the future. He also pointed at the fact that commodity prices are decreasing and will likely stabilize to a new plateau. He mentioned that the number of natural catastrophes worldwide has been rising, especially in the years between 2006 and 2016.

In order to increase the environmental performance of the CAP, part of the payments are now made conditional on "greening" measures. However, a simpler CAP requires simple environmental measures. To this respect, he mentioned that there is a debate on whether to link "green" payments to mandatory or voluntary measures and which criteria are required to fulfil these measures and qualify for the "green" payments.

Finally, Mr. Haniotis concluded his presentation by stressing the importance of turning tensions about the future CAP into synergies. Among the tensions, he mentioned the trade-off between economy and environment, the contradiction between subsidiarity and simplification and the difficulty of including more technological advances in agriculture and, at the same time, preserving jobs. In his opinion, these tensions have to be transformed into synergies. Among the synergies, he mentioned finding the right balance of support between private and public goods, between EU, Member States, and farm responsibilities, and enhancing resilience through addressing the jobs and growth challenges in rural areas and along the food chain. The main questions to be addressed by the future CAP will be deciding the policy target (i.e. the farm or the land), better exploit and evaluate the potential of new technologies, and rethink control performance processes.

1.2 The EU agricultural outlook process

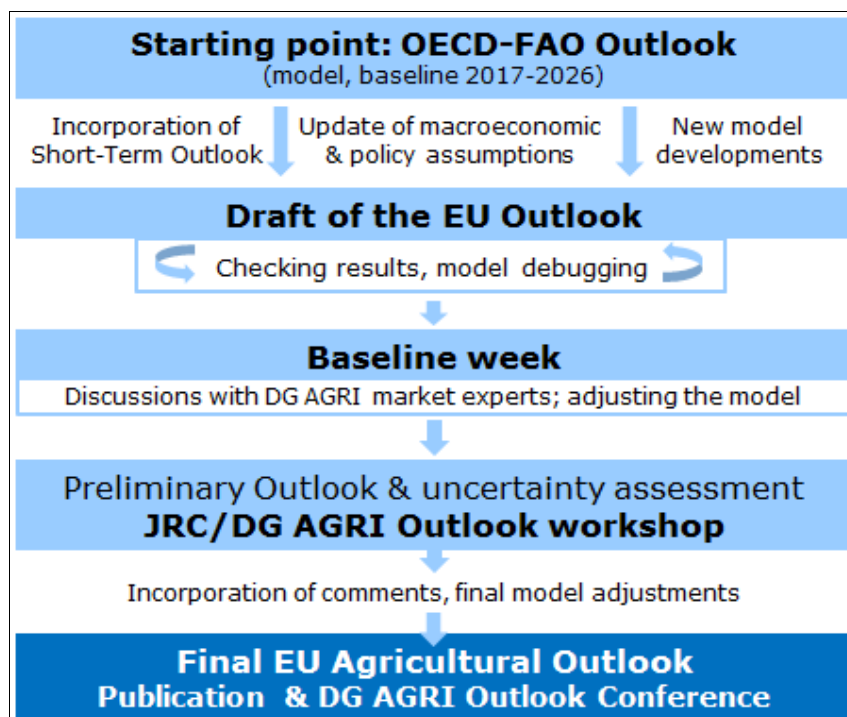
As an introduction to the workshop, Giampiero Genovese (JRC Seville) provided background information on the EU agricultural outlook and its construction process, emphasizing the importance of this workshop in the overall validation process of commodity market projections, which are ultimately needed for supporting policy with scientific evidence. Receiving feedback from market experts allows for the development of a realistic starting point for the design and update of EU agriculture and rural development policies (e.g. in the case of the 'greening policy package').

Since 2008, the European Commission publishes annually the EU outlook on medium-term agricultural market developments (10th anniversary this year). In essence, the aim of this outlook is the consolidation of a medium-term reference timeline for the purpose of counterfactual policy analysis at the EU level. This comprises a set of baseline projections that are derived under assumptions governing macroeconomic factors (e.g. GDP, inflation, oil prices, exchange rates, consumer prices, population growth) and EU and non-EU region-specific policy settings. The baseline assumes normal weather conditions and the absence of production disruptions due to plant and/or animal diseases, elements that are typically subject to scenario analysis.

The OECD-FAO medium-term agricultural outlook is revised and updated by the European Commission after its publication, which this year occurred on the 10th of July (Figure 2). In close collaboration between the Agricultural Modelling and Outlook Unit of DG AGRI and the Economics of Agriculture Unit of JRC, new model developments and the latest EU agricultural short-term figures are incorporated, macroeconomic factors and oil prices updated, and further information and feedback from market experts included into the medium-term baseline. At the core of this process is the so-called *baseline week*, an intensive technical exercise organized on a yearly basis in early October in Brussels. During this week, JRC and DG AGRI examine and consolidate a preliminary baseline using the Aglink-Cosimo model. This is accomplished with consistency checks, model re-fitting, as well as subsequent feedback from the DG AGRI market units until consensus on the preliminary projections across markets is achieved.

The preliminary agricultural market projections are presented in the EU outlook validation workshop (this year on the 19th and 20th of October), which is documented herein. Comments made during the outlook workshop are then taken into account to further improve the market projections. The final version of the '*Prospects for EU agricultural markets and income*' is presented and published in December at the EU Agricultural Outlook Conference in Brussels (this year taking place on the 18th and 19th of December).

Figure 2: EU agricultural outlook process



Source: Slides of G. Genovese (JRC Seville)

The core tool used to generate the medium-term projections is the European Commission's version of Aglink-Cosimo³. Aglink-Cosimo is a recursive, dynamic, partial equilibrium model for global agricultural commodity markets⁴. It covers 93 agricultural commodities (with 40 world market clearing prices) and produces annual supply, demand, price, and trade estimates for 44 individual countries and 12 regions. It is developed, maintained, and funded by the OECD and the FAO Secretariats with a defined group of users from national administrations and research institutes in member countries.

The standard version of Aglink-Cosimo facilitates the elicitation of a deterministic baseline that serves as best-guess market developments in the medium term. To take into account unequivocal uncertainties that accompany agricultural markets, the EU outlook is supplemented with a partial stochastic analysis module that is maintained at the JRC. Every year's workshop presentations included variability ranges in commodity price projections that consider alternative macroeconomic environments, yield levels, and oil prices.

In addition to the partial stochastic analysis, deviations from the baseline are examined with a series of deterministic counterfactual scenarios where assumptions with respect to major drivers of the EU agricultural markets are altered and model variables are shocked

³ See <http://www.agri-outlook.org/abouttheoutlook/>

⁴ See model documentation at <http://publications.jrc.ec.europa.eu/repository/bitstream/JRC92618/jrc92618%20online.pdf>

exogenously. This year's workshop included presentations of alternative scenarios pertaining to *(i)* the effects of climate extremes on European markets for the main crops (i.e. wheat, maize, barley) (section 4.2), *(ii)* the potential for India to become a Skimmed Milk Powder (SMP) exporter on the world market (section 7.2), and *(iii)* the effects of a total import ban from the EU due to pandemic avian flu on EU meat markets (section 8.2). Finally, this year's workshop included presentations with other partial equilibrium models that focus on the member-state (MS) level: the Common Agricultural Policy Regionalised Impact Modelling System (CAPRI) in section 6.1 and the Agricultural Member State Model (AGMEMOD) in section 8.2.

2 Macroeconomic and energy context

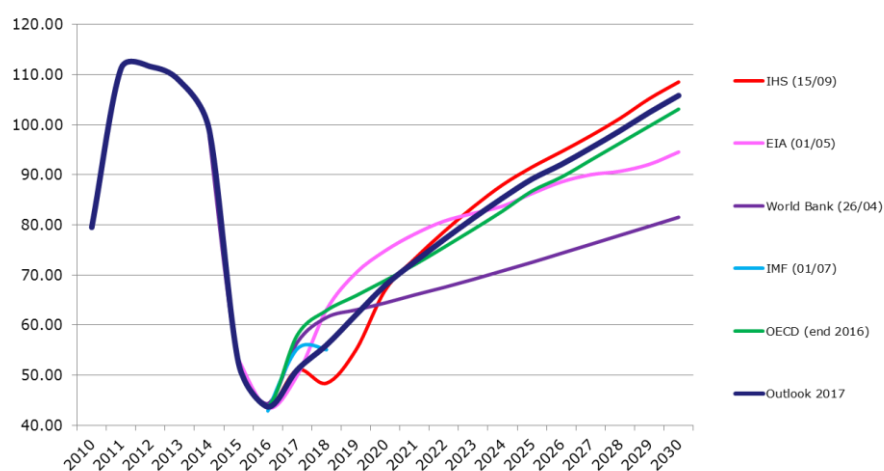
Macroeconomic factors such as GDP growth, exchange rates, trade agreements, and energy prices are important elements in the generation of the baseline. This year's presentations on macroeconomic and energy projections, given by Pierluigi Londero (DG AGRI), Diego Iscaro (IHS Markit), and Mark Routt (KBC), are documented below.

2.1 Preliminary EU outlook, 2017-2030

In his presentation, Mr. Londero (DG AGRI) mentioned the assumptions made regarding trade relationships between the EU and other countries. The EU outlook assumes that the 2014 Russian ban on imports of agricultural products (incl. pig meat) will remain in place until the end of 2018, and thus EU exports to Russia will start partially recovering in 2019. However, since it takes time for markets to re-adjust, the actual timing of the temporary ban and scale of EU recovery are dependent on domestic production. Furthermore, only ratified free-trade agreements (FTAs) are considered in the baseline, such as the FTA with Canada. He also emphasized once more that this is an EU-28 outlook exercise.

With regard to the CAP, on the one hand, voluntary coupled support (VCS) is integrated on the basis of MS declarations. The integration of greening measures (i.e., area-based payments owing to beneficial for the environment practices) is more complex. The impacts of the greening requirement for crop diversification are assumed to balance out at the aggregated level, although it is recognized that country-level impacts may differ. Permanent grassland is assumed to remain stable throughout the projection horizon (33% in total arable land), whereas fallow land will decrease from 6.7% (2015) to 6% (2026). The requirements on Ecological Focus Areas (EFAs) are taken into account thanks to increasing planting of catch crops, protein crops, and soybeans.

Figure 3: Oil price assumptions in the EU Outlook (2017-2030; USD/bbl)



Source: Slides of P. Londero (DG AGRI)

The sharp drop in oil prices since mid-2014 can be attributed to a slowing world demand, record supply increases (e.g., shale oil from North America), and the decision by the Organization of Petroleum Exporting Countries (OPEC) to leave its production target unchanged. In the EU outlook, projected oil prices rebound, in the short term, slower than the respective OECD-FAO and World Bank figures, but faster than what the IHS and IEA conclude in the years 2017-2019. After 2021, it is assumed that oil prices will keep rising at a similar speed as OECD and IHS. In nominal terms, oil price per barrel is expected to go up from 51 USD (2017) to about 105 USD (2030), thus underpinning rising commodity prices (Figure 3).

In the current outlook, an appreciation of the EUR/USD exchange rate is expected with a subsequent stabilization at 1.24 USD/EUR by the end of the projection period. GDP growth in the EU is expected to remain stable at 1.4% (EU-15) and 2.5% (EU-N13). China's economic growth is expected to slow down (4.2%), whereas Brazil and Russia will likely soon recover from recession and stabilize at around 3% and 2%, respectively, slightly above and below the projected US economic growth, respectively.

2.2 Presentations by invited experts and discussion

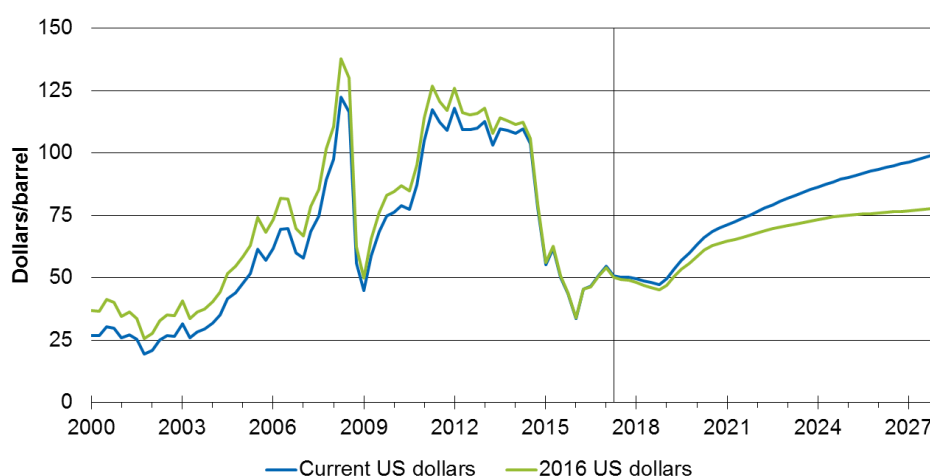
In his presentation, Diego Iscaro (IHS Markit) stressed that economic growth is projected to accelerate to its highest level in six years in 2017, led by developed economies. However, IHS projects this momentum to remain in place during 2018/19 but increasingly adverse demographics and a downward trend in capital growth should lead to a gradual deceleration of global growth during the medium- and long-term. He also reaffirmed the importance of the GDP world projections in the Outlook years, with a fiscal policy more supportive than in previous years. Central banks will only tighten monetary policy gradually. Even though a labour-supply growth slowdown (due to demographic trends) and a downward trend in capital stock growth (due to lower global savings and investment rates) will make factor accumulation slower, productivity gains from new technological advances will moderate these impacts and allow positive growth rates.

Saving rates of developing economies increase as incomes rise in the early stages of economic development, but they will moderate and decline in the later stages as populations age. Emerging economies will continue to grow at a much faster rate than developed economies and their share of world GDP will be larger in 2030 compared to its current level (especially Asia, except Japan, and Middle East and North Africa).

The Brazilian Real and the US Dollar are expected to slightly depreciate over the Outlook period, while the British Pound slightly appreciates until 2021 and then stabilizes. The Swiss Franc instead depreciates until 2021 and then slightly depreciates during the Outlook period. Mr. Iscaro pointed out that while the EU will continue running a surplus, the US will continue running a deficit even if slightly decreasing.

IHS projects oil prices to increase gradually over the forecast horizon as higher prices are required in order to meet expected oil demand growth plus oil field depletion. Mr. Iscaro retains that price of crude oil is increasing over the Outlook period in nominal terms until approximately 100 USD per barrel but increasing more moderately until only slightly above 75 USD per barrel if inflation is excluded (i.e. real prices, Figure 4).

Figure 4: Nominal and real price of crude oil



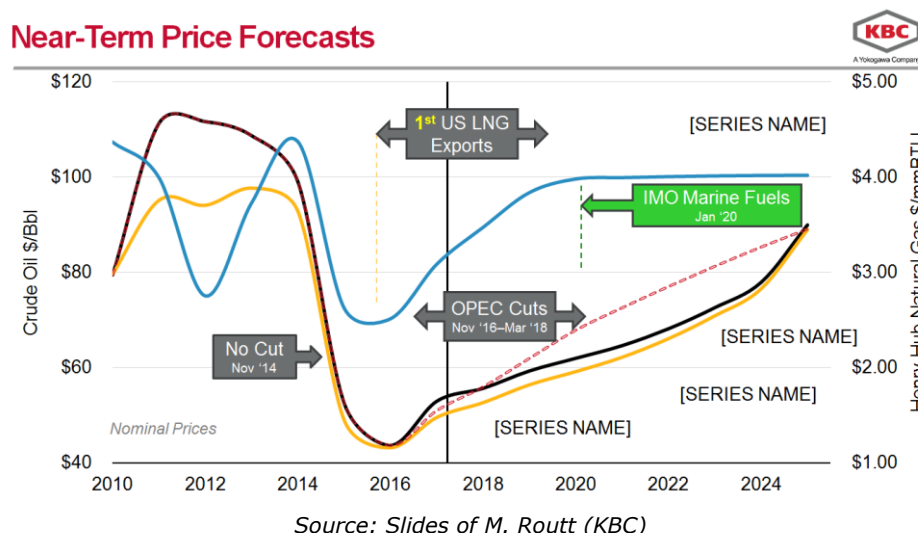
Source: Slides of D. Iscaro (IHS Markit)

Mr. Iscaro reiterated that main risks are possible if macroeconomic projections were not as good as we expect, let alone if geopolitical tensions could result in a war. Uncertainties remain about the rate of total factor productivity expected in the future and a potential for China to increase its debt. Populist political pressures could result in higher protectionism and Europe as a region could be stagnating. On the positive side, demand and reform implementation could be stronger than expected.

According to Mark Routt (KBC), long term energy demand continues to grow, albeit at a slower pace. The balance in the energy market, following his projections, remained unchanged in the main sectors between 1990 and 2016. On one hand, 78% of supply 'was, is and will remain' composed of natural gas, coal and oil, while, on the other hand, approximately 80% of demand will be coming from transport, industrial and power generation. However, demand for oil is shifting to petrochemicals (with Asia driving this global petrochemical demand), while demand for gas is shifting to the power sector.

Oil price remains higher in the near term until 2019 because OPEC and other countries are successfully limiting supply. However, according to Mr. Routt, US supply of crude oil and natural gas continues to grow to match global demand (Figure 5).

Figure 5: Near-term crude oil and natural gas forecasts



Source: Slides of M. Routt (KBC)

Moreover, oil stocks still remain high globally in both absolute and relative terms even though supply catches up with demand. This implies crude oil price is slightly depressed in the medium term. Asian demand growth—especially for gasoline— is eroding regional refining capacity surplus. Oil prices will finally rebound at the end of the Outlook period and match closer the development of the EU projections. When prices will become higher, the US will produce and export more.

More cuts to oil production in the near term by the OPEC countries are limited by the Initial Public Offering on Saudi Aramco to be expected in 2018. If Venezuela and Mexican Gulf stabilize, output could increase quite strongly. Oil demand could become lower if new engine technology spreads (Compression Ignition Gasoline Engine, entails 20% more efficient use of fuel expected to be produced in 2019). From the policy point of view, uncertainties in oil prices could come from decarbonizing regulations, which could reduce demand by driving costs higher for customers. Additional policy uncertainties pertain to the possibility that biofuel mandates are eased or repealed and to a potential policy-driven substitution of fuel cars for electrical vehicles.

During the open discussion the issue of high fossil fuel demand was raised, especially in light of technology development towards electric or more efficient engines. Mr. Routt

explained that the Internal Compression engine, which would increase efficiency in fuel use by 20%, represents a lower cost to society than electric vehicles. This possibility sparked more interest together with the statement, during his presentation, that a low oil price would make simpler a transfer to electrical vehicles. Mr. Routt explained that with a low energy cost in the next 2–3 years it is time to accelerate the adoption of alternative fuels because price differentials are relatively low. From a policy perspective, it is less costly to switch from normal fuel cars to electrical cars in a moment when oil prices are low. In other words, incentives to make customers switch to electrical cars are lower in this period of low oil prices. We know also that electrical vehicles do not substitute economically with normal fuel vehicles.

Another point raised was the goal of the international community to reach a maximum of 2 degrees increase in temperature over pre-industrial levels to mitigate climate change. Mr. Routt reiterated that new technologies resulting from the implementation of carbon taxes should be spread to countries like China where the use of coal is widespread.

Regarding the development of interest rates in the near future, Mr. Iscaro said that it is difficult for interest rates to rise with large injections of liquidity, as it has been done in the EU until now. The main problem is the credit worthiness. If this happens, the bank perception of risk should go down even if the interest rates will rise. Credit conditions in the near future should be positive. Moreover, Mr. Iscaro explained that interest rate volatility would go down if world GDP growth were to improve.

Mr. Routt also explained that shale gas production has been disruptive for oil markets. However, the OPEC has not reduced production keeping the price low for a long period. In his opinion, there is no problem in continuing fracking gas and oil. However, the price of fracking has gone up and efficiency has gone down.

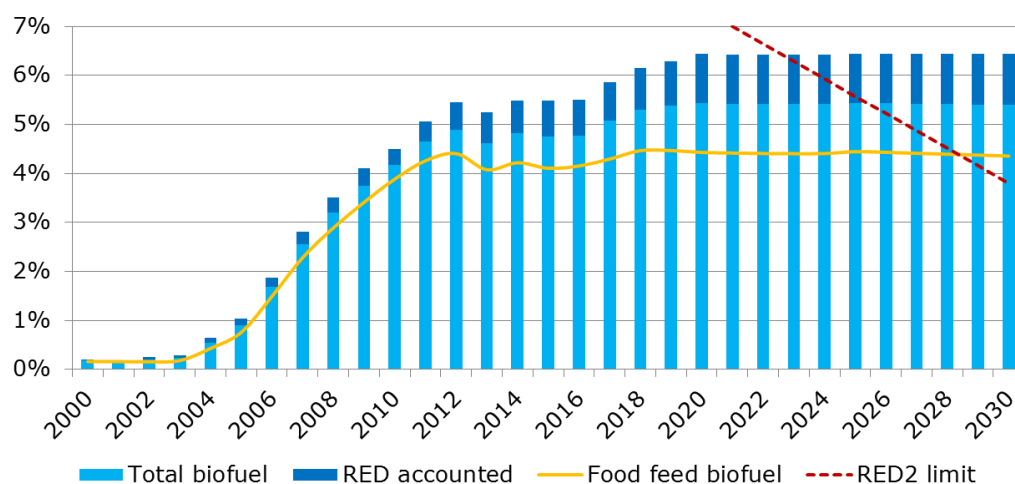
3 Biofuels

The development of a biofuel market in the EU is relatively recent. It emerged in the early 2000s in order to comply with biofuel consumption mandates defined by EU legislation. The mandates will likely remain a driving force of this market until 2020. The post-2020 period is more uncertain in the absence of clarity on future targets. The presentations of the preliminary outlook results, presented by Sylvie Barel (DG AGRI), and the two following discussants Claus Keller (F.O. Licht) and Rohaise Low (LMC) tried to disentangle the likely medium-term impacts from a policy perspective.

3.1 Preliminary EU outlook, 2017-2030

In presenting the preliminary outlook results for EU biofuel markets, Sylvie Barel (DG AGRI) underlined that the current rate of increase in domestic biofuel consumption will not be sufficient to fulfil the mandate of the Renewable Energy Directive (RED) by 2020. Therefore, the outlook assumes a rising consumption of biofuels in the next three years, up to 6.4% of the energy used in transport by 2020 (a slight decline with respect to the previous outlook's 6.5%). Accordingly, the share of fuel attributed to first-generation biofuels will be limited to 4.4%, which is far below the recently established EU-level threshold (7%) for food and feed based fuels. After 2020, total domestic use of diesel and gasoline is expected to further decrease owing to energy efficiency in the transport sector. However, much is unknown about the biofuel policy context after 2020. Thus, the preliminary outlook assumes that EU biofuel consumption will remain stable in terms of the share of total energy used for transport after 2020 (Figure 6).

Figure 6: Assumed share of biofuels in EU transport energy



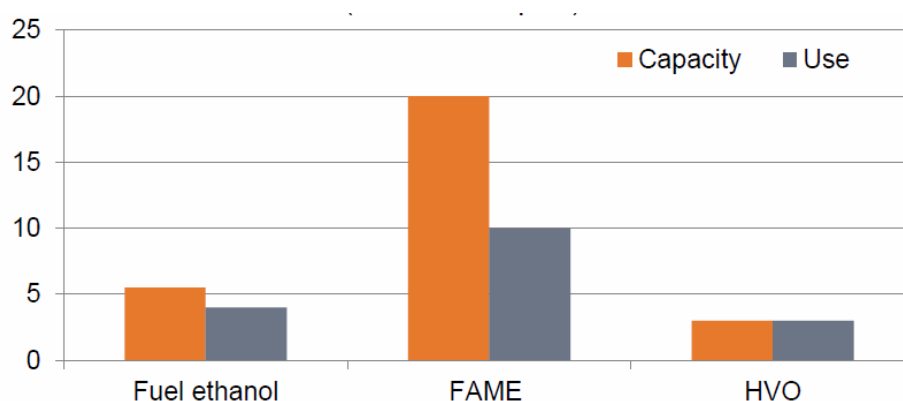
Source: Slides of S. Barel (DG AGRI)

Over the 2017-2030 period, the ethanol production is expected to remain stable around 7.5 billion litres with limited relative change in source feed stock used (the RED2 limit was not implemented in the preliminary outlook). The EU biofuel market remains dominated by biodiesel, mainly produced from domestic rapeseed. The initial increase in biodiesel consumption over the projection period will principally come from non-agricultural sources, particularly waste oils and second-generation biodiesel. After 2020, biofuel production is expected to decrease, following the decline in domestic use due to energy efficiency improvements.

3.2 Presentations by invited experts and discussion

Claus Keller (F.O. Licht) presented his expectations regarding EU biofuel developments. With respect to the current situation, he highlighted that the EU member states are not on track to meet their RED 2020 obligations for biofuels in transport energy, with some member states being far behind their 2020 mandates. He pointed out that there is no significant dynamic movement seen to meet the targets, which might be due to a lack of legal provision that would force member states to start renewable energy use in transport before 2020. Therefore current biofuels demand is far below the 2020 target, which should not be forgotten when discussing 2020 – 2030 projections, especially when talking about possible demand losses after 2020. Mr Keller stated that the current performance of member states regarding biofuel market shares varies widely between member states. This is due to a mixture of national differences in, for example, biofuel quota levels, fuel taxation, blending standards, sanctions and penalties for not meeting the targets, volumetric/energetic/GHG-based targets and subsidies, co-processing of plant oils/use of hydro treated vegetable oils, and tax waivers, also for pure biofuels and high blends.

Figure 7: EU Biofuels Capacity Utilization in 2017 (Mio t)



Source: Slides of C. Keller (F.O. Licht)

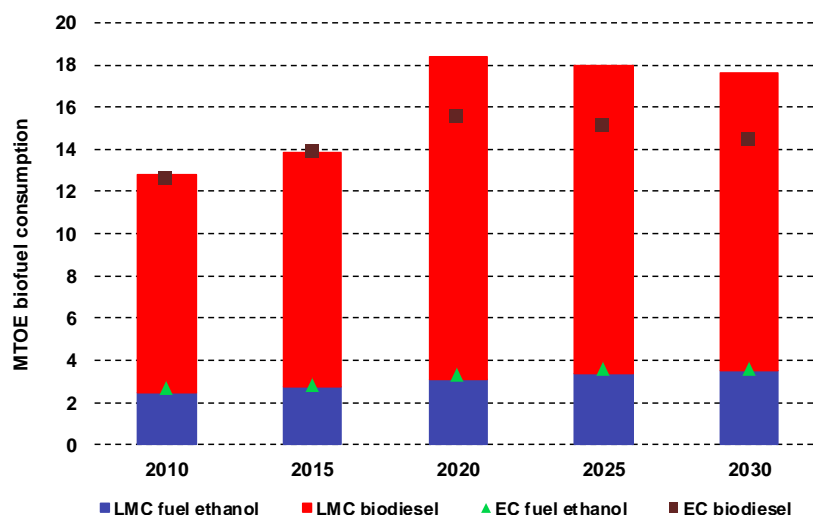
In the post-2020 era, Mr. Keller sees overcapacities in the crop-based biofuels sector, mainly for FAME (Fatty Acid Methyl Esters) (Figure 7), but if applied, the European Commission's proposed targets under the Clean Energy Package would require a significant investment in advanced biofuel production capacity. However, Mr Keller stated that the preconditions for such an investment in advanced biofuels (long-term horizon, established technologies) do not exist. Several cellulosic ethanol projects are in the pipeline and some industrial capacity exists, but there is no experience with the majority of advanced biofuel production pathways at an industrial/commercial scale. Mr Keller therefore does not expect a quick breakthrough in coming years with regard to advanced biofuels, with growth being slow, even under high oil prices.

Rohaise Low (LMC) stressed that the policy environment in the EU remains uncertain, restricting growth in the biofuels industry. The most recent proposals for the RED post-2020 include a lower cap on crop-based biofuels of just 3.8% by 2030. Moreover, major changes in trade barriers are underway with anti-dumping (AD) duties for both ethanol and biodiesel being lowered or revoked. LMC's standard forecasts are based on (i) the current RED legislation (as passed in 2015) with a 7% cap on crop-based biofuels and no ILUC included in the GHG calculations, (ii) countries permitting the use of E-10 by 2020 and E-15 by 2030 for ethanol, and (iii) a B-7 blend wall for biodiesel (FAME). Ms. Low presented the LMC forecast, which expects total EU gasoline and diesel demand to peak around 2020 and then decline towards 2030 due to an increase in fuel efficiency and use of alternative fuels. In the period to 2020, low crude oil prices will support demand for transport fuels. In general, the LMC forecast is quite similar to the Commission's

preliminary outlook projections, albeit the former is marginally higher. With respect to ethanol consumption, LMC sees EU ethanol fuel consumption at almost 7 billion litres by 2030, with the growth being driven by the increasing blending mandates in the member states and increasing use of higher blends (E-10 and E-15) outweighing falling gasoline use. The ethanol blend in gasoline is expected to reach 5.7% (energy content; equivalent to 8.7% volume) by 2030. On the other hand, second generation ethanol is expected to continue having only a small market share at around 250 million litres by 2030. For EU ethanol production, LMC expects that EU production will follow the increase in demand, allowing EU net imports to remain quite stable at current levels. As the EU ethanol production capacity is currently underutilised, output can be increased in the short term without additional investment. Currently EU domestic production is expected to be competitive relative to the world market, although the end of anti-dumping duties on US ethanol could lead to trade increases.

Turning to biodiesel, Ms. Low outlined that here the consumption growth to 2020 will also be mainly driven by rising mandates, and consumption may peak at over 17 million tonnes. The share of renewable diesel is expected to grow over the forecast period, reaching 43% of total biodiesel demand in 2030. Moreover, the proportion of biodiesel made from waste oils/fats is also expected to grow. Overall, the energy contribution of biodiesel to the diesel pool is seen at 7% by 2030, and if double counting is included the figure is close to the 10% RED target. The forecast of LMC for blend and net trade of biodiesel is similar to the EC projections. Imports are expected to rise over the forecast period following the end of AD duties on Argentine and Indonesian biodiesel. However, if these AD duties are renewed, then domestic production will have to rise further to meet demand in the region. HVO (Hydrotreated Vegetable Oil) biodiesel is expected to contribute to around half of the output growth, as new plants are currently in the pipeline and existing producers will continue to expand capacity. In total, LMC forecasts biofuel consumption in the EU to reach 17 Million Tonnes of Oil Equivalent (MTOE) in 2030, down from a peak of 18 MTOE in 2020. Ethanol would only have a share of just 21%, partly due to its lower energy content. This is equivalent to 6.4% of energy content in fossil fuels, which is slightly more optimistic than the Commission's estimate due to higher biodiesel demand (Figure 8).

Figure 8: Total biofuel consumption in the EU: LMC forecast versus EC preliminary outlook



Source: Slides of R. Low (LMC)

Ms. Low highlighted three points that could alter the current projections significantly: (i) Anti-dumping duties on US ethanol, and Indonesian and Argentine biodiesel are set to be cut or expire, which could have a significant impact on the domestic EU biofuels industry; (ii) The proposals of a lower crop-based biofuel cap under the RED to 2030 could

substantially cut EU biofuel demand, with the impact on ethanol being most significant, as there is very little waste-based production and cellulosic technology is still struggling; (iii) A move towards GHG mandates could see a shift in the EU biofuels market, as these mandates would give higher incentives to lower carbon fuels such as waste-based biodiesel and advanced ethanol.

In the open discussion following the presentations, the impact of the RED2 limit of 3.8% for 1st generation crop biofuels was discussed. Participants highlighted that there are also some policies in place after 2020, as for example the programs for incentivising biofuels in Germany will probably continue post 2020. It was also mentioned that French and German farmers would likely try to strongly oppose that crop-based biofuels production would drop to zero in a post-2020 era.

Regarding second generation biofuels, it was stressed that feedstocks for advanced production of biofuels could be considerably lower than expected in the projections due to lack of investment (i.e. 49 million litres projected while 800 million litres estimated).

It was discussed whether biofuels should play a higher role in decarbonizing the transport sector and if a faster take-off would take place with stimulating policies. It was mentioned that the political stimulus might not be strong enough to stimulate stronger investments. However, considering a long-term perspective in an ideal world, investments should stimulate growth in for example biofuels from cellulosic.

Participants also highlighted that second generation biofuels are still about 10 years away, which raised the question if policy could increase the speed of adoption of respective technologies.

With respect to the assumptions on the trade of cooking oil, participants stressed that it is growing fast and there is huge potential, especially with the right incentives. Cooking oil is costly to recover, but it is happening and there is a market for it. Especially policies in the US, but also in the EU, drive the development in cooking oil use for biofuels. As California moves to higher carbon targets, other countries are expected to follow, which will lead to increasing prices and incentivise other countries to collect more used cooking oil. It was also stressed that it is not very economic to collect cooking oil at the household level because this is too expensive. One participant highlighted that the price of used cooking oil is more expensive than refined palm oil, which represents an economic incentive to produce waste. Especially in the context of indirect land use change (ILUC) and the objective to reduce food use for biofuels, waste needs to be considered for the biofuel production and therefore incentives might have to be reconsidered. In this context it was stressed, that we are already using twice as much used cooking oil in 2016 than in 2014 (now at 2 million tonnes). A key role in the increase of used cooking oil for biofuels production is played by Brazil and the US as they require the oil in biodiesel production.

In the US non-waste animal fats (tallow) count as much as waste. In this way non-waste animal fats would accrue to the US, while the EU will have to use waste animal fats.

It was stated that if we shifted tallow from other uses into biofuels, this would put pressure on previous uses (mixed feeds), which would need to be replaced by vegetable oils.

From the petroleum side, there were also concerns about the International Marine Organization (IMO) stopping sulphur in marine fuels, possibly mandating biofuels into marine transports and that the IEA, in an effort to decarbonising transports, would suggest including biofuels into aviation.

4 Cereals and oilseeds

After several years of production surpluses, global markets for arable crops show signs of stabilization. In this context, this Outlook presents possible medium-term market developments to 2030 and counterfactual scenario analyses to further reflect on uncertainties. Seth Meyer chaired this session and introduced the keynote speakers, Koen Mondelaers (DG AGRI), Thomas Chatzopoulos (JRC Seville), Andrée Defois (Tallage) and Thomas Mielke (Oilworld), who analysed the situation of the cereals and oilseeds markets in the EU from different angles.

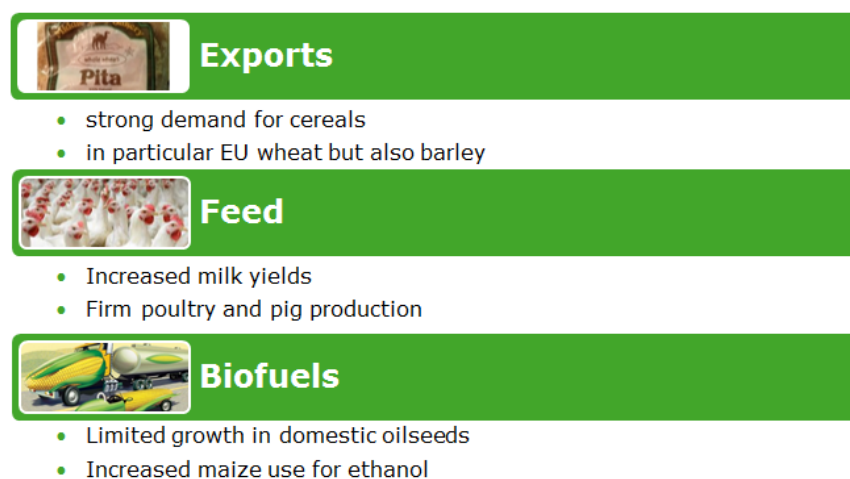
4.1 Preliminary EU outlook, 2017-2030

Koen Mondelaers (DG AGRI) presented the draft Outlook projections for Cereals, Oilseeds, Protein crops and Land use to 2030. He paid attention to the current situation in cereals markets, with an all-time high for demand and ample stocks stabilizing markets, as consequence of consecutive years of over production (see main market drivers in Figure 9).

He stressed the continued outflow of arable land over the projection period, although at a slower pace than in the past, with some stabilization of land use for cereals. Cereal yield increases are expected over the medium-term, although below the world average yield increase. This is justified by the current regulatory framework and the appearance of new technologies, such as remote sensing and precision farming, reaching agro-economic potentials by the end of the period. This pictures a situation with ample opportunities to export mainly wheat (i.e. Africa as the most dynamic importer) but also barley, and an attractive feed market led by the firm poultry and pig production.

Regarding the use of cereals for biofuel, wheat and maize will remain the main feedstocks, although the projections are not so optimistic due to the lower demand for biofuels (see session 3).

Figure 9: Main market drivers for EU cereals

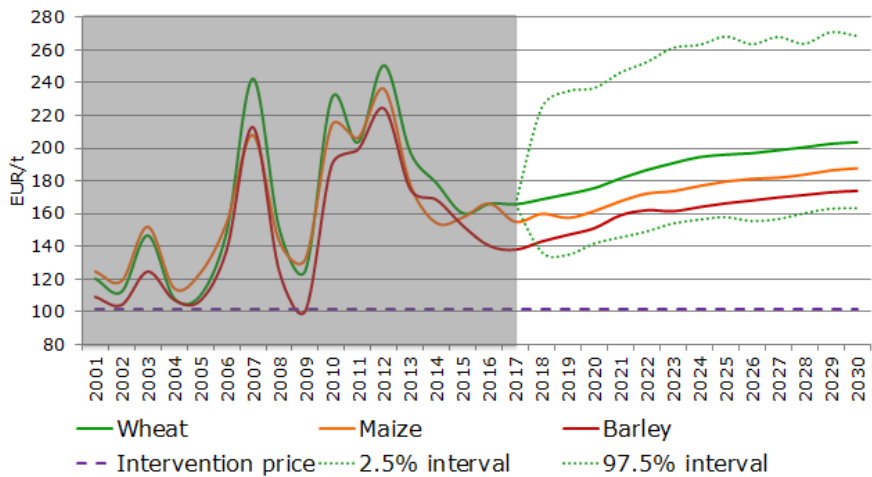


Source: Slides of K. Mondelaers (DG AGRI)

In the oilseeds complex, soybeans (i.e. imported soybean meals, imported soybeans and domestic soybean) dominate the contribution to feed demand substituting imports of other protein meals. Soybeans are eligible for voluntary coupled support and keep an upward production trend, although area is still small in the EU. Similarly, protein crops are expected to recover in the EU due to favourable the policy environment. Less area harvested and moderately higher yields are expected for rapeseed, mainly linked to the less dynamic developments of the biofuel sector. Food keeps being the main use of vegetable oils.

Cereal prices are expected to steadily increase over time in nominal terms (Figure 10). When introducing macroeconomic and yield uncertainty into the analysis, domestic wheat prices display higher variability above the baseline than below.

Figure 10: EU cereal prices and uncertainty

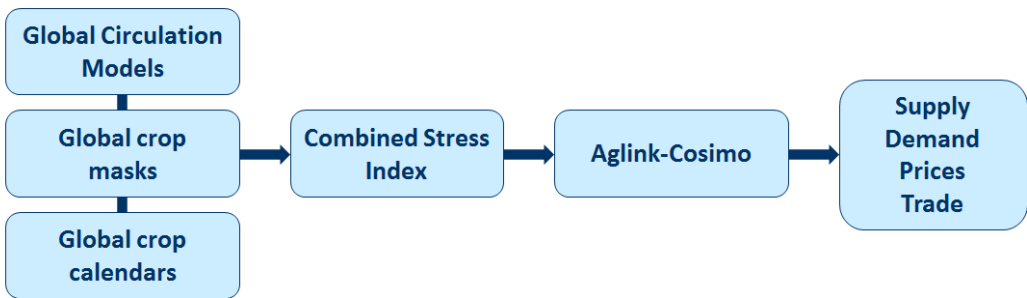


Source: Slides of K. Mondelaers (DG AGRI)

4.2 Presentations by invited experts and discussion

Thomas Chatzopoulos (JRC Seville) presented a scenario analysis on how EU cereals markets could be affected by climate extremes. The presentation roots on ongoing work within the JRC exploratory project 'Concurrent Climate Extremes and Shocks on Agricultural Markets'. Extreme meteorological conditions are expected to occur more frequently and last longer in the future. In this context, the aim of the project is to 'stress-test' crop yields in key agricultural regions to understand the short-to-medium term impacts on domestic and international markets. For this reason, the model used to derive the Outlook projections was extended with an explicit representation of agro-climatic conditions (Figure 11).

Figure 11: Linking commodity markets to climate extremes.

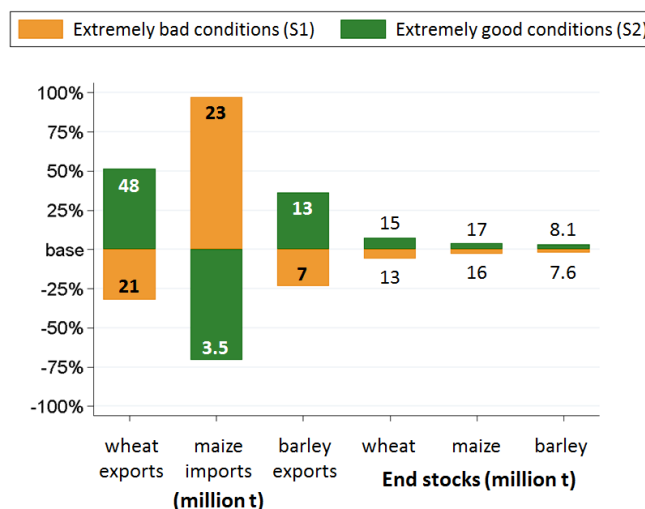


Source: Slides of T. Chatzopoulos (JRC Seville)

In the scenario presented, the extreme agro-climatic patterns that occurred in the EU in 2003 (very unfavourable) and 2004 (very favourable) were simulated to recur in 2018, one at a time. The analysis highlighted significant yield, production, price, and trade effects that could be observed in either scenario. For instance, if the 2003 agro-climatic patterns recurred in 2018, EU wheat exports could fall significantly, potentially dethroning the EU to the 4th export position. It was also shown that cereal markets stabilize rather quickly (2-3 years after the shock), and that asymmetric market

responses in the analysis were the result of 'uneven' shocks and endogenous market adjustments (Figure 12).

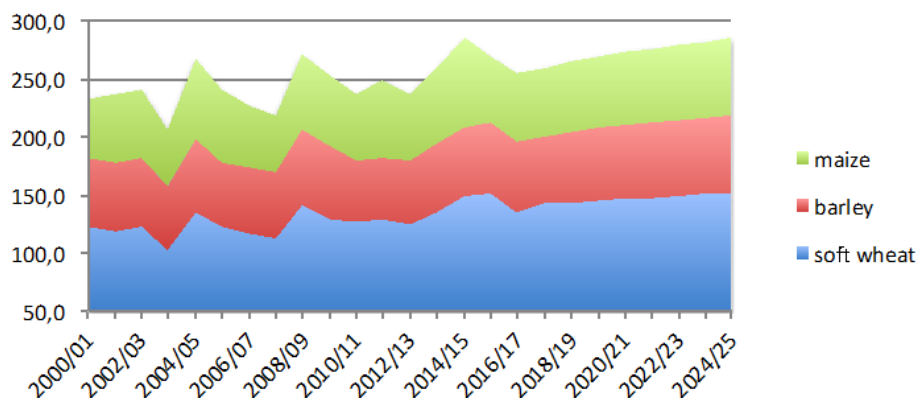
Figure 12: Changes in trade and stocks for wheat, maize and barley due to climate extremes



Source: Slides of T. Chatzopoulos (JRC Seville)

Andrée Defois (Tallage) commented on the EU Outlook projections by comparing them with 'Stratégie grains' from Tallage. The general view is a slightly tighter market for wheat, a bit heavier EU balance sheet for barley (subject to the current Saudi and China demand) and a balance sheet for maize based mainly on imports (Figure 13). She estimated wheat production lower than in the EU Outlook due to higher expectations for sugar beet and barley area expansion. Regarding maize projections, she was less optimistic than the EU Outlook, factoring in the increasing competition in the world market. In general, Tallage expects cultivated area quite stable and yields with moderate increase (on trend). However, these projections are subject to many uncertainties linked to regulations (new farming technologies and ban of certain pesticides) and changing climatic conditions.

Figure 13: EU cereals production projections

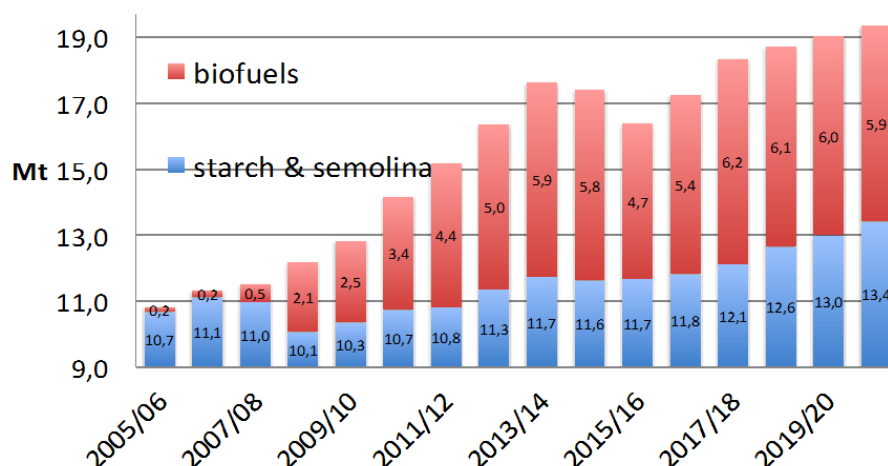


Source: Slides of A. Debois (Stratégie Grains)

On the demand side, Stratégie Grains projects stagnation in the use of cereals for ethanol production, partly compensated by an increased demand for other industrial uses, such as starch and isoglucose production (Figure 14). Barley demand will likely

increase, although moderately. These factors (high domestic demand and limited options to produce) are expected to exert some pressure on EU exports, which Tallage presents as less bullish than in the EU Outlook.

Figure 14: Human and industrial use projections for maize use.



Source: Slides of A. Defois (Stratégie Grains)

Thomas Mielke (Oilworld) presented his views for oilseeds. His main take-home message was that world market prices will determine the EU market, since the EU-28 only accounts for 6% of global production and the world oilseeds output was more than doubled in the past 20 years. Therefore, EU competitiveness relies on the marginal producers worldwide.

With respect to rapeseed, he stressed the fact that the EU is the world leader in rapeseed and canola yields, but that yields are decreasing and competitiveness is being lost. For the projection period, however, he was more optimistic than the EU Outlook (Figure 15). For sunflower the production prospects are less dynamic.

Figure 15: Rapeseed and canola world production by country (Mio t).

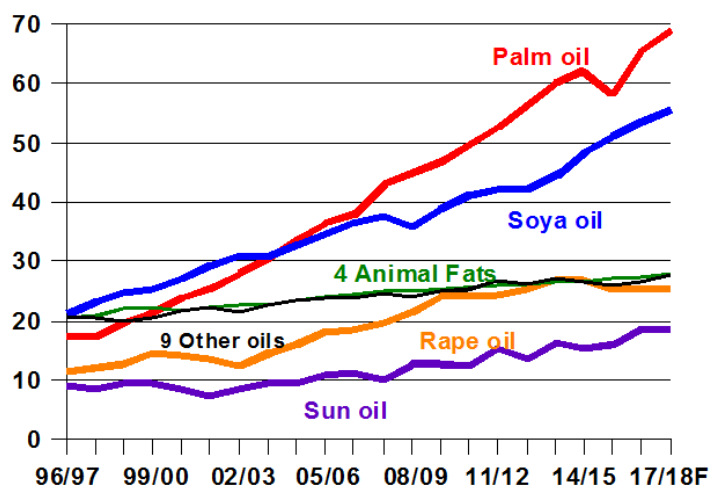
	Forecasts		16/17	14/15	09/10	04/05
	24/25F	19/20F				
EU-28	22.00*	22.90*	20.49	24.29	21.81	15.48
C.I.S.	6.00*	4.80*	2.76	4.65	3.35	0.57
Canada	24.00*	21.50*	19.73	16.41	12.90	7.67
China	8.20*	6.80*	5.70	10.00	13.66	13.18
India	7.80*	7.20*	7.00	5.00	6.00	6.21
Australia	5.00*	4.35*	4.42	3.47	1.90	1.43
Oth. ctrs.	5.20*	4.25*	3.44	3.19	2.25	1.76
WORLD	78.20*	71.80*	63.54	67.01	61.87	46.30

Source: Slides of T. Mielke (Oilworld)

Of specific importance for the EU are soybeans, as about 75% of EU demand for oilseed-based proteins is imported as soya grains or soybean meals, with Brazil as the world leader of exports. Mr. Mielke stressed the fact that regulations could have a major impact in the soya markets in the EU. To date a 'zero tolerance' policy is in place for soya and soybean meal imports (i.e. no traces of genetically modified varieties), but the world market exports about 90% of genetically modified (GM) soybeans.

Another important aspect raised by Mr. Mielke is the rapid increase of world demand for oils and fats, mainly soybean and palm oils. Regarding palm oil, the production process is very labour intensive and that for the past three years a labour shortage has been experienced by the main producing countries, with wages increasing and yields decreasing. In 2019 and 2020 a slowdown of production in Malaysia and Indonesia is expected (i.e. expansion of plantations is not taking place anymore), what will make the world balance for oils very tight (Figure 16). This situation could create some opportunities for EU rapeseed oil production.

Figure 16: Short-term prospects for production of oils and fats (Mio t).



Source: Slides of T. Mielke (Oilworld)

During the open discussion of this session it was mentioned that the simulated extreme climate events take place after planting, and so the yield effect is a production change over the planted area. Regarding the optimistic increase in feed use for poultry production, it was mentioned that the feed conversion ratio (i.e. quantity of feed divided by quantity of animals) is expected to continue improving in the EU and that also sustained low maize prices make poultry production more competitive.

5 Sweeteners

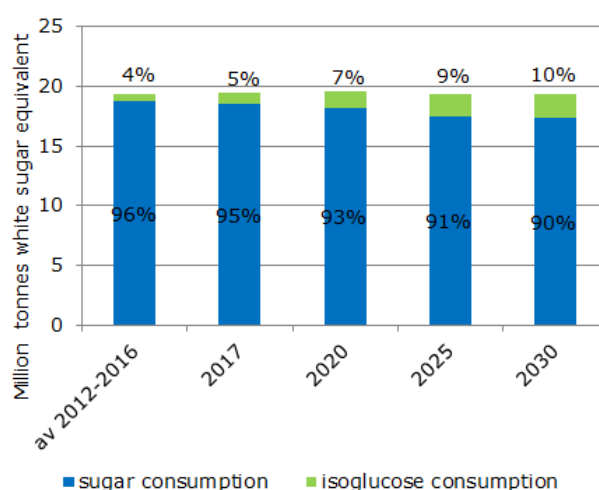
The EU sweeteners market is entering a transition period due to the recent expiry of sugar quotas this year, what makes the analysis of the market very uncertain. In this session Holger Matthey (FAO) introduced the keynote speakers, Sylvie Barel (DG AGRI), Pierre-Henri Dietz (Tereos) and Claudiu Covrig (S&P Global Platts / Kingsman).

5.1 Preliminary EU outlook, 2017-2030

With a rapid transition to a more liberalized market, the main issue in the analysis is to separate short from medium-term effects, especially in light of the 20% sugar production increase in 2017 versus 2016. Sylvie Barel (DG AGRI) presented the Outlook projections for sugar to 2030, focusing on the question of 'what can be expected following the increased EU-28 post-quota production?' In order to answer this question, she focused on the main market drivers: consumption, world prices, trade and biofuels.

Regarding consumption, Ms. Barel stressed the fact that sugar is consumed in many forms representing a sizeable proportion of total energy intake by EU citizens. However, consumer preferences towards healthier diets together with the existing regulatory framework are driving down the consumption of sugar (average annual decrease of 0.5%) and making the consumption of alternative sweeteners increase (i.e. isoglucose moving from 5% in 2017 to 10% of EU sweetener market by 2030) (Figure 17).

Figure 17: Sweetener consumption in the EU.



Source: Slides of S. Barel (DG AGRI)

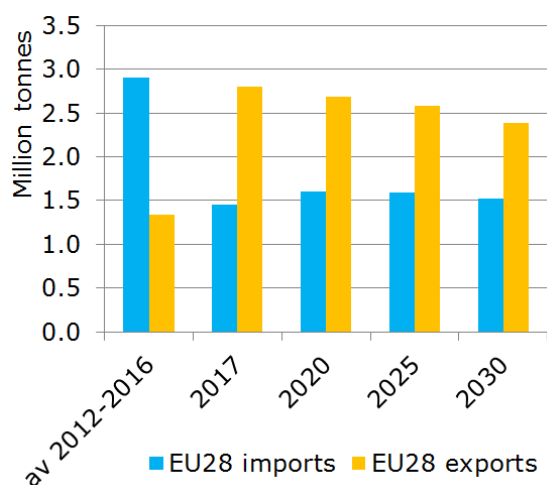
World sugar production is expected to increase by 27% by 2030, with half of the production increase to happen in Brazil, India and the EU. The end of quotas makes EU prices more volatile and exposed to world price fluctuations leading to a lower gap between the EU price and world prices, with the EU price around 50 Euro above the world price. In the long term domestic sugar production is expected to stabilize about 8% above quota production, as the high production figures of 2017 can be considered a reaction to the new environment that won't be sustained.

Lower imports (1.5 Mio t by 2030) are also expected as a consequence of the end of the sugar quota and the increase of domestic production. This mainly affects raw sugar imports from EPA/EBA countries. At the same time, exports are increasing over time (2.4 Mio t by 2030), even if strong competition in the world market will be a limiting factor to trade (Figure 18).

Last but not least, the end of the quota system in the EU allows for more flexibility for switching between sugar and ethanol production. Therefore, it is expected that 10%

more sugar beets will be directed to ethanol production in the EU, raising ethanol production to 14% of total sugar beet consumption.

Figure 18: EU-28 sugar trade in the EU Outlook.



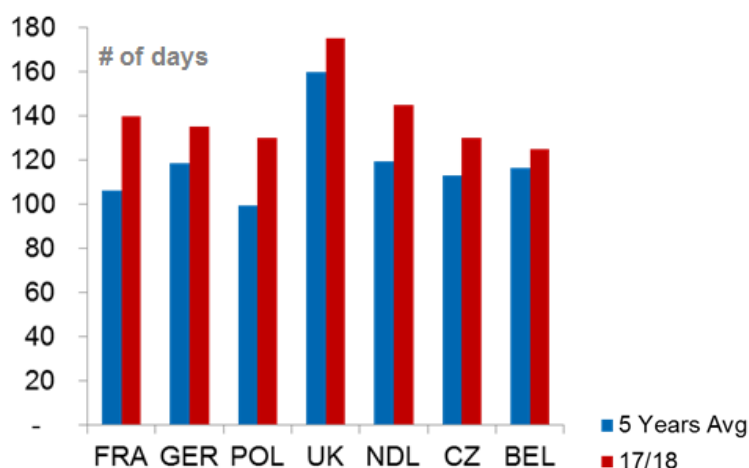
Source: Slides of S. Barel (DG AGRI)

5.2 Presentations by invited experts and discussion

Pierre-Henri Dietz commented on the EU sugar projections, mainly focusing on the short-term developments. In his view, the recent change in the EU sugar regime makes comments on sugar projections a complicated task. According to him, the EU sugar market has moved "from an environment of attractive prices but limited volumes to a model with lower margins but more arbitrage opportunities". With the title of his presentation (i.e. "EU to become the largest white sugar exporter?") he challenged the audience.

For Mr. Dietz, the end of the quota means that idle production capacity can be activated. In other words, sugar producers could reduce their fixed costs by increasing the length of the beet campaign, a situation that is already happening as it can be seen in Figure 19. Therefore, in his view, a significant increase in sugar production can be expected (20 Mt expected in 2017/18), making the EU trade swing from a net importer to a net exporter position.

Figure 19: Length of beet campaign per country.

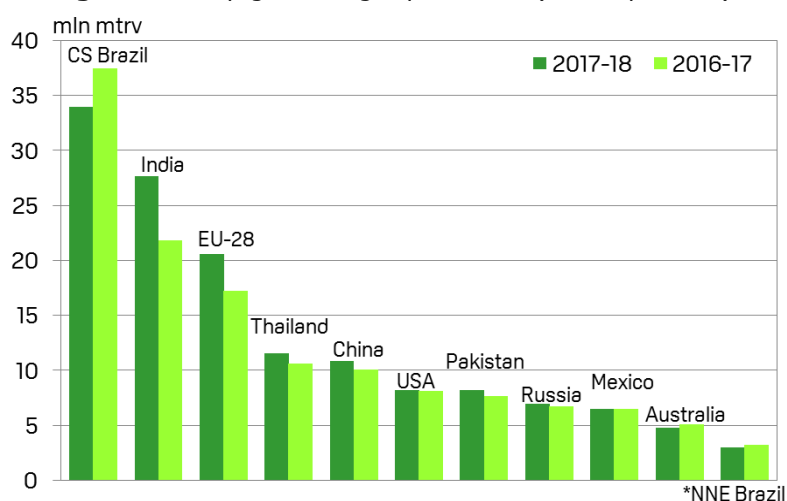


Source: Slides of P.H. Dietz (Tereos)

More arbitrage opportunities are likely to appear in a post-quota market environment. For refineries, sugar or ethanol production decisions are driven by market conditions. Similarly, consumers can choose between sugar and iso-glucose, so that sugar prices become more and more affected by grain prices. Pierre-Henri concluded by agreeing with his provocative question as he sees the EU as likely to become the largest world exporter of white sugar in 2018, becoming another alternative for importers.

Claudiu Covrig (S&P Global Platts / Kingsman) focused his presentation on the main elements affecting world sugar markets. Whereas world sugar production is expected to experience in 2017/18 the highest increase in global production in the past 7 years (7.5%), consumption is only growing by 1%, what provokes a considerable imbalance in world markets. The EU consolidates its position as the third largest world sugar producer (Figure 20). This will come with increased competition for land in the EU, since in a liberalized market sugar beet growers can increase their area at the expense of other crops.

Figure 20: Top global sugar producers (Oct/Sept basis).

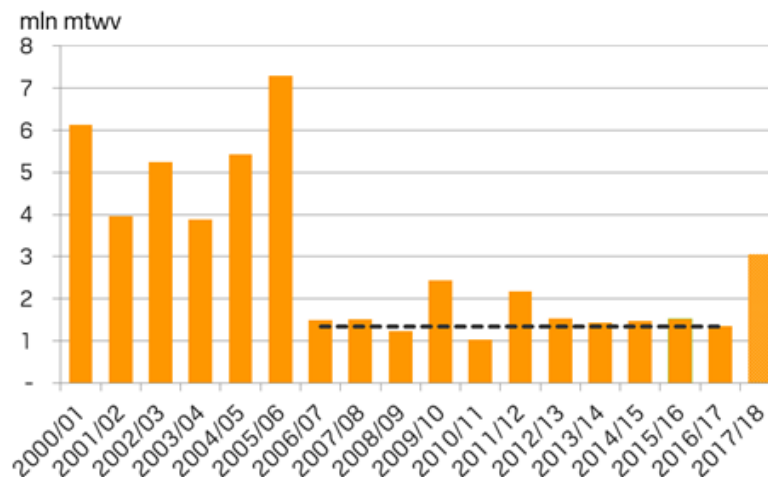


Source: Slides of C. Covrig (S&P Global Platts / Kingsman)

The increase of sugar production and associated exports together with a context of lower world sugar prices can lead the EU sugar sector to face some competitiveness problems. The EU producer costs (ranging from 18 to 21 cts/lb) are far from Brazil (ranging from 13 to 16 cts/lb). Moreover, higher competition from Middle East and North America (MENA) countries is expected, which are becoming an important centre of sugar refining and consumption. Out of the top 8 global refineries that account for an estimated capacity of about 11.3 Mio t per year, 4 are from the MENA region, totalling an estimated capacity of around 5.55 Mio t a year

Regarding trade, world exports of raw and white sugar are expected to decrease in 2017. However, the EU can see increased export volumes (Figure 21). Before 2006 the EU used to be net exporter, but the WTO export cap led the EU to turn into a net importer. This situation is expected to reverse and between 2017 and 2027 the EU will experience net export volumes ranging from 0.5 to 3.9 Mio. t as a result of exports reaching 5.5 Mio. t. and imports ranging between 1.5 and 2.5 Mio. t.

Figure 21: EU historical sugar exports.



Source: Slides of C. Covrig (S&P Global Platts / Kingsman)

Mr. Covrig forecasts production higher than the EU Outlook due to the higher crude oil price and the change in PETROBRAS policy to adjust gasoline prices on a daily basis (i.e. closer relationship between sugar prices and crude oil prices), what could send sugar prices higher. Moreover, decrease in sugar consumption and higher isoglucose demand would give more export availability of European sugar.

During the open discussion it was argued that only world sugar prices in the 410 to 450 dollar per tonne range (at EUR/\$ exchange rates around 1.17) and good yields would allow the EU to cover its production costs. Furthermore, it was stressed that the white sugar premium only affects refineries re-exporting sugar and to be profitable those refineries would need a white premium above the threshold of 70-75 dollar per tonne.

Another issue discussed was the 'insurance' effect of sugar beet production for farmers during the quota regime. Participants indicated that farmers would need to engage in sugar beet cooperatives and set a price fixed for at least a two year period to have a stable position in the market. Moreover, the share of sugar beet going to ethanol is likely to decrease to 10-12% by 2030, since the ethanol market is becoming a grain-based market (corn and wheat).

There was also some discussion regarding the downward trend in sugar consumption. Sugar consumption has not changed in 50 years; the only change has been how it is consumed with an increased share of consumption coming via processed products. Moreover, sugar is exported to a large extent in food products and not only in raw. In turn, isoglucose production can reach 2 to 3 Mio tonnes according to the EU starch industry.

The future trade with EBA countries was also addressed during the discussion. Here no major effects are expected for the bulk of these countries, with some redirection of exports to e.g. South Africa and keeping imports of special varieties (i.e. organic sugars). However, some problems to export for some Caribbean islands might appear.

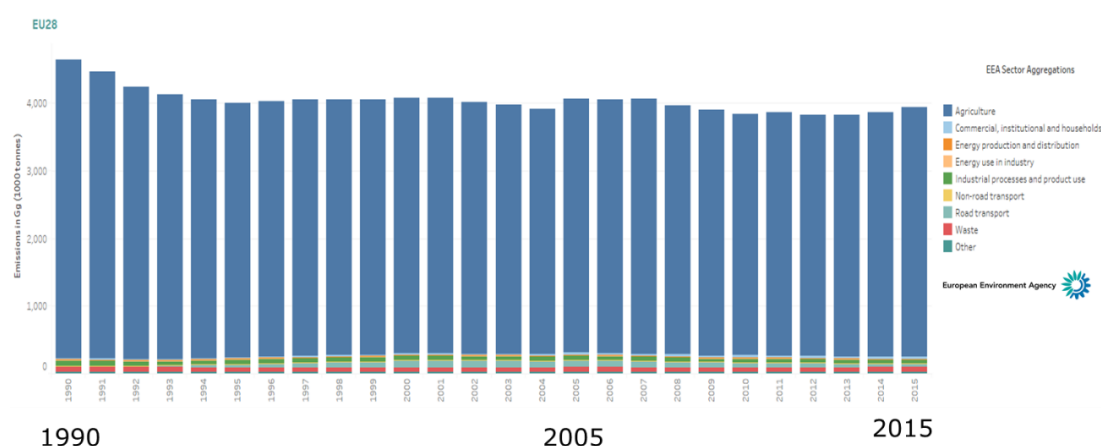
6 Agriculture and the Environment

In this session two invited experts analysed several aspects related to agriculture production and environmental issues. In particular, the first presentation was dedicated to ammonia emissions from agricultural activities and the second presentation provided an overview of EU environmental legislation linked to agriculture.

6.1 Presentations by invited experts and discussion

Frank Dentener (JRC Ispra) focused his presentation on ammonia (NH₃) emissions from agriculture. The agricultural sector is responsible for 92% of the total human emissions of ammonia in the atmosphere (Figure 22), of which 80% are from livestock and 20% due to the use of mineral fertilizer. Atmospheric ammonia is particularly important in the formation of particulate matter (PM_{2.5}) that contributes to the degradation of air quality. In the EU-28, around 400,000 premature human deaths are attributable to air pollution, to which a substantial contribution comes from ammonium nitrate. The negative impacts of this pollutant are also on natural vegetation and ecosystems (i.e. through N-deposition that leads to eutrophication). Due to the natural atmospheric motions, the impacts of ammonia can occur also very far from its sources (i.e. transboundary effects).

Figure 22: EU-28 – Reported national ammonia sources and emissions.



Source: Slide of F. Dentener (JRC Ispra); primary source EEA.

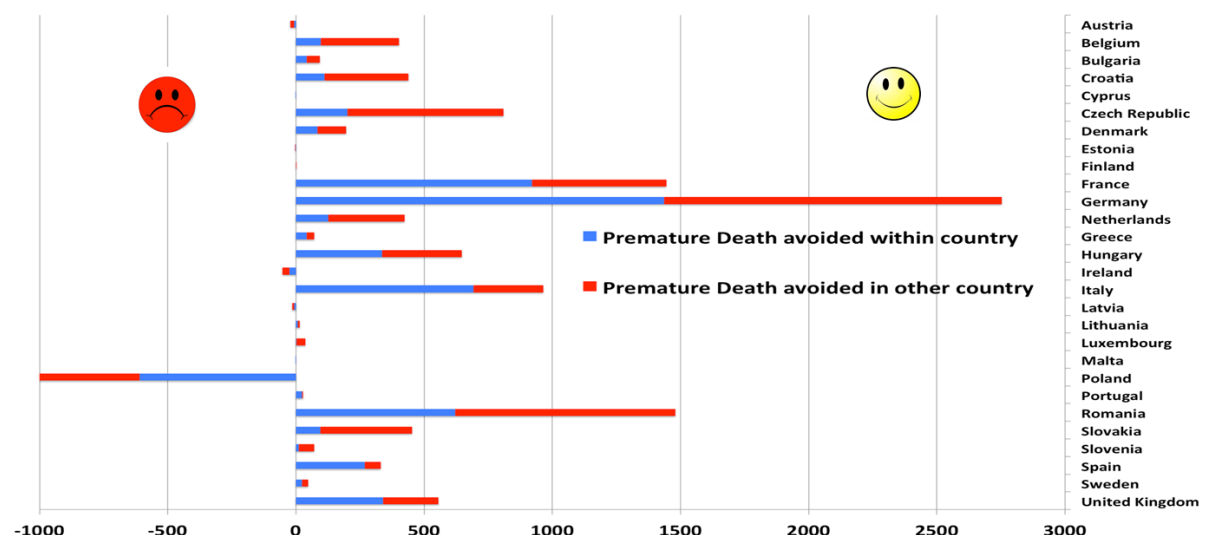
With respect to possible future ammonia emissions by 2030, Mr. Dentener analysed the main emission drivers and compared the projections provided by the Member States, the outcomes of the CAPRI model (i.e. baseline results) and the limits imposed by the National Emission Ceilings Directive (NECD, Directive (EU) 2016/2284⁵). The main socioeconomic drivers for agricultural NH₃ emissions are related to demographics, GDP growth and purchasing power, developments at the world markets and consumer preferences, especially regarding demand for meat and milk products. The major technological and agronomical related drivers affecting the nitrogen balance, are increasing crop production efficiency (i.e. higher yields), mineral fertilizer use, and livestock related factors like animal numbers, production efficiency, and herd composition. The NH₃ emission factors are in turn affected by the management practices, such as grazing vs. indoor livestock keeping, manure and fertilizer handling (i.e. storage and application), as well as weather conditions. Mr. Dentener's analysis shows that according to projections provided by the Member States (MS) 21 MS will not reach the 2030 NH₃ reduction target, as the 2030 projections by the MS are similar to a stagnation of emissions at 2020 levels. However, the CAPRI model projections appear more optimistic since they consider possible emissions reductions due to technological progress

⁵ http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2016.344.01.0001.01.ENG

and better nitrogen use efficiency in livestock and crops over the next years, which would leave only five MS not reaching their targets.

Building further on the CAPRI projections, Mr. Dentener estimated that the projected reduction in NH₃ emissions would imply around 9.800 premature deaths avoided between 2008 and 2030 (Figure 23)

Figure 23: EU-28 premature deaths avoided by NH₃ emission reduction between 2008 and 2030.

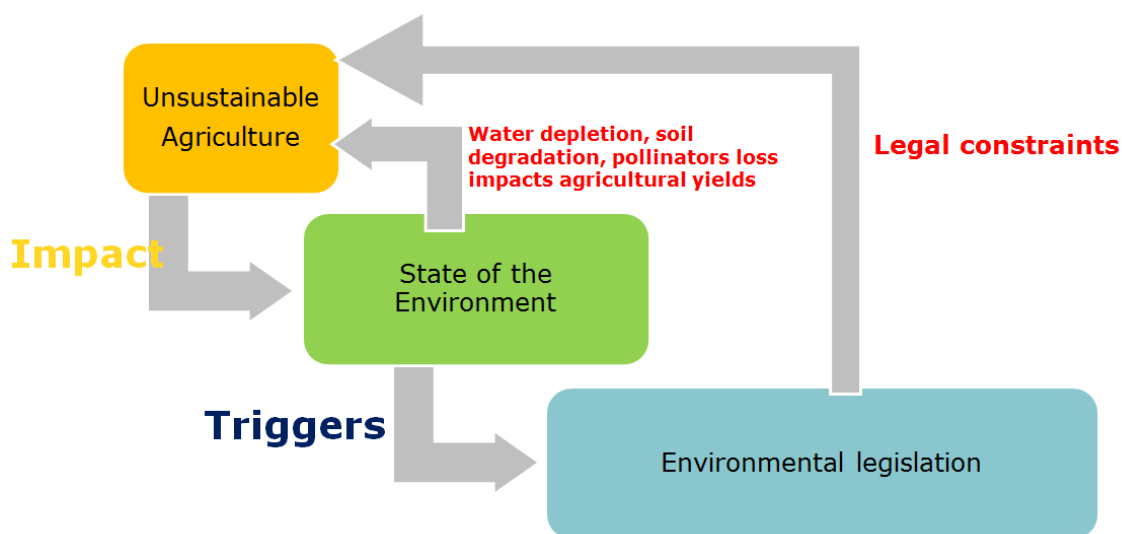


Source: Slides of F. Dentener (JRC Ispra); calculations by FASST using EMEP source-receptor calculations.
<http://tm5-fasst.jrc.ec.europa.eu/>

Claudia Olazábal (DG Environment), presented an overview of the principal EU environmental Directives linked to agricultural production. Building on the EEA report (2015) 'State of the environment', Ms. Olazábal first outlined that environmentally-harmful farming practices might undermine the long-term sustainability of agriculture and the ability of agro-ecosystems to provide services beyond food production. Ms. Olazábal rapidly presented the complex and articulated EU legislations and initiatives of "EU biodiversity strategy for 2020" (ambiguous target to stop biodiversity loss by 2020); "Natura 2000" (the biggest network of nature protection areas in the EU, designated under the Habitats Directive and Birds Directive, which require a targeted and continuous agricultural management); Water Framework Directive (2000/60/EC) (setting the objectives and rules for water protection); Nitrates Directive (91/676/EEC) (preventing water pollution caused by nitrates from agricultural sources); ambient air quality and cleaner air for Europe Directive (2008/50/EC) (setting maximum concentrations of air polluting substances). She also outlined possible future measures for maintaining or increasing soil organic matter, such as catch crops, winter cover, buffer strips, mulching, etc.

Summarising, Ms. Olazábal stressed the importance of considering these different environmental aspects within the agricultural outlook, since a sustainable agricultural development has to be the basis for the market projections as otherwise legal mechanisms could be triggered by legal boundary limits (Figure 24).

Figure 24: Flowchart of the link between the agricultural market outlook and environmental legislation/obligations.



Source: Slides of C. Olazábal (DG ENV)

The open discussion following the presentations was mainly focused on implementation of the presented directives at MS level and their impact on agricultural market developments. For example, it was stressed that the medium-term market projections have to be coherent with environmental legislation requirements. For instance, NECD targets are clearly limiting the further increase of livestock numbers in the Netherlands. This might not necessarily mean that production in the Netherlands will have to be reduced, but it has to be produced differently than in the past. As another example, the experienced problems in some German regions to respect the Nitrates directive were mentioned. The way the law was implemented in Germany made very difficult for hot spots (i.e. vulnerable zones) to comply with the targets. However, Germany and other MS are moving towards more tailored approaches, which might be more difficult to establish but should lead to better environmental performances.

Precision farming was discussed as a technology that is good for the environment while at the same time having also economic benefits for the farmers. However, depending on the specific technology, it requires relative high investments not economically viable for all farm types and sizes. Participants expect that technological progress will help widespread the use of precision farming in the future.

A further point discussed was how far environmental legislation and related restrictions are actually considered in the EU Outlook. In general, constraints from environmental legislation are not explicitly included in the Aglink-Cosimo model but they are usually taken into account in the short and medium-term projections given by market experts. Moreover, the Commission pointed out that environmental issues are typically addressed by other models (see presentation by Frank Dentener) and that the JRC's integrated modelling platform for agro-economic policy analysis (iMAP) is used to complement the agricultural market outlook with other analysis that also takes specific environmental aspects and restrictions into account.

7 Milk and Dairy Markets

Sophie Hélaine (DG AGRI) presented the preliminary EU outlook for the EU milk and dairy markets, and Hans Jensen (JRC Seville) presented an uncertainty scenario related to a potentially enhanced role of India on the international SMP market. Christophe Lafougère (Gira) and Mirko Wätjen (DMK) commented directly on the preliminary EU outlook results and presented some further details regarding observed and expected developments on the milk and dairy markets.

7.1 Preliminary EU outlook, 2017-2030

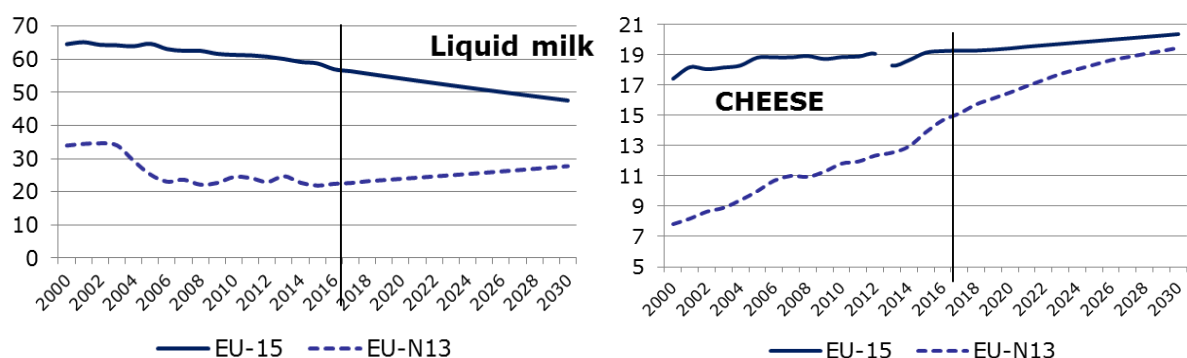
The preliminary outlook results for the milk and dairy markets were presented by Sophie Hélaine (DG AGRI). She pointed out that the main driver for EU dairy market developments is a growing global and EU demand, especially for cheese, butter and cream, but also the demand for powders remains high. The strong demand developments will support an increase in milk prices. Conversely, the biggest challenge over the medium term might be the decrease in liquid milk consumption in the EU.

EU milk production is projected to be about 182 Mt by 2030, which would be an increase of 1.4 Mt per year and implies the second highest production growth in the world behind India. EU milk deliveries will also grow to 174 Mt by 2030, with the deliveries in the EU-N13 set to increase from 76% in 2016 to 86% by 2030. Regarding demand for milk and dairy products, the preliminary market outlook shows a continuous growth in world import demand. However, with an annual increase of about 16 million t of milk equivalents/year (+1.7%/year) this growth is expected to be lower than the growth over the past decade. India is expected to show the biggest production increase (+6 Mt/year), whereas China will remain the biggest importer, with annual import increases of about 3.7%. The EU is projected to benefit from the increasing world demand, showing an increase in its market share.

EU dairy exports are projected to expand by 500 000 t/year (in milk equivalent), which is more than 1/3 of the world trade growth for cheese, SMP, WMP and butter. EU exports especially increase for cheese. SMP export growth is slowing down compared to the last decade, but the share of EU exports in global SMP trade is further increasing, almost reaching 37%. Currently the EU intervention stock levels are equivalent to three months of production and the working assumption for the market outlook is that the stocks will be released in 2018 and 2019.

The annual domestic EU consumption increase of dairy products is projected to be about 800 000 tonnes, mainly driven by increased consumption of cheese and other dairy products (i.e. milk that is put into other products not specifically followed in the market outlook, like lactose, casein, cream for ice cream), but also SMP consumption increases (especially for chocolate, fat filled milk powders (FFMP), and baby food). Cream use is also set to continue its growing trend, while yogurt consumption could rather stabilise. In contrast, EU-28 liquid milk consumption will continue decreasing by 0.5 kg/capita per year (i.e. the decrease in EU-15 outweighs the increase in EU-N13, leading to a net decrease in EU-28; Figure 25, left panel). As one of the underlying reasons for the decline in liquid milk consumption, Hélaine pointed out the increasing number of people skipping breakfast, as for example in France the share of children skipping breakfast at least once per week increased from 13% in 2007 to 29% in 2013. On the other hand, especially the consumption of cheese is further increasing over the projection period, with especially the EU-N13 exhibiting a lot of potential for further consumption increases (Figure 25, right panel).

Figure 25: Per capita consumption of liquid milk and cheese (kg/capita)



Note: For cheese, there was a break in the time series for the EU-15 in 2013

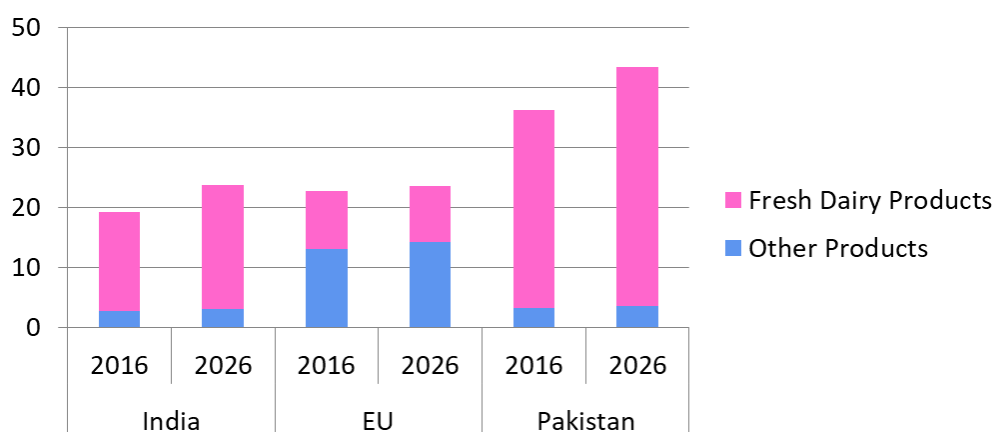
Source: Slides of S. Hélaine (DG AGRI)

Dairy product prices are projected to further increase, with the actual large gap between EU butter and SMP prices to decrease progressively, and go back to the normal price relationship after the stocks are emptied. The EU dairy herd is expected to further decline, but at a slower pace than was examined before the milk quota abolishment (the number of cows is expected to increase especially in Ireland). However, environmental constraints can play an increasing role for dairy herd developments in some member states. A decrease in the dairy herd size is especially projected for the EU-N13, mainly driven by productivity growth. In the EU-28, a slowdown in yield growth is projected, especially due to an increase in organic milk production and a change in breeds. By 2030, the share of organic milk is assumed to be about 10% in the EU-15 and 6% in the EU-N13. In general, yield is expected to grow slower for organic than for conventional milk production: +0.5% per year for organic and +1.5% for conventional in the EU-15; +1.5% per year for organic and +3% for conventional in the EU-N13).

7.2 Presentations by invited experts and discussion

Hans Jensen (JRC Seville) presented a "what if"-scenario focusing on the dairy sector in India looking at what could happen if India were to become a net exporter of SMP in the near future. Mr. Jensen first presented some background information on the dairy sector in India. India has the world largest dairy herd, with 122 million heads and a milk production of 160 million t in 2016. Production increases by around 4.5% per year, but the production structure is very small scale, as almost 90% of livestock is held by 122 million holdings of less than 4 ha, on average having 1.8 heads, of which 1.1 are female cows. About 40% of the milk is consumed on-farm and 60% is sold on the market (of which 17% is commercialised through cooperatives and private companies). The outlook for India projects an annual milk production increase of 6 million t (3.2%), which is the highest growth rate in the world and would result in a milk production of 219 million t by 2026. Even though it is expected that more milk will be sold through organised commercial channels, India is projected to produce only for the domestic market and no change in its net trade position will occur over the projection period. Mr. Jensen also underlined that there is a large vegetarian population in India who loves dairy products, but, compared to other countries in the region like Pakistan, the actual and projected per capita consumption of dairy products suggests that there is still ample room for further consumption increase in India (Figure 26).

Figure 26: Per capita consumption of dairy products (kg/capita)



Note: Solid milk basis, calculated by adding the amount of fat and non-fat solids together for each product

Source: Slides of H. Jensen (JRC Seville)

Mr. Jensen presented a scenario that analysed what might happen to the world and EU dairy markets if India were to suddenly become a net exporter of SMP, as it did in 2013. The scenario setting reflects an opportunistic one year net exporting position in the future, i.e. not a permanent one, assuming that India would export 256 000 tonnes of SMP in the year 2024 (capturing 10% share of the global market).

Scenario results indicate that the modelled export increase of Indian SMP would decrease world market prices for SMP by more than 6%, and would lead to a decrease of SMP exports in the EU (-86 000 t), USA (-64 000 t) and New Zealand (20 000 t) and to an overall increase in world SMP exports (+56 000 t). However, results indicate that the one-year shock (i.e. one year of Indian SMP exports) would impact the international markets only in the year of the shock, i.e. 2024, and would be almost completely levelled out by 2025. The increased SMP exports would negatively impact the global exports of butter/ghee⁶, which would decrease by about 13 000 t at global level, 6 000 t in the EU, and 8 000 t in New Zealand, and result in an increase in the world market price for butter by 2%. While the impact would last in New Zealand also in the following year, 2025, EU butter exports would increase by 2 000 t compared to the baseline. The Indian SMP exports would also lead to increases in global cheese exports of 3 000 t in 2024, especially from the EU and USA (both +7 000 t), but both countries would experience decreases of about 2 000 t in the following year.

Looking a bit closer into the production effects in the EU, Mr. Jensen showed that in the year of the shock SMP and butter production would decline by 4.3% and 0.6%, respectively, whereas an increase for cheese (0.3%), WMP (0.5%) and fresh dairy products (0.7%) is projected. The EU farm gate milk price is projected to decline by 0.7%. However, under the assumption that India would only enter the SMP global market for one year, also the EU market balances would return to their baseline levels within two years.

Summing up his presentation, Mr. Jensen stressed that India is mainly focused on its domestic market, but as SMP is a by-product of Ghee, it can be processed when prices are attractive on the world market, which means that India could actually rapidly enter the world market. The scenario results showed that this could indeed lead to disruptions in EU dairy exports, but the impact on the EU milk price would remain rather small.

⁶ Ghee is a class of clarified butter, commonly used in South Asian and Middle Eastern cuisines.

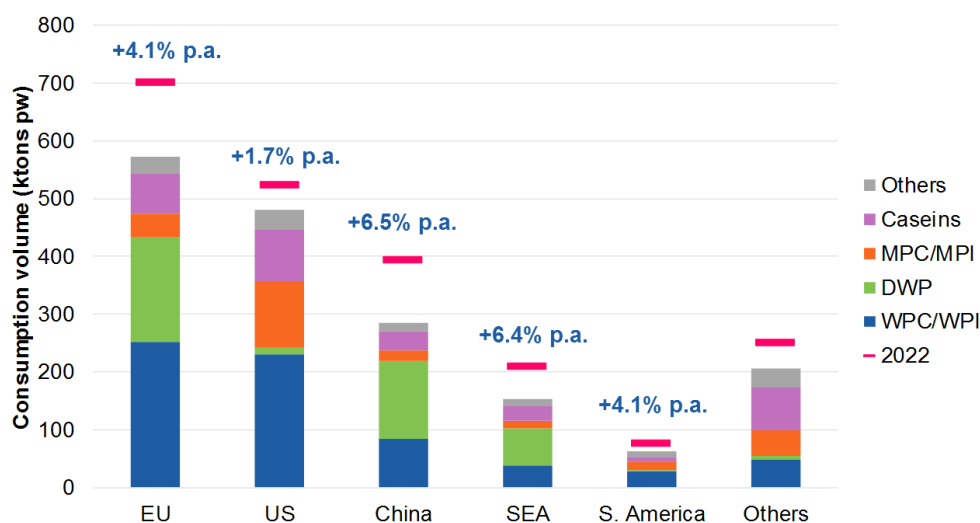
Christophe Lafougère (Gira) commented on the European Commission's preliminary outlook results and presented his expectations regarding future developments of dairy markets, focusing on world dairy consumption growth and especially on whey. Presenting Gira's dairy consumption forecast, Mr. Lafougère indicated an increase in world dairy consumption of 2.5% (77 million t) between 2017 and 2022. However, if India were not considered, the consumption increase would be only 1.4% (29 million t), i.e. India accounts for about 62% of the global dairy consumption growth. The main contributors to the global consumption increase, after India, are China, EU, and US. Especially China seems to be important in this context, as they only recently confirmed that they might probably never be self-sufficient in dairy production. Looking closer into the global consumption growth in the period 2017-2022, Gira expects very similar trends for fresh dairy products and drinking milk to the period 2017/18, with the lowest growth rate for drinking milk (despite the largest consumption volume) and a strong growth for fresh dairy products. Whey will still experience the fastest growth, but volumes will remain limited.

With respect to consumption in the EU, Gira expects drinking milk consumption to decline, whereas a strong growth is expected in whey consumption. Moreover, the forecast shows stagnation in fresh dairy products and negative growth for drinking milk, the products with the highest consumption volumes. Mr. Lafougère stressed that the Commission's market outlook foresees two major changes with respect to the production of drinking milk and yoghurts, namely a strong decrease for drinking milk and a rebound of yogurt production. Gira's forecasts show also a decrease in the consumption of fresh dairy products, but, contrary to the preliminary Commission outlook, they do not expect a big growth for yoghurt consumption. On the other hand, the Gira and the Commission projections are quite in line with regard to cheese production and exports, whereas Gira is more optimistic for the development of cream production due to an increase in export demand.

Looking closer into the consumption growth in China between 2017 and 2022, Lafougère outlined that yoghurt is expected to lead the consumption growth in terms of volume. The assumption that the main products consumed are fresh and drinking milk reflects the expectations for a continued strong growth in ambient and chilled yogurt consumption in China. Furthermore, cream consumption is also expected to increase considerably, driven by demand from the bakery sector. Following the consumption trends, China is expected to import big amounts of cream and also cheese. Mr. Lafougère stressed that, in total, China will import more than Russia before the import ban. Taking the focus to dairy commodity imports in Sub-Saharan Africa (SSA), Mr. Lafougère highlighted that the growing demand for dairy products in SSA is not met by production, which pulls dairy imports. SSA dairy imports increased by 4.1% annually between 2006 and 2016, and Gira forecasts a further annual increase of 4.7% between 2017 and 2022. Powders are the main products imported, of which Fat Filled Milk Powder (FFMP) has become the most important one with a share of 55% in SSA dairy imports in 2017, driven by its lower prices.

Setting a special focus on whey production and consumption, Mr. Lafougère underlined that production growth in the three top producing countries (EU, US and China) is still accelerating for the concentrated products, but not spectacularly so. On the other hand, global whey consumption still shows high growth in all world regions (Figure 27). The demand is driven by nutritional products and infant formula for which Gira forecasts annual growth rates of 6.2% and 4.2%, respectively, for the period 2017 to 2022.

Figure 27: Global technical milk protein powder consumption by product and region, in 2017 and 2022 (1000 t protein weight)



Note: 2017 is an estimate, 2022 is a forecast

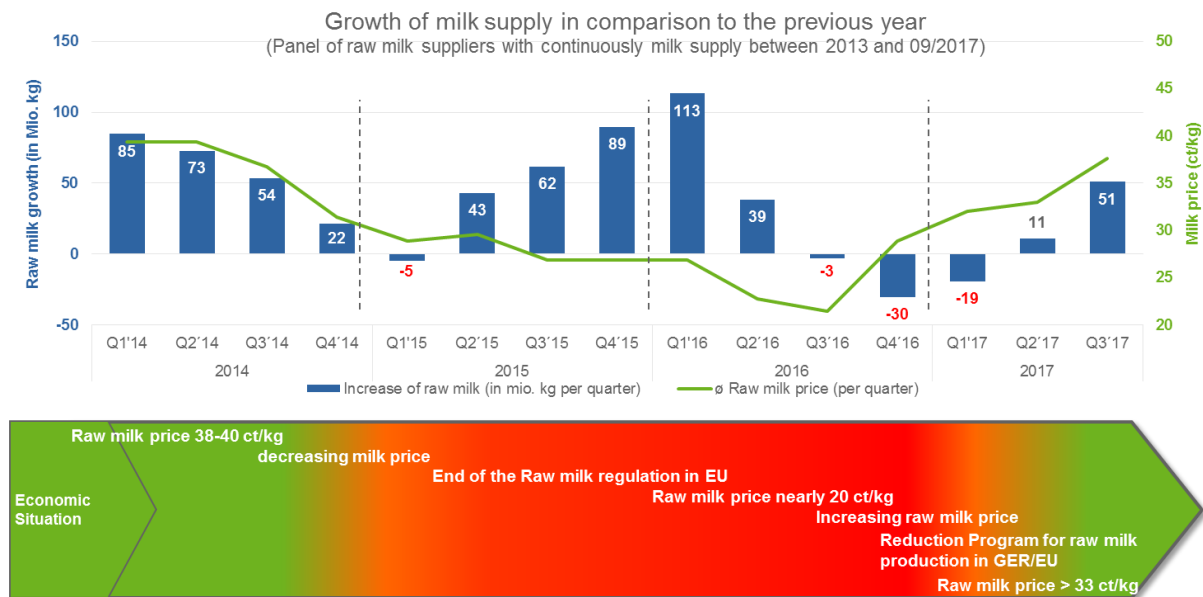
Source: Slides of C. Lafougère (Gira); primary source: Gira based on ZMB, ADPI, NASS, Dairy Australia, Statistics NZ, CIL and trade statistics

In his presentation, Mirko Wätjen (DMK) gave first some insights on structural change in German dairy farming, highlighting the increased dynamics in the last years with respect to the decrease in dairy farms (from 94 000 farms in 2010 to 75 000 farms in 2015), a stagnation and then increase in the number of dairy cows prior to the milk quota abolition, and an increase in the cow milk produced from 26.629 million t in 2010 to 32.685 million t in 2015. Mr. Wätjen pointed out that there are clearly two different phases in the structural change of German dairy farming, showing a moderate development in the period 2000 to 2010, and an accelerated development since the year 2010 until today. Setting the milk price and raw milk supply in context, Mr. Wätjen showed the growth of milk supply in comparison to the previous year and compared it to the raw milk price developments for the period from 2014 to September 2017 (Figure 28). He highlighted the long period when farmers suffered from low milk prices, as well as the strong fluctuations of the milk price (a feature that is most likely to stay in the future).

Mr. Wätjen underlined the importance of policy regulations (concerning fertilizer use, storage of feeding stuff, animal housing systems, and emission protection laws) and the social acceptance of animal husbandry (concerning issues of animal welfare and environmental protection) as the two most influencing factors that will determine the future dairy production development in Germany in the short and medium term.

Commenting directly on the EU milk and dairy market outlook, Mr. Wätjen confirmed that the EU will be an important global dairy supplier, but he sees more challenges for the EU milk supply due to the same social and environmental reasons he had mentioned in the context of German dairy production. With respect to demand he also expects both growing local and global demand for cheese and butter, but he is less optimistic than the EU outlook for SMP, as he sees the high SMP intervention stocks as quite difficult to sell. Maintaining an average milk price level of 40 cents/kg will also be difficult as price volatility will rather stay, which will require new tools to deal with the volatility.

Figure 28: Setting milk price and raw milk supply in Germany over time



Source: Slides of M. Wätjen (DMK)

In the open discussion it was underlined that the EU outlook is a pure balanced approach, assuming that the EU SMP intervention stocks will be released to the market. Some participants stressed that there is strong potential for milk production increases in the EU, and therefore the EU milk production might grow faster than expected in the EU outlook. The robustness of the EU cheese market projections was discussed: participants agreed that the outlook for EU cheese can indeed be considered as quite robust. Some participants pointed out that SMP production grew fast in the past and that it is not clear why this would not maintain in the future. In this sense participants indicated that the export picture for SMP might actually be brighter than projected by the Commission. With respect to FFMP it was highlighted that it is difficult to track down, as there is not much data available. However, there is a growing market for FFMP as it is the cheapest way to get fats and proteins, and it is becoming a real ingredient itself.

One participant raised the question on the influence of different exchange rates on the EU dairy market development. The exchange rate is indeed considered as important, mostly for imports and demand, as could be seen in the past for cheese. In this context an uncertainty analysis could be helpful to capture possible impacts of different exchange rate developments.

Regarding organic milk production, the importance of the growing market was underlined. However, it was emphasized that conventional milk production is also doing a lot for sustainability, which helps to compete with organic premium products. One participant also stressed that the GHG impact of organic milk production is higher than the one of conventional milk production (in terms of GHG emissions per kg of milk), which puts its sustainability into question.

Commenting on the local capacity of milk production in Africa, it was highlighted that there is growing production (and potential) in East Africa, but an increase in West Africa is considered complicated due to investment constraints. However, growing income will lead to increasing demand for dairy products in Africa. Further discussion points were the limited milk production increase in New Zealand due to environmental constraints, and the limited production increase in India due to its small production structures.

8 Meat Markets

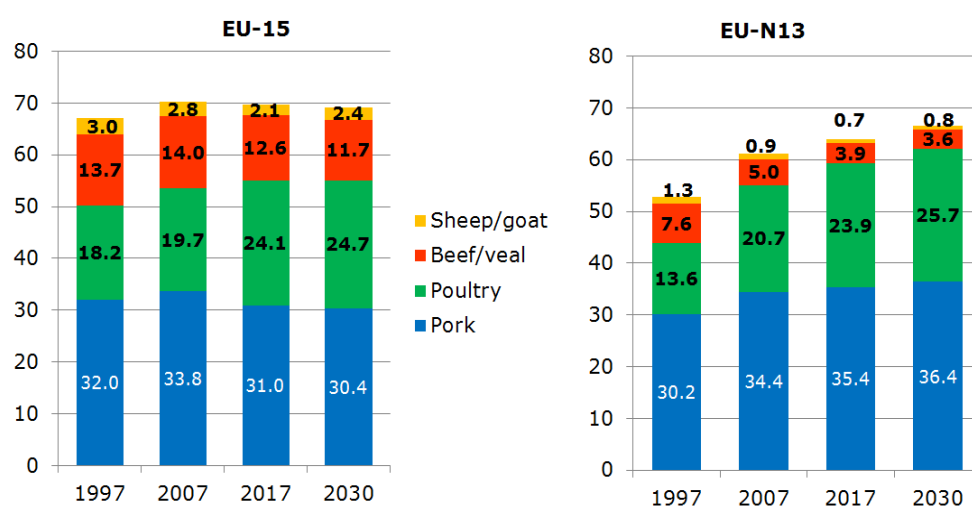
Preliminary projections with regard to the medium-term development of EU meat markets were presented by Benjamin Van Doorslaer (DG AGRI). A scenario analysis of the potential production and consumption impacts of a counterfactual avian flu outbreak in the EU was presented by Simone Pieralli (JRC Seville). Petra Salamon (Thünen Institute) presented an overview of beef markets at the MS level, while Lukasz Dominiak (KRD-IG) and Michel Rieu (IFIP) discussed the prospects and challenges of the EU poultry and pork industries, respectively.

8.1 Preliminary EU outlook, 2017-2030

According to the preliminary EU meat market Outlook, presented by Benjamin Van Doorslaer (DG AGRI), global meat consumption to 2030 is expected to grow by 1% p.a. mainly due to increasing population in the developing world. Stagnation in developed economies, such as Canada and the EU-15, however, keep the rate of increase at a low level. Global imports are expected to rise by 2% p.a. owing to increasing demand in developing countries particularly for poultry and beef. Population change, income growth, sanitary and food safety concerns, and environmental and animal health regulations will remain major factors impacting the dynamics of world meat markets.

The Outlook foresees low rates of change in per capita annual consumption of meat in the EU (-0.1% in EU-15, 0.3% in EU-N13). Increasing demand for poultry is generally expected, while pigmeat consumption will go up only in EU-N13. Domestic demand for beef and veal follows a downward trend, whereas demand for sheep and goat meat will remain relatively stable (Figure 29).

Figure 29: Consumer baskets in the preliminary EU Outlook, 2017-2030 (retail kg/capita)



Source: Slides of B. Van Doorslaer (DG AGRI)

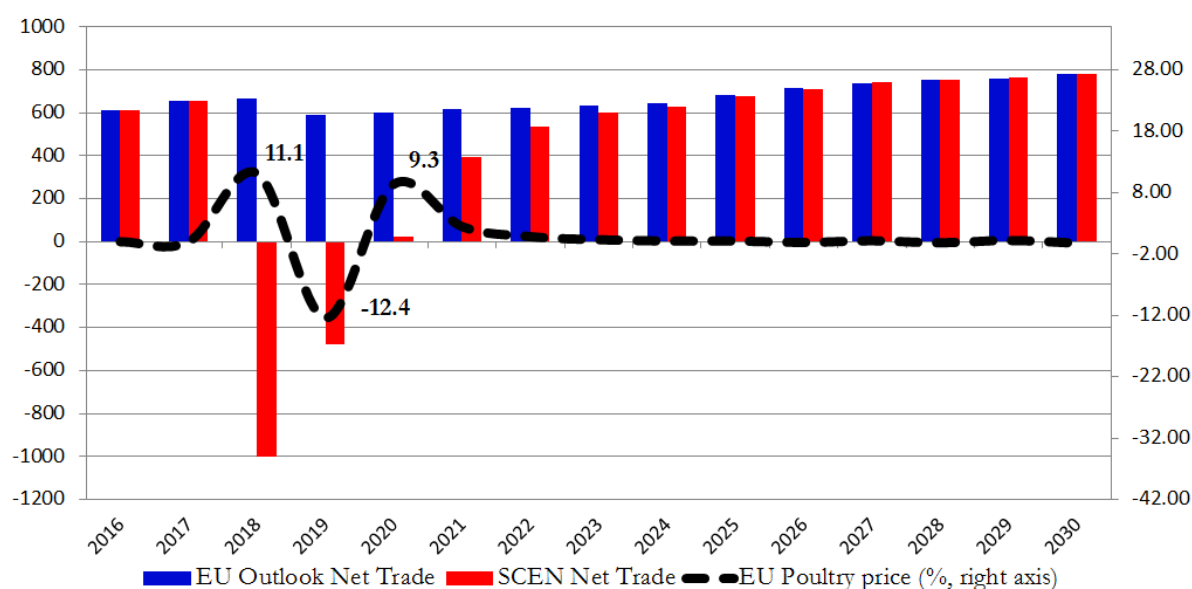
Poultry production and exports are expected to rise by 5% and 19% (2030 vs. 2014-16) due to increasing demand both at the domestic and international levels, the latter absorbing about one-third of the former. Pigmeat production is projected to grow at a slower pace (2%) due to declining domestic demand, rising environmental concerns, and competition on the world market. Pigmeat exports are more pronounced (12%), reflecting potential gains from the end of the Russian ban in 2017. Chinese import demand, however, shows signs of slowing down and thus, poses an uncertainty. Domestic beef production and exports are projected to drop by 7% and 21% in 2030 following the corresponding declines in EU dairy herd, domestic consumption, and import demand in non-EU Mediterranean regions. Sheep and goat meat production will slightly increase and stabilise (4.6%), though export prospects seem unfavourable due to high

competition on international markets. At the end of the projection horizon, domestic producer prices are expected to eventually stabilise and clear at the levels of 1,683 EUR/t (pigmeat), 1,810 EUR/t (poultry), 3,930 EUR/t (beef), and 4,470 EUR/t (sheep), respectively.

8.2 Presentations by invited speakers and discussion

Simone Pieralli (JRC Seville) presented a scenario analysis of the potential production and consumption impacts of a counterfactual avian flu outbreak in the EU. Considering the absence of technological breakthroughs that may cure the virus, which provokes rapid death in the affected animals, the scenario assumes: (a) a two-year ban on poultry imports from the EU (2018 and 2019); (b) an EU-wide culling of poultry that reduces domestic production by 25% in 2018; and (c) a drop of domestic poultry meat consumption by 10% in 2018 and 2019 to reflect the potential loss of consumer trust.

Figure 30: EU poultry net trade (left axis; 1000 t, ready to cook) and price variation (right axis; percentage variation) – scenario results against the preliminary EU baseline, 2017-2030



Source: Slides of S. Pieralli (JRC Seville)

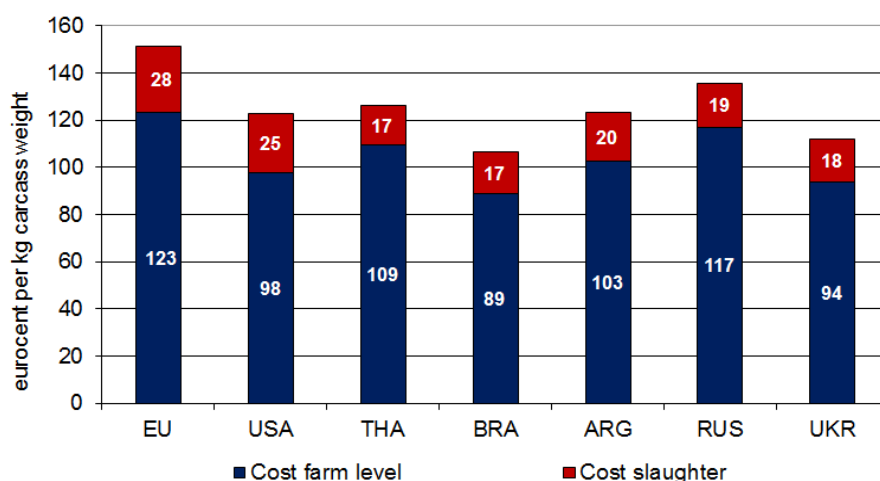
Due to massive culling of poultry that would otherwise be destined for export, the results show that domestic production drops by 22% and 15% in the two years of the ban to slowly recover by 2022 (Figure 30). This production cutback leads domestic producer prices of poultry to increase by 11% in 2018, drop by 12% in 2019 as production resumes, and to eventually stabilise by 2022. Similarly, consumer prices increase by 4.3% (2018) and drop by 5% (2019), thus leading food consumption of poultry to also fall (-12% in 2018, -8% in 2019). In the first year of the ban EU imports increase by 16%. However, the drop in consumption and subsequent take-up of production lead to a greater fall in imports in 2019 (-51%). The most notable cross-price effect can be found for beef and veal (4.5% drop in 2019). Domestic poultry inventories fall by 22% and 15% in the two years of the ban reacting to oversupply. Domestic meat markets fully recover by 2022.

At the same time, Ukrainian, Egyptian, and Philippine imports in 2018 decline by 5.3%, 10.5, and 6% respectively, to smoothly resume over the following years. The domestic and international supply gaps are filled with increased exports mainly from your Ukraine (5.5% in 2018) and Brazil (12.6% in 2018). As every region trades with the world market in the model, bilateral trade flows cannot be directly inferred.

In closing his presentation, Mr. Pieralli explained that consumption and trade of meat adjust relatively smoothly. Nevertheless, exports could take up to five years to recover. Depending on the trade position of the EU and the bilateral agreements in place at the time of an avian-flu pandemic, more limited or dramatic consequences cannot be excluded. As a general caveat, the model does not allow for a differentiation between the various types of cuts or their quality.

Lukasz Dominiak (KRD-IG) expects a small increase in EU poultry production and consumption, the former being more dynamic (esp. in EU-N13) than the latter. His presentation centred around the idea that imposing stricter standards on domestic poultry production regarding food safety, animal welfare, and environmental protection may take away the competitive position of the EU on international markets. While large investments have been carried out with regard to compliance with the farm-to-fork principle, production in various countries from which the EU imports (e.g., Brazil, Thailand, Ukraine) have little to no regulation on the use of GM feed, meat-and-bone meals, and ammonia emissions. As one-fourth of the breast meat consumed in the EU comes from non-EU regions, Mr. Dominiak raised the issue of quality-to-price regarding imports (*'does the quality of poultry imports justify a high import price?'*). To exemplify this point, he explained that while average production costs in the EU after slaughter equal 1.5 EUR/kg c.w.e., Brazilian and Ukrainian production costs are about 30% lower (Figure 31).

Figure 31: International comparison of primary production costs of broilers, 2015



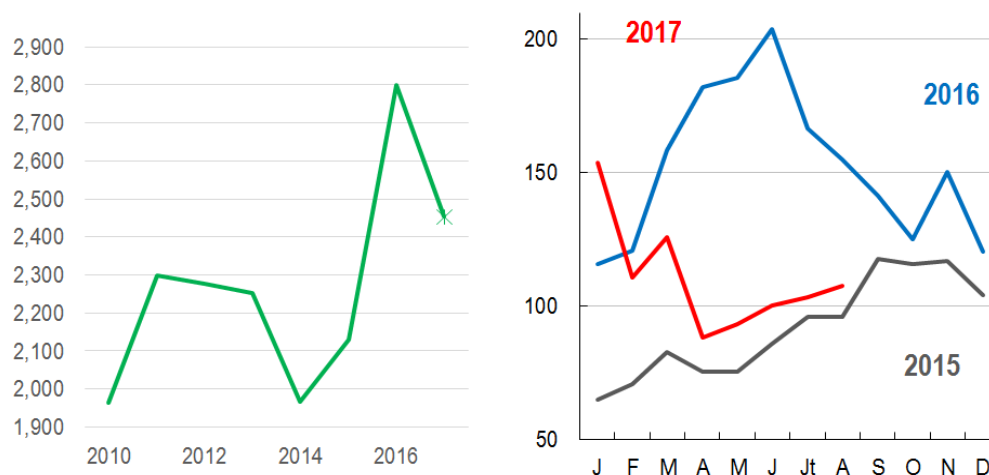
Source: Slides of L. Dominiak (KRD-IG)

Mr. Dominiak closed his presentation questioning how the EU can satisfy the expectations of domestic consumers (e.g., on welfare, growing strains, GM feed) while remaining highly competitive at the international level. He believes that this could be achieved upon diversifying domestic production to adapt to changing consumer preferences, and by negotiating reciprocal standards at the international level to retain international competitiveness.

Michel Rieu (IFIP) started his presentation by commenting on the preliminary pigmeat projections. Driven mainly by exports, EU pigmeat production has been high over the last three years with a potential to increase even more. For this reason, Mr. Rieu considers the absence of variability in the market projections too optimistic. He outlined four factors that may change this picture in the medium term. First, domestic pork demand at the household level is going down, and so does consumption of fresh and processed pork in big Member States. Second, Chinese import demand shows signs of slowing down (Figure 32), which implies that the EU may have to start looking for new markets. Third, global competition is growing. Production and exports particularly from the US, Brazil,

Russia, and Ukraine have been steadily increasing over the last two decades. Finally, sanitary outbreaks (e.g., avian flu, African swine fever) in large specialized farms or regions of high density pose a huge challenge for the sector and, given the absence of technological breakthroughs regarding animal treatment, may close the door of many export markets. Mr. Rieu believes that strong coordination is required to deal with such outbreaks not only among Member States but also between the EU and Eastern Europe.

Figure 32: EU exports of pig meat to third countries (left; 1000 t per year) and to China (right; 1000 t per month)



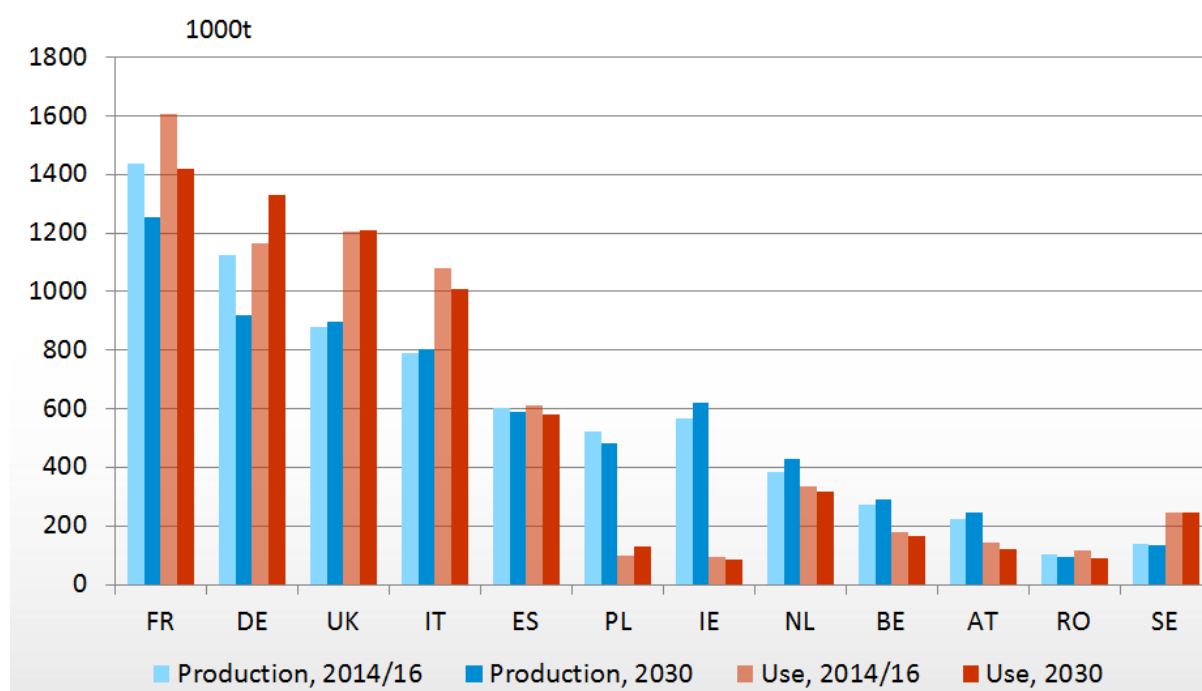
Source: Slides of M. Rieu (IFIP)

Mr. Rieu added that the perception of the public regarding various aspects of pigmeat production, such as the treatment of animals or negative environmental impacts, has to be restored. It is, therefore, under the responsibility of companies, professional bodies and governmental entities to do so without increasing the cost of production to an extent that will endanger the competitive position of the EU; otherwise, domestic demand will continue to fall.

Petra Salamon (Thünen Institute) presented beef market developments at the main Member States with AGMEMOD. In 2030, the picture differs by Member State. Production will go down in France, Spain, Romania, Germany, and Poland, but the gap is growing in the latter two due to increasing consumption (Figure 33). On the other hand, increasing net indigenous beef production and decreasing consumption is foreseen for the medium size producers (Italy, Ireland, the Netherlands, Belgium, and Austria), which are expected to translate to exportable surplus. Overall, production is generally declining, though consumption in EU-N13 is slowly increasing due to rising population. Dairy herds dominate the development of beef production in the big four (France, Germany, UK, Italy), but an increase in beef herds is also foreseen for some Member States (e.g., Poland, Romania).

Regarding trade within the EU, a slight increase in net imports is expected mainly for Italy, Spain, the Netherlands, and Poland, coming mainly from France, Germany, Ireland, Romania, and Hungary. Ms. Salamon concluded her presentation by listing the main uncertainties regarding the medium-term development of beef markets, which boil down to environmental and animal welfare obligations, the BREXIT, and changing consumer preferences.

Figure 33: Net indigenous beef production and use in selected Member States



Source: Slides of P. Salamon (Thünen Institute)

Following the presentations, in the open discussion some participants highlighted the importance to differentiate among the various cuts of meat in the Outlook. As the current structure of the model leads to projections that are presented as aggregates, the idea of a split based on quality was mentioned (e.g., premium cuts vs. cheap cuts). Although the panel recognised that such a distinction would give a clearer picture on potential market development paths, interactions with the world market would be difficult to model without all involved countries keeping records of transactions per type of cut.

It was also mentioned that EU meat markets may be under pressure, but different types of meat are under pressure in different countries. The Outlook projections are presented as aggregates, and so the 'problematic' meat-country combinations are difficult to infer.

Another issue questioned was the potential impacts of an African swine fever outbreak. Mr. Van Doorslaer (DG AGRI) explained that the market projections assume no sanitary epidemics, thus naturally leading to the absence of abrupt drops or jumps in the baseline figures. He mentioned that a corresponding scenario will be considered for presentation in the 2018 workshop.

At the end of the session the overarching question was why meat consumption in EU-N13 remains low. A number of factors were mentioned by the participants (higher prices, lower quality, different consumer perceptions towards meat), albeit no clear consensus was reached. Mr. Dominiak expressed the opinion that, if the picture changed in the medium term (i.e., if consumption in EU-N13 followed that of EU-15) this could happen only for poultry, as EU-N13 consumers show slowly signs of increasing willingness to pay more for cuts of higher quality. Finally, he mentioned that the Chinese market is a rather complicated one, and the EU should explicitly direct its exports on big or rapidly developing cities rather than on remote areas that are more likely to be self-subsistent.

9 Wine

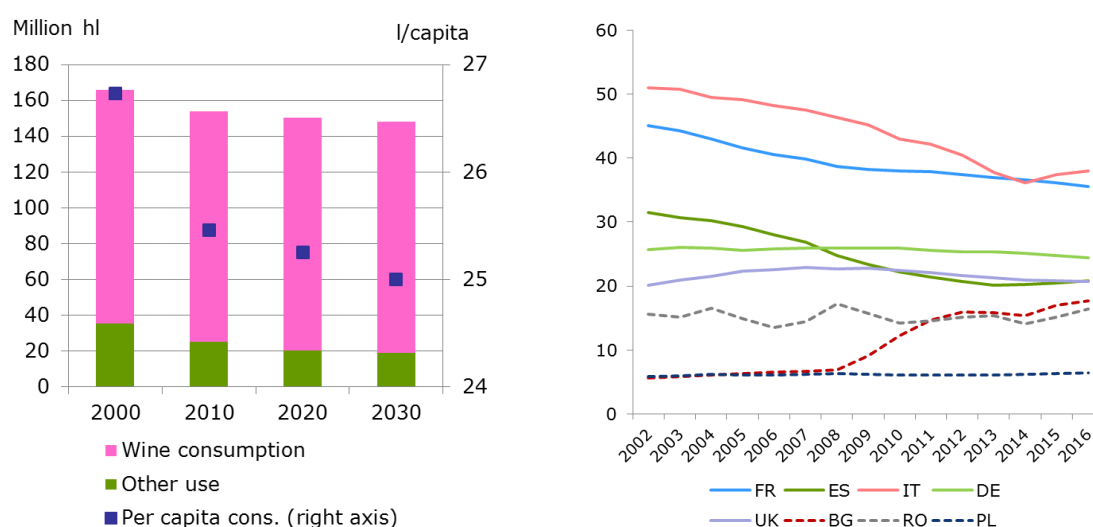
In this session Ferdinand Meyer (BFAP, University of Pretoria) introduced the keynote speakers, Marijke van Schagen (DG AGRI), Maria José Real Dias (Instituto da Vinha e do Vinho, Portugal) and Stefano Baldi (Nomisma), who analysed the situation of the wine market in the EU from different angles.

9.1 Presentations by invited experts and discussion

Marijke van Schagen from DG AGRI presented the main elements of the Outlook projections for the wine sector. As the Aglink-Cosimo model does not cover wine, these projections are based on in-house expertise with no price effects. This edition of the outlook has seen a change in the methodology used and thus cannot be compared to last year's edition.

From a demand perspective two main drivers will define the landscape of wine production: the continuation of (i) decreasing per capita consumption and (ii) export growth. In the EU-15 per capita consumption decrease slows down due to increased sparkling wine consumption, while in the EU-N13 increasing incomes and shift from beer to wine will lead to stable and even slowly increasing per capita consumption (Figure 34, right). However, as EU-N13 only represents 11% of total wine consumption in the EU the overall trend during the projection period remains at a -0.1% p.a. (Figure 34, left). In terms of destination, direct other uses will halve during the projection period.

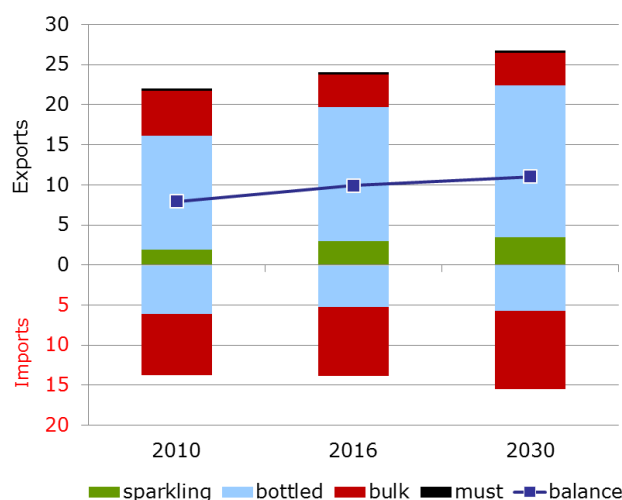
Figure 34: Wine domestic use in the EU (left) and consumption in selected MS (right)



Source: Slides of M. Van Schagen (DG AGRI)

As far as export markets are concerned, despite increasing competition worldwide a 1.6% p.a. increase is foreseen driven mainly by wines protected by Geographical Indications (GI). At the same time imports will increase too, focusing on bulk wine for re-bottling in the EU for domestic consumption (Figure 35). Against this trend in consumption, supply will also see a reduction of 0.2% p.a. which comes from a reduction in area of 0.7% despite increased yields. The latter is the result of old vines being taken out of production and partly replaced by new, more productive ones in GI regions.

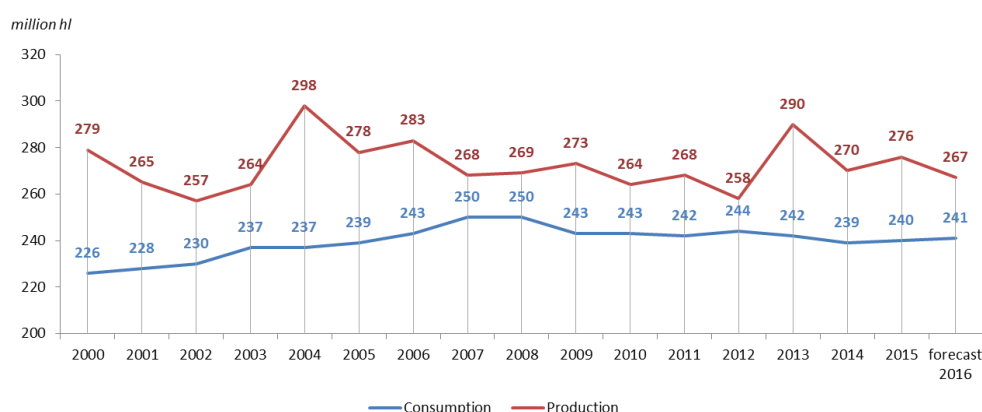
Figure 35: EU wine trade balance.



Source: Slides of M. Van Shagen (DG AGRI)

Maria Joao Real Dias, from the Portuguese Institute of Wine and Vine, confirmed the trend on vine abandonment and highlighted the restriction to vine plantations that exist at the regional and varietal level, driven by national policy or GI regulations. The increased yields are driven mainly by the possibility to mechanize production and the use of new cultivars adapted to climate change, which will bring higher temperatures and less water availability. Migration of planted area to the north is an ongoing process as an adaptation strategy and climate change will be the main restriction to wine production expansion. The decrease in consumption will be reinforced by health concerns that might limit sales and GI policies which in some areas set minimum prices. EU wine production will continue to find markets overseas helped by promotion of EU GI's and the fact that the new world values EU wines, in particular China and the USA. Overall, her outlook sees a world market for wine where the current production surplus of 20 million hl will steadily disappear (Figure 36).

Figure 36. World's wine consumption and production.

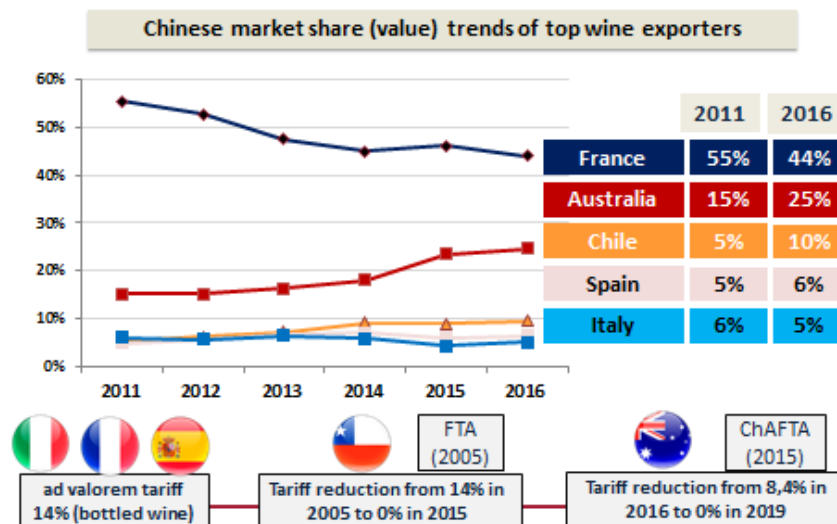


Source: Slides of M. Joao Real Dias (Instituto da Vinha e do Vinho)

Stefano Baldi (Nomisma) confirmed the plausibility of DG AGRI's projections; however three factors might challenge the assumptions. Production reduction might not happen as there is increasing pressure to expand planted area in profitable (i.e. high-end GIs) regions. Exports might not develop as positively as expected as also new world wines are increasing in quality and reputation. Moreover, our competitors are signing free trade

agreements with main export destinations where EU imports still face tariffs, and thus price advantage (Figure 37). Last, consumption might reverse its decreasing trend if mature markets such as Spain, France, and Italy stop their decline and sparkling wine consumption continues to increase.

Figure 37. Free trade agreements effects on global trade



Source: Slides of S. Baldi (Nomisma)

During the open discussion some participants discarded the impact of limited availability of plant protection products in the EU as a potential handicap for production expansion and highlighted that climate change would be the main limiting factor. Already in 2017 adverse climate conditions had impacted wine production in France and Italy reducing volumes by 18% and 26% respectively. All wine producing regions are moving towards high end value segments which will make EU's dominant position in this segment more difficult. Last, the emerging sparkling wine segment is assumed to continue as there is no clear substitute, and the emerging of cheaper sparkling wines compared to champagne also boosts demand.

10 The Outlook in Terms of Value Added

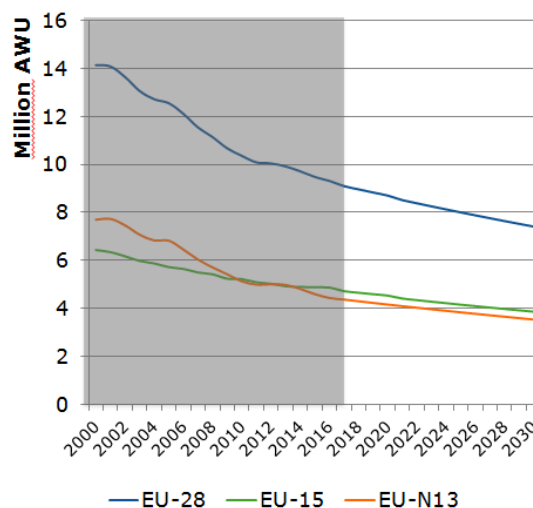
Within this session the Outlook was presented in value added terms. For this, DG AGRI uses an ad-hoc income module for the EU based on statistics coming from the Economic Accounts for Agriculture. Additional presentations focused on the cost structure of EU agricultural production and the calculation of agricultural trade in terms of value added. Mariusz Migas (DG AGRI) introduced the keynote speakers Barthelemy Lanos (DG AGRI), Claus Deblitz (Thünen Institute), Harry Smit (Rabobank) and Jared Greenville (OECD).

10.1 Preliminary EU outlook, 2017-2030

Barthelemy Lanos (DG AGRI) introduced the main drivers leading to EU income developments in the Medium-Term: income, value of production, intermediate costs and workforce. The presentation of these drivers can be seen as summary of many of the developments presented in previous presentations

Income per work unit in the EU is projected to increase in nominal terms while stagnating in real terms. This development is the results of several factors. First the declining trend in agricultural value of production in current prices, which has prevailed in the EU-28 since 2012, is expected to change sign in the near term. The increase in the agricultural value of production will be larger in the EU-N13 (+3%) than in the E15 (+2%). On the cost side, intermediate costs have stayed relatively stable over time (i.e. feed and energy fertilizers holding the largest share) and are expected to rise in the medium-term mainly due to higher energy prices (i.e. oil prices are expected to double in nominal terms) and inflation. Feed costs, in turn, are expected to remain relatively stable. Last, workforce is expected to continue decreasing to 2030 (less than 9 Mio in 2030). Income per agricultural working unit (AWU) is relatively stable during the outlook period in nominal terms (see Figure 38).

Figure 38: Agricultural workforce developments in the EU Outlook



Source: Slides of B. Lanos (EC DG.JRC)

Mr. Lanos concluded his presentation by mentioning that these results need to be put into perspective, assumptions do not reflect the particularities of costs in the agricultural sector due to lack of data. For instance there is no differentiation between wages in rural and urban areas.

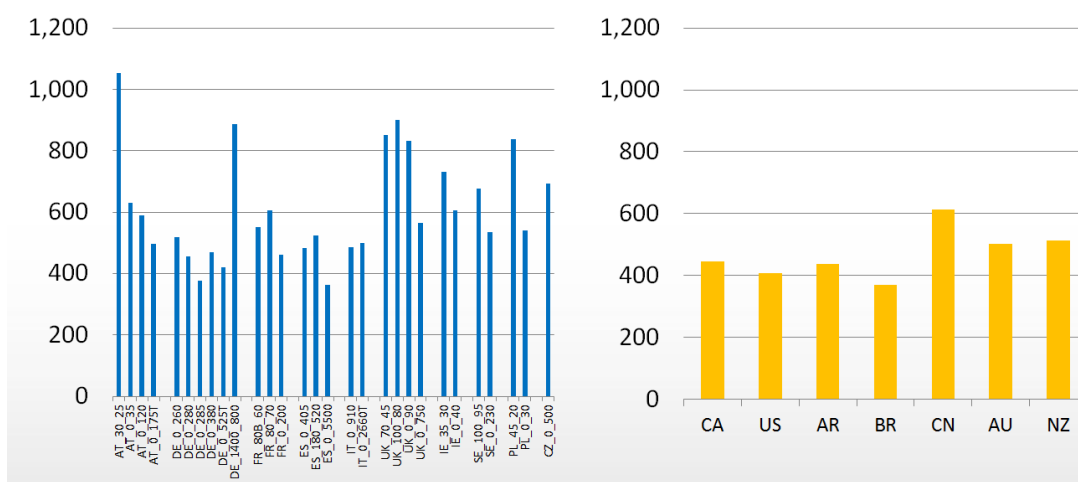
10.2 Presentations by invited experts and discussion

Claus Deblitz (Thünen Institute) presented some results from the *agri benchmark* network regarding the profitability of enterprises of pig and beef production from an

international perspective. Among other aspects, he showed a comparison of price levels between EU farms dedicated to sows, pig fattening and beef production, against a benchmark pool of farms in other world regions. In comparison, the EU is not price leader against all countries anymore. For example, prices in the US, Australia and Canada caught up and prices in China exceed the EU prices. Also, prices (and costs) in many South American countries increased relative to the EU, albeit remaining below but with a smaller difference than in the past. Costs of production revealed as relatively large in the EU compared with other countries but with quite some diversity (see Figure 39). This diversity is what allows EU top farms to compete with average farms of non-EU competitors.

Figure 39: Total cost of beef production 2016: EU farms versus the rest of the world

USD per 100 kg carcass weight



Source: Slides of C. Deblitz (agri benchmark, Thünen Institute)

For pigmeat, he presented results for sow farms as considerably better than for finishing. The main reason is the level of the piglet price. High piglet prices tend to result in profitable situations for the sow enterprise and diminishing profitability in the finishing enterprises. For beef, the highest potential is seen outside Europe, mainly in pasture systems in South America. Even if EU remains as a high cost beef producer, the gap seems to have narrowed in the last years.

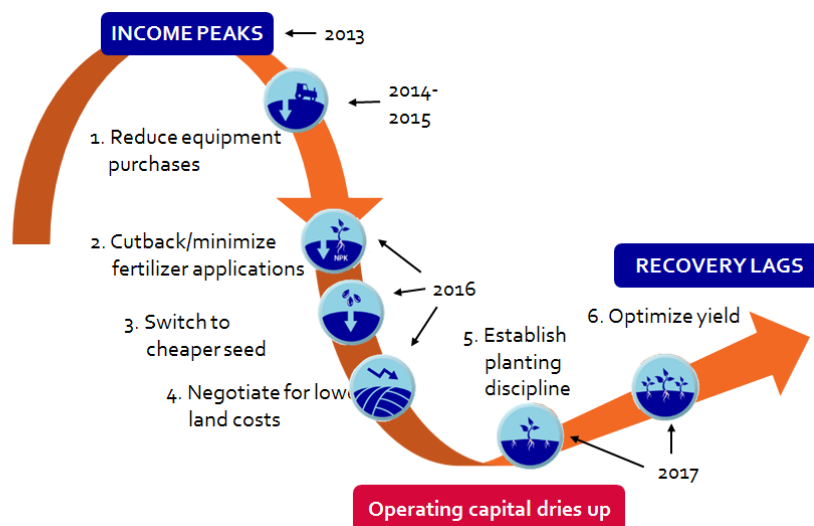
Harry Smit presented the view from RaboResearch Food & Agribusiness on agricultural production trends and their impact on demand for fertilisers. He started his presentation by stressing that, after a tight situation between 2007 and 2013, agri-commodity markets are currently at a 'downcycle' mainly due to overcapacity in input industries, especially in the fertilizer markets, which will probably hold for the next 4-5 years (see Figure 40).

Compared to previous years exchange rate volatility is expected to decrease with a stronger Euro. He also highlighted the need to take into account the variability of crop rotations across the world when analysing agricultural markets.

Regarding agricultural profitability, he compared farmer margin's estimates up to 2018 across a series of countries. This showed significant variability even within the EU. For instance France has experienced growing farm gross margins for the last couple of years while in Poland they remained stable. Input costs (i.e. fertiliser, crop protection, seed, fuel and land rent) have not changed significantly. When looking at the UK and Netherlands, UK farmers have profited since 2016 from a weakening of the Pound and the Netherlands has seen its farm margins decreased due to a low potato price (i.e. it needs to be noted that potato area in the Netherlands represents 41% of cropland). Looking at the US, one can see a stable evolution of farm margins, with land rents

representing the largest cost share in the Midwest and seeds in the Midplains. Differently, Brazil (Mato Grosso) farms have suffered important increases in costs due to a weak Real (i.e. high exchange rate against strong currencies in the world) since 2013. Last but not least, Australian (South Wales) margins are expected to be significantly lower in 2018 due to drought conditions.

Figure 40: Agri-Commodity Cycle



Source: Slides of H. Smit (Rabobank)

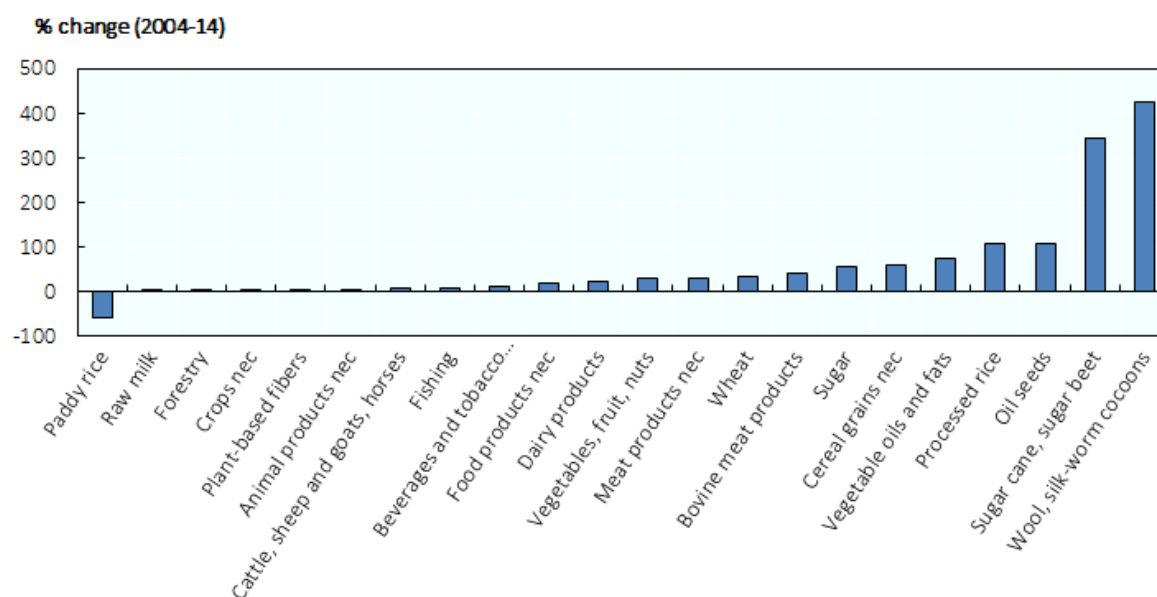
Jared Greenville (OECD) presented results of the analysis of agro-food trade in value added terms. He stressed the fact that world agro-food trade is shifting from trade in bulk commodities to greater trade within global value chains. With this change, trade in value added is also becoming a better measure of the economic activity associated with agro-food trade. Considering global value chains (GVCs) in food and agricultural markets is of importance since it captures the production process for a final good, bring into the light international linkages (mapping economic activities in different places) and are of rising importance globally (i.e. products becoming produced 'partially' in one location).

Looking at trade in value added reveals the central importance of China in world agro-food markets. China stays as the main country both in exports (i.e. exports that are then processed somewhere else and become part of that country's exports) and imports (i.e. imports from other countries that are used domestically to be exported as further processed goods).

The nature of trade linkages for the EU show a picture of global sourcing of value added to underpin EU exports that are concentrated on regional markets. For the outlook, with increasing trade within GVCs, the impact of policies are likely to increase due to compounding effects along the value chain and a general patterns of tariff escalation.

In general, strong growth in trade in value added has been observed over the past 10 years. Looking at the different agricultural commodities, sugar cane emerges as the agricultural sector that has experienced the highest value added export growth (see Figure 41).

Figure 41: Agricultural sectors in terms of value added export growth



Source: Slides of J. Greenville (OECD)

11 International Issues

Tassos Haniotis (DG AGRI) opened this session lamenting the fact that the discussion on BREXIT would be absent as the presenter from AHBD had to cancel his participation. However, the studies on the impact of BREXIT on UK agriculture by AHBD are already publicly available. The discussion was thus limited mainly to two topics: the role of energy prices and the impact of new technologies on farm income.

John Baffes (World Bank) expressed his concerns regarding a new mid-to-long term period of low agricultural prices which would resemble the 1985-2003 period. Impact on food prices is mainly driven by cost-side considerations and not from demand. Demand, leaving aside some policy driven hiccups such as biofuels and short-term impacts of extreme weather events, will remain stable and will become largely decoupled of GDP growth as Engel's Law is confirmed with existing data. The overinvestment on energy production capacity during the 2011-2014 period together with reduced GDP growth expectations of emerging economies forecasts a long period of low energy prices, and therefore cost pressures on food production are not foreseen. The Outlook projection period will most probably be a time of low output and input prices for agricultural commodities. The other potential disruption in agricultural markets (the agricultural policy agenda of the Trump administration) does not seem to be so disruptive. The public works investment program is not significant enough to impact on metal prices, and energy policy will have little effect on prices as shale developments guarantee low prices. The only remaining risk is the revision of NAFTA, which could disrupt international commodity markets, but there is no clear signal of where that revision might lead to.

Olli Honkamaki (Valtra) discussed the potential of new technologies disrupting the agricultural landscape. Farmers are not different from any other consumer segment; they want technology in their machinery. In a situation where farm consolidation is taking place, farmers need information on their activities to make money. Data and mobile access to it are already available in the sector, data are used to optimize machinery maintenance and also farm performance. The farming sector is the ideal area for deployment of autonomous vehicles as they don't work on roads, and the same applies to drones. Currently industry is lagging behind demands of farmers for new technology developments, and investment on R&D must not be underestimated.

The open discussion focused mostly on the plausibility of large scale technology deployment. There were concerns about farmer adoption capacity, however the representative from Valtra highlighted that this technology is already being used, and those who get in contact with it want to have it at their disposal when investing in machinery renewal. Moreover, contrary to mainstream thinking, internet unavailability is not limiting the use of data in farming as satellite-based alternatives can be used. Another argument put forward that went against current thinking is that of technology displacing labour. The Valtra representative turned the argument around and believed that technology is allowing farming to continue where there is no labour willing to work in. While human inputs will still be needed, the amount of land a single person will be able to control will continue increasing. However, it is true that this technology is not for everyone. The technology has been developed for markets that can pay for it, mainly the EU and the USA, so Africa may lag behind. There are also some sectors where there is just no innovation. The gap between those who innovate and increase efficiency and those who not and lag behind will only grow in the future.

There was also some discussion on the probability of low price projections for the agricultural sector. Low prices seem at odds with a situation of population growth, GDP growth, and climate change impacts. But population growth is already being taken care of by technological progress and GDP growth does not really affect agricultural markets, as again Engel's law shows increased income focuses on other types of consumption. Regarding the reduction in volatility also predicted, John Baffes discarded geopolitical tensions having an impact on food prices, recent developments in markets show that contrary to expectations prices both of energy and commodities remain stable despite

high political uncertainty. While this could be explained by excess liquidity in markets due to loose monetary policy, it is probably related to the fact that once governments withdrew from market intervention in the 1980's, now markets are just too big for any single government to have an impact on them even if they wanted. This however, doesn't preclude instability being caused by big financial players. The other source of volatility remaining is climate change and extreme weather events, and indeed volatility can increase if the latter become more common.

List of abbreviations and definitions

AGMEMOD	Agricultural Member State Model
AD	Anti-dumping
AWU	Annual working unit
CAP	Common Agricultural Policy of the EU
CAPRI	Common Agricultural Policy Regionalised Impact Modelling System
CO ₂	Carbon dioxide
cwe	Carcass weight equivalent
DDGs	Dried distillers grains
DG AGRI	Directorate-General for Agriculture and Rural Development
EBA	Everything But Arms
EFA	Ecological Focus Area
EPA	Economic Partnership Agreements
EU	European Union
EU-N13	EU member states that joined in 2004 or later
EU-15	EU member states before 2004
EU-28	EU member states (2017)
EUR	Euro (currency of the Eurozone)
FAME	Fatty Acid Methyl Esters
FAO	Food and Agriculture Organization of the United Nations
FFMP	Fat Filled Milk Powder
FTA	Free trade agreement
GDP	Gross domestic product
GHG	Greenhouse gas
GI	Geographical Indications
GM	Genetically modified
GVC	Global value chains
HVO	Hydrotreated Vegetable Oil
ILUC	Indirect land use change
iMAP	Integrated Modelling Platform for Agro-economic Commodity and Policy Analysis
JRC	Joint Research Centre
MENA	Middle East and North America
MS	EU member state
MTOE	Million Tonnes of Oil Equivalent
NECD	National Emission Ceilings Directive
OECD	Organization for Economic Co-operation and Development
OPEC	Organization of the Petroleum Exporting Countries

PO	Producer Organization
RED	Renewable Energy Directive
SMP	Skimmed milk powder
SSA	Sub-Saharan Africa
UAA	Utilized agricultural area
UK	United Kingdom
US	United States of America
USD	US dollar
VCS	Voluntary coupled support
WMP	Whey milk powder
WTO	World Trade Organization

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Annexes

Annex 1. Workshop Agenda

DAY 1 – 19 OCTOBER 2017

08:30 Registration and welcome coffee

9:00 – 9:30 Session 1

BACKGROUND OF THE WORKSHOP

Welcome and background	Giovanni De Santi, DG JRG Tassos Haniotis, DG AGRI
Workshop introduction	Giampiero Genovese, DG JRC

9:30 – 10:30 Session 2

MACROECONOMIC CONTEXT Chair: John Baffes (World Bank)

(10 min)	Baseline macro and policy assumptions	Pierluigi Londero, DG AGRI
(20 min)	Presentations	Diego Iscaro, IHS Markit Mark Routt, KBC
(30 min)	Open discussion	All participants

10:30 – 11:00

Coffee break

11:00 – 12:00 Session 3

BIOFUELS Chair: Céline Giner (OECD)

(15 min)	EU agricultural outlook	Sylvie Barel, DG AGRI
(20 min)	Presentations	Claus Keller, FO licht Rohaise Low, LMC
(30 min)	Open discussion	All participants

12:00 – 13:15

Networking lunch

13:15 – 14:45 Session 4

CEREALS AND OILSEEDS Chair: Seth Meyer (USDA)

(15 min)	EU agricultural outlook	Koen Mondelaers, DG AGRI
(15 min)	How could EU cereals markets be affected by climate extremes?	Thomas Chatzopoulos, DG JRC
(20 min)	Presentations	Andrée Defois, Tallage Thomas Mielke, Oilworld
(40 min)	Open discussion	All participants

14:45 – 15:15

Coffee break

15:15 – 16:30 Session 5

SUGAR Chair: Holger Matthey (FAO)

(15 min)	EU agricultural outlook	Sylvie Barel, DG AGRI
(20 min)	Presentations	Pierre-Henri Dietz, Tereos Claudiu Covrig, Platts
(40 min)	Open discussion	All participants

16:30 – 17:30 Session 6

AGRICULTURE AND THE ENVIRONMENT Chair: Doris Marquardt (EEA)

(10 min)	EU Outlook on environmental indicators	Frank Dentener DG JRC
(15 min)	The environmental framework	Claudia Olazabal, DG ENV
(35 min)	Open discussion	All participants

DAY 2 – 20 OCTOBER 2017

08:30 Registration and welcome coffee
09:00 Warm-up

Ignacio Perez Dominguez DG JRC
 Fabien Santini, DG AGRI

9:15 – 10:45
Session 7

MILK AND DAIRY MARKETS
 Chair: Philippe Chotteau (IDELE)

(15 min)	EU agricultural outlook	Sophie Hélaine, DG AGRI
(15 min)	Scenario on SMP exports from India	Hans Jensen, DG JRC
(20 min)	Presentations	Christophe Lafougère, GIRA
		Mirko Wätjen, DMK
(40 min)	Open discussion	All participants

10:45 – 11:15

Coffee break

11:15 – 12:45
Session 8

MEAT MARKETS
 Chair: François Cadudal (ITAVI)

(15 min)	EU agricultural outlook	Ben Van Doorslaer, DG AGRI
(15 min)	Scenario on avian influenza	Simone Pieralli, DG JRC
(30 min)	Presentations	Petra Salamon, Agmemod
		Lukasz Dominiak, National Poultry Council
		Michel Rieu, IFIP
(30 min)	Open discussion	All participants

12:45 – 14:00

Networking lunch

14:00 – 14:45
Session 9

WINE
 Chair: Ferdinand Meyer (BFAP)

(10 min)	EU agricultural outlook	Marijke van Schagen, DG AGRI
(20 min)	Presentation	Maria João Real Dias, Instituto da Vinha e do Vinho
(15 min)	Open discussion	Stefano Baldi, Nomisma
		All participants

14:45 – 15:15

Coffee break

15:15 – 16:15
Session 10

INCOME, COSTS and VALUE ADDED
 Chair: Mariusz Migas (DG AGRI)

(10 min)	Income	Barthelemy Lanos, DG AGRI
(30 min)	Presentation	Claus Deblitz, Agribenchmark
		Harry Smit, Rabobank
		Jared Greenville, OECD GVC
(20 min)	Open discussion	All participants

16:15 – 17:00
Session 11

THE INTERNATIONAL CHALLENGES AHEAD
 Chair: Tassos Haniotis, DG AGRI

(45 min)	Round Table discussion	David Swales, AHDB
		John Baffes, World Bank
		Olli Honkamaki, Valtra

17:00 – 17:15

Closure

Annex 2. List of participants

Name	Surname	Affiliation
Marcel	Adenäuer	OECD
Laura	Aguglia	European Commission
Defois	Andrée	Tallage
Alessandro	Antimiani	European Commission
Alexander	Anton	EDA European Dairy Association
Pedro	Arruda	International Sugar Organization
Peter	Baader	European Commission
John	Baffes	World Bank
Andrew	Baird	Fonterra Europe
Stefano	Baldi	Nomisma spa
Martin	Banse	Johann Heinrich von Thünen Institute
Sylvie	Barel	European Commission
Jean Marie	Barillere	Comité Européen Entreprises de Vins
Jesus	Barreiro-Hurle	European Commission
Julia	Beile	European Commission
Maria	Bielza	European Commission
Michela	Bissonni	Agra CEAS Consulting
Maria	Blanco	Universidad Politécnica de Madrid
Silke	Boger	European Commission
Laurent	Bontoux	European Commission
Manuel	Boss	European Commission
Maria João	Braga	Instituto da Vinha e do Vinho, I.P.
François	Cadudal	ITAVI
Gérard	Calbrix	ATLA
Andrea	Capkovicova	European Commission
Thomas	Chatzopoulos	European Commission
Philippe	Chotteau	Institut de l'Elevage
Maria	Christodoulou	Agra CEAS / Informa IEG
Juan	Corbalán	Spanish Agrifood Cooperatives
Vincent	Cordonnier	European Commission
Claudiu	Covrig	Kingsman - S&P Global
Michel	De Knoop	European Commission
Els	De Rademaeker	European Commission
Giovanni	Di Santi	European Commission
Claus	Deblitz	Johann Heinrich von Thünen Institute
Manuel	Del Pozo Ramos	European Commission
Frank	Dentener	European Commission
François J.	Dessart	European Commission
Pierre Henri	Dietz	Tereos
Lukasz	Dominiak	National Poultry Council
Trevor	Donnellan	Teagasc
Julia	Duquet	Louis Dreyfus
Guy	Duren	European Commission
Philippe	Dusser	AVRIL
Mohamed	El Aydam	European Commission

Name	Surname	Affiliation
Thomas	Fellmann	European Commission
Klaudia	Feurle	Eucolait
Maria	Fladl	European Commission
Louisa	Follis	BUNGE
Valeria	Forlin	European Commission
Jean-Pierre	Garnier	Agriculture & Horticulture Development Board
Giampiero	Genovese	European Commission
Céline	Giner	OECD
Jared	Greenville	OECD
Benjami	Guixens	DanTrade
Andreas	Guth	ePURE
Emélie	Halle	Groupe Avril
Tassos	Haniotis	European Commission
Kevin	Hanrahan	RERC – Teagasc
Sophie	Hélaine	European Commission
Philipp	Hildebrandt	UECBV
Olli	Honkamaki	Valtra
Aurora	Ierugan	European Commission
Diego	Iscaro	IHS Markit
Juliette	Jacques	Starch Europe a.i.s.b.l.
Hans	Jensen	European Commission
Roel	Jongeneel	WEcR
Marjo	Kasanko	European Commission
Claus	Keller	F.O. Licht Commodity Analysis
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Carl-Johan	Linden	European Commission
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Doris	Marquardt	European Environment Agency
Nicolas	Martin	FEFAC
Carlos	Martin Ovilo	European Commission
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Ferdinand	Meyer	BFAP University of Pretoria
Seth	Meyer	United States Department of Agriculture
Fabio	Micale	European Commission
Thomas	Mielke	ISTA Mielke GmbH
Mariusz Stefan	Migas	European Commission

Name	Surname	Affiliation
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Davide	Nicodemo	European Commission
Stefan	Niemeyer	European Commission
Claudia	Olazábal	European Commission
Zulema	Olivan Tomas	European Commission
Tuuli	Orasmaa	European Commission
Klaas	Osinga	LTO Nederland
Benoît	Pages	Arvalis Institut Du Vegetal
Ignacio	Pérez Domínguez	European Commission
Daniel	Pérez Vega	ASSUC
Arnaud	Petit	Copa-Cogeca
Simone	Pieralli	European Commission
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Jakub	Puzniak	AGRA CEAS Consulting
Fabien	Ramos	European Commission
Katrin	Reincke	IFCN AG
Marie-Christine	Ribera	Comité européen des Fabricants de Sucre
Michel	Rieu	IFIP - Institut du Porc
Christophe	Rouillard	European Seed Association
Mark	Routt	KBC Advanced Technologies
Petra	Salamon	Johann Heinrich von Thünen Institute
Fabien	Santini	European Commission
Verena	Schütz	Deutscher Raiffeisenverband
Alessandro	Sciamarelli	EuroCommerce
Harry	Smit	Rabobank
Claude	Soude	FOP - French oilseeds producers union
Kai-Uwe	Sprenger	European Commission
Antony	Starr	European Commission
Birthe	Steenberg	AVEC
Tiffanie	Stephani	Fertilizers Europe
Jean-Michel	Terres	European Commission
Axel	Tonini	Swiss Federal Office for Agriculture
Benjamin	Vallin	European Commission
Benjamin	Van Doorslaer	European Commission
Myrna	Van Leeuwen	Wageningen Economic Research
Marijke	Van Schagen	European Commission
Ivo	Vanderlinden	European Commission
Ricardo	Varanda Ribeiro	European Commission
Jana	Votoupal	European Commission
Mirko	Wätjen	DMK Deutsches Milchkontor GmbH
Jarrett	Whistance	FAPRI-MU
Verena	Wolf	Johann Heinrich von Thünen Institute
Justyna	Wrobel	European Commission
David	Zaitegui Pérez	European Commission
Marcin	Zarzycki	European Commission

Name	Surname	Affiliation
Gabor	Zsugyelik	European Commission
Marta	Zuluaga Zilbermann	Cargill NV

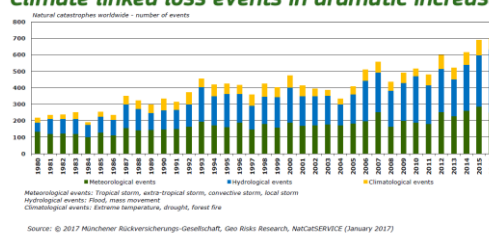
Annex 3. Workshop presentations

Session 1: Background of the Workshop

Tassos Haniotis (DG AGRI)



Climate linked loss events in dramatic increase



Summarising the CAP debate

Achievements of the CAP reform path

- Bridging the gap between world and EU farm prices, thus increasing competitiveness
- Turning the EU from a major trade player for both exports and imports into a net agro-food exporter
- Providing relative income stability within a very volatile income and price environment

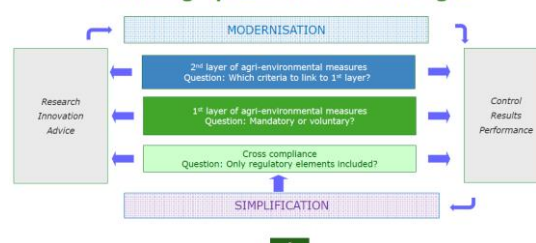
Shortcomings of the CAP reform path

- Despite progress, the environmental performance of EU agriculture requires further improvement
- Productivity growth is mainly driven by the outflow of labour, and less by research or innovation
- Questions on equity, safety net and simplicity of the CAP are still hotly debated

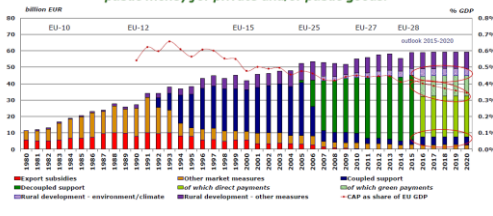
Drivers and future challenges

- The changing commodity, economic and price environment
- The changing trade environment – especially the shift from multilateral to regional agreements
- New climate change, environmental and broader sustainability priorities

"Greening" questions and challenges



Main issues for the future CAP debate: public money for private and/or public goods?



Source: DG AGRI.

Turning tensions into synergies

Tensions that the future CAP has to address

- The economy versus the environment – and the impact of cost pressure on environmental ambitions
- Subsidiarity versus simplification – especially with respect to EU value added priorities
- Jobs versus growth – the difficult, but also promising impact of new technologies on agriculture

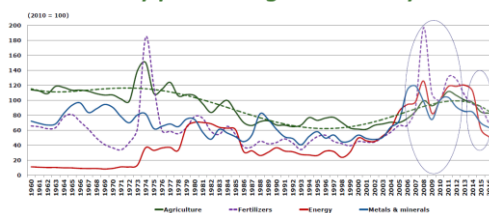
Synergies that the future CAP has to develop

- Find the right balance of support between private and public goods – both face market failures
- Redefine the balance between EU, MS and farm responsibilities to simplify and avoid policy failures
- Address jobs and growth challenges in rural areas and in the food chain – to enhance resilience

Main questions that the future CAP has to reassess and address

- Better targeting requires a clear choice of the main target – is it the farm or its land?
- Shift towards performance requires a fundamental rethinking of control logic (what, why, how)
- Technologies (especially of EU-lead) provide major opportunities, but meet resistance in their use

Commodity price changes in recent years



Source: World Bank.

Reports and data available at:

https://ec.europa.eu/agriculture/index_en.htm
https://ec.europa.eu/agriculture/policy-perspectives/index_en.htm
https://ec.europa.eu/agriculture/policy-perspectives/impact-assessment/index_en.htm
https://ec.europa.eu/agriculture/markets-and-prices/index_en.htm
https://ec.europa.eu/agriculture/events/2016-outlook-conference_en
https://ec.europa.eu/agriculture/statistics_en
https://ec.europa.eu/agriculture/cap-indicators_en
https://ec.europa.eu/agriculture/consultations/cap-modernising/2017_en

Thank you for your attention!

Giampiero Genovese (JRC Seville)

Prospects for Agricultural Markets and Income in the EU 2017-2030

- Background -

Workshop on 'Commodity Market Development in Europe - Outlook'
Brussels, 19 and 20 October 2017

Giampiero Genovese & Thomas Fellmann (JRC)

European Commission
DG Agriculture and Rural Development
& Joint Research Centre



EU Agricultural Outlook

What?

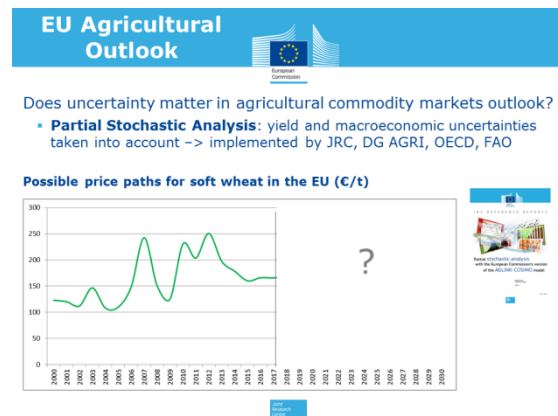
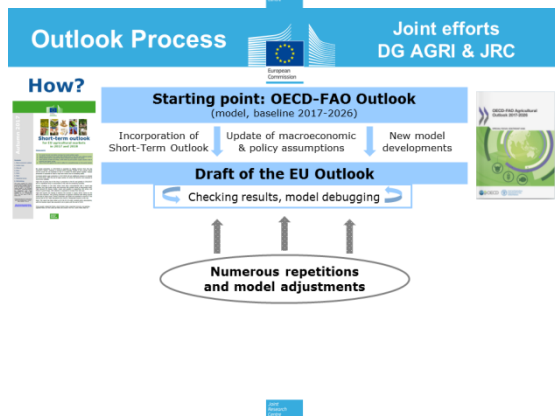
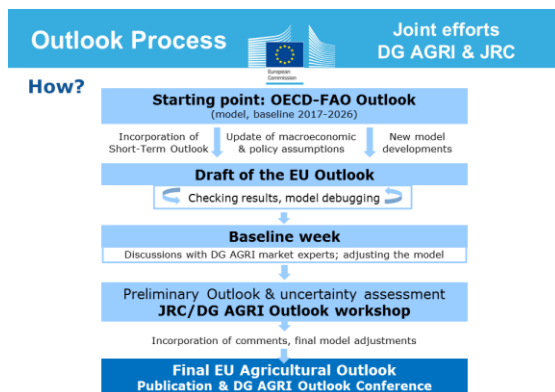
- projections of agricultural markets and income, with focus on the EU and time horizon 2030
- Not as a forecast of what the future will be, but a description of what may happen under a specific set of assumptions, which at the time of making the projections were judged plausible

Why?

- To better understand markets and their dynamics
- To identify key issues for market and policy developments
- To have a benchmark for assessing the medium-term impact of future market and policy issues

Why every year?

- Because of new developments (e.g. oil price, policy, etc.) which may change the framework and hence the Outlook results



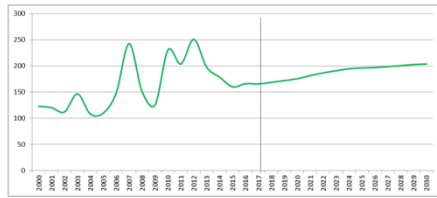
EU Agricultural Outlook



Does uncertainty matter in agricultural commodity markets outlook?

- **Partial Stochastic Analysis:** yield and macroeconomic uncertainties taken into account -> implemented by JRC, DG AGRI, OECD, FAO

Possible price paths for soft wheat in the EU (€/t)



European Commission

EU Agricultural Outlook



Scenario Analysis on PANDEMIC AVIAN FLU

- Scenario on the effect of a trade ban on EU exports due to a pandemic EU-wide avian influenza (Aglink-Cosimo)
- What is the effect of widespread culling of infected animals on EU trade?
- What is the effect of panic outbreaks among EU consumers on prices, production and trade?



...The answers in the MEAT session TOMORROW at 11.15

European Commission

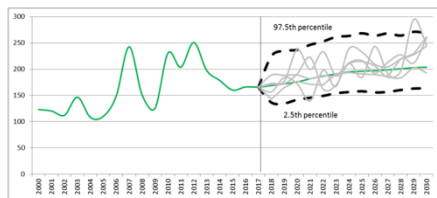
EU Agricultural Outlook



Does uncertainty matter in agricultural commodity markets outlook?

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Possible price paths for soft wheat in the EU (€/t)



European Commission

EU Agricultural Outlook



Uncertainty analysis to accompany the Outlook

- Apart from the stochastic subsets and the deterministic scenarios

Additional analysis to accompany the Outlook

- EU Member State results for meat markets (AGMEMOD)
- Environmental indicators (CAPRI)

European Commission

EU Agricultural Outlook



Scenario Analysis on CLIMATE EXTREMES

- Scenario on the effect of extreme climate in EU (Aglink-Cosimo)
- What would the EU market impacts be if climate extremes occurred next year?
- Climate extremes, price extremes?



...The answer in the CEREALS session TODAY at 13.15

European Commission

Thank you
for your attention

Joint Research Centre

Serving society
Stimulating innovation
Supporting legislation

EU Agricultural Outlook



Scenario Analysis on INDIA EXPORTING SMP

- Scenario on the effect of India being an exporter of SMP (Aglink-Cosimo)
- What is the possible impact of India entering into the World SMP market in 2028 for the EU?



...The answer in the MILK and DAIRY session TOMORROW at 9.15

European Commission

Modelling tools



Agro-Economic Modelling Platform (iMAP)

hosted by JRC in cooperation with DG AGRI
widely used, robust and scientifically acknowledged tools
partial equilibrium (PE) and general equilibrium (CGE) models



Modelling tools used for EU baseline and uncertainty analysis

- AGLINK-COSIMO** (EU module of OECD-FAO model)
- in conjunction with**
- CAPRI** (highly disaggregated in regions and products)
- AGMEMOD** (EU Member States)
- MAGNET** or **GLOBE** (multi-regional, multi-sector CGE model)
- IFM-CAP** (Farm model, based on FADN farms)

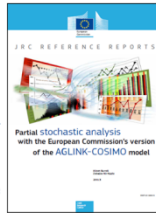
European Commission

Uncertainties



Partial Stochastic Analysis

- Partial stochastic (probabilistic) analysis (of about 40 macroeconomic and 85 yield variables)
- Macroeconomic uncertainty (GDP index, GDP deflator, CPI, exchange rate, oil price)
 - Based on vector autoregressive model extraction and a copula simulation to consider correlation within countries
- Yield uncertainty for crops (cereals, oilseeds, sugar beet and cane) and milk
 - Based on cubic detrending extraction and a copula simulation to consider correlation within correlated zones
- Stochastic model is run 1000 times, of which more than 99% solve
- Similar methods are also used by the OECD-FAO (Araujo-Enciso, Pieralli, Pérez-Domínguez, 2017, forthcoming)



JRC IPTS Reference report:
A. Burrell, Z. Ni-Naate (2013)

2

Session 2: Macroeconomic Context

Pierluigi Londero (DG AGRI)



Trade assumptions

- Russian import ban:
 - until end 2018 (inc. pork sanitary ban),
 - in 2019, partial recovery
 - longer term development, depends on change in domestic production
- Only ratified Free Trade Agreements (FTA) in:
 - Canada included, but not Japan
 -
- Agreed development of tariff quotas for all FTAs
- EU-28 outlook (includes UK)

2

CAP assumptions 2017

- No fundamental changes since last year
- Voluntary coupled support included
- Greening:
 - Crop diversification: no change in area allocation at EU aggregated level
 - Permanent grassland share in arable land decreases less than without greening measures, now stable at 33% until 2030
 - EFA: above minimum requirements mainly thanks to:
 - Catch crops
 - An increase in protein crops and soybeans area (also in link to coupled payments for such crops)
 - Less fallow land

3

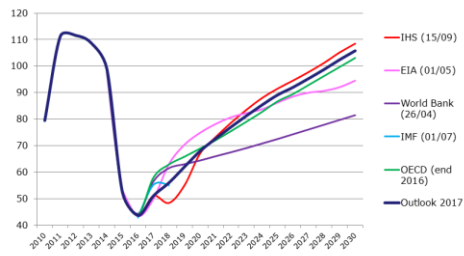
Macroeconomic and energy price assumptions

- Largely based on Global Insight trends as from 2019
- Specific assumptions for
 - Oil price
 - EUR exchange rate

4



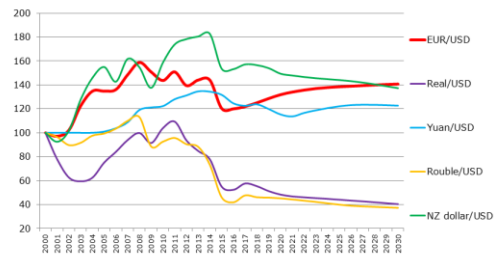
Oil price assumption 2017 (USD/bbl)



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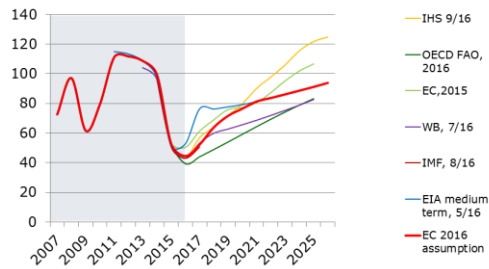
Exchange rates to USD



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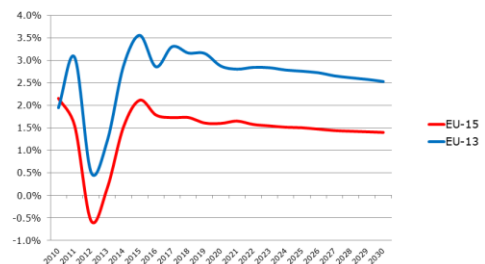
Oil price assumption 2016 (USD/bbl)



6



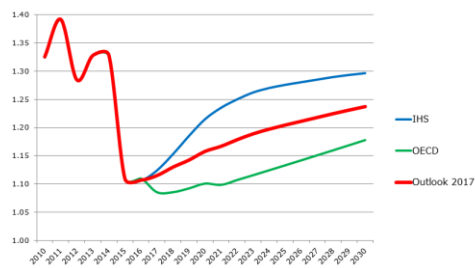
Economic growth EU



10



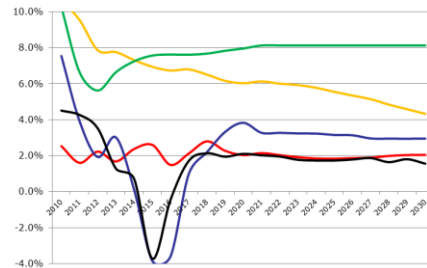
Exchange rate (USD/EUR)



7



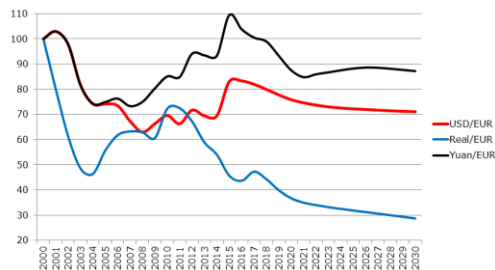
Economic growth



11



Exchange rates to EUR

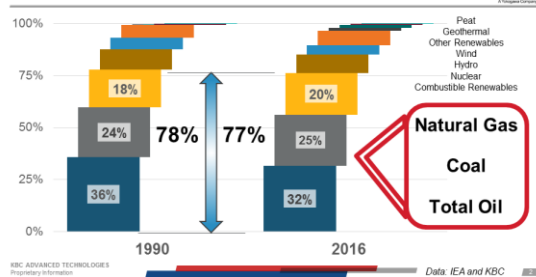


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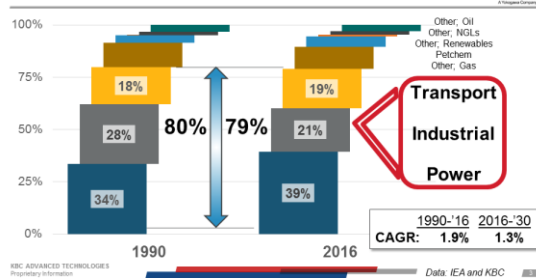
Mark Routt (KBC)



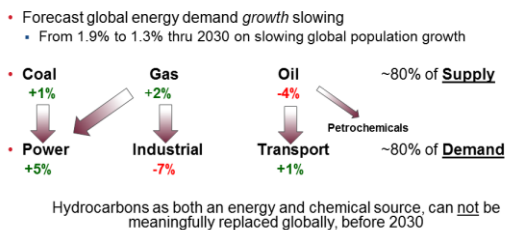
Relative Global Energy Supply by Source



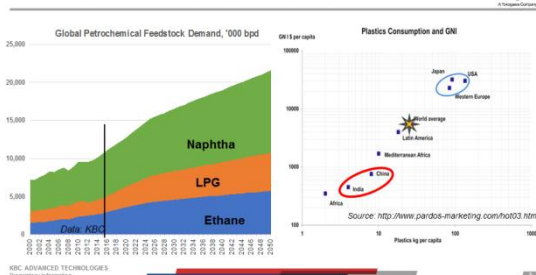
Relative Global Energy Demand by Sector



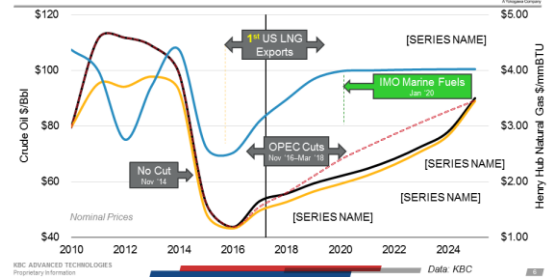
Long Term Energy Supply / Demand Conclusions



Asia Drives Petrochemical Oil Demand Growth



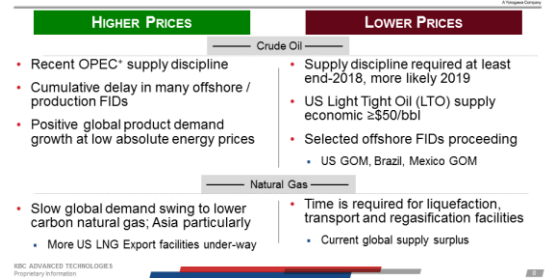
Near-Term Price Forecasts



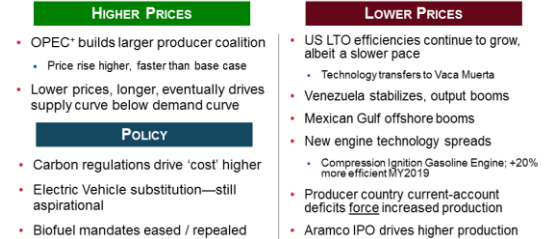
Summary Near Term Oil Market

- Oil demand growth and OPEC supply cuts slowly rebalance the global oil market
 - Oversupply unlikely to be resolved before 2H18 (earliest)
 - Oil stocks remain high globally in both absolute and relative terms
 - Asian demand growth—especially gasoline—eroding regional refining capacity surplus
 - As / when prices do rise, even more US energy production / exports
- About half of global supply growth is in natural gas and NGL's (ethane, propane)
 - NGL demand growth is strong as new petrochemical facilities come on-stream in US, Asia
- Regulations increase product prices, drive refining investments and impair demand
 - IMO stimulates some refiners ahead of 2020 to resolve emerging fuel oil imbalance
 - Tighter product specifications in US, China and India
 - Higher carbon costs will always be passed on to the consumer

Main Price Forecast Factors

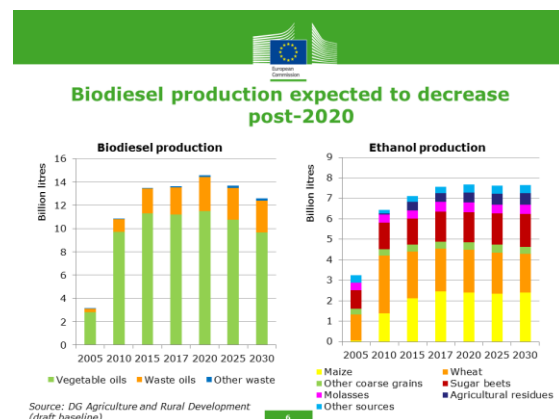
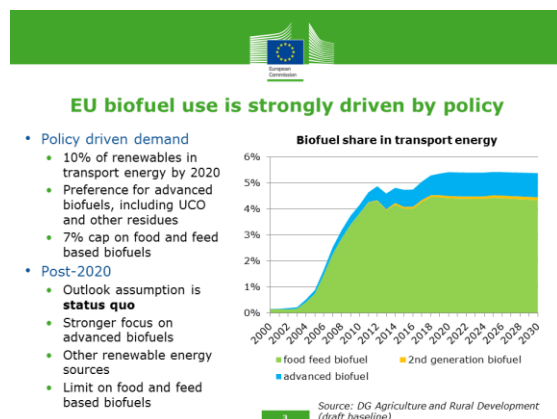
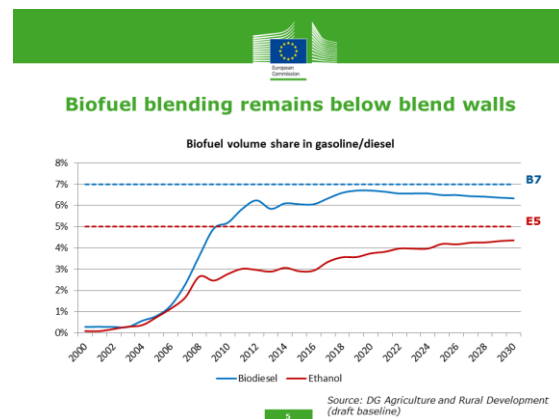
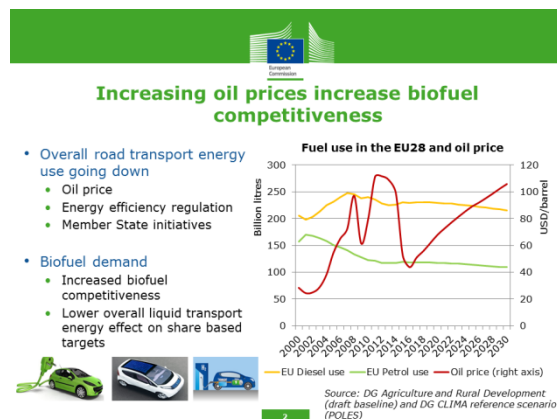
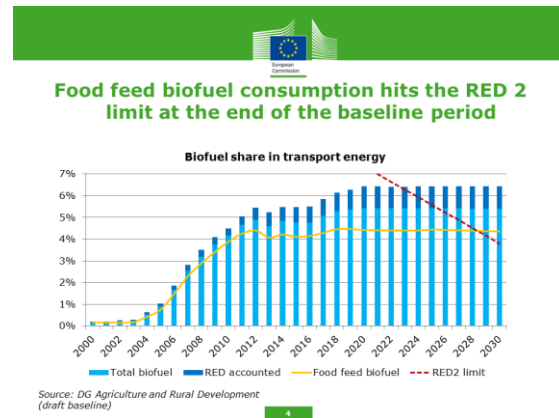


Price Forecast Wildcards



Session 3: Biofuels

Sylvie Barel (DG AGRI)





Questions



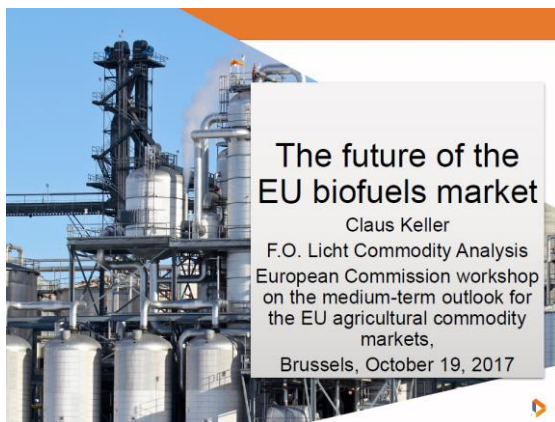
What trend is expected for fuel use?
What drives the biodiesel vs. ethanol share?



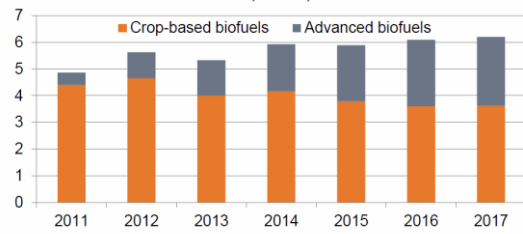
How will share in feedstocks evolve?
Will second generation and advanced biofuels take off?

7

Claus Keller (FO Licht)



EU – Biofuels Market Share (% cal.)



Source: F.O. Licht
F.O. Licht | Agribusiness Intelligence

The current situation of the EU biofuels in transport market – key facts:

- Not on track to RED target, neither for crop-based nor for other biofuels
- No significant dynamic
- Performance if member states offers a very mixed picture

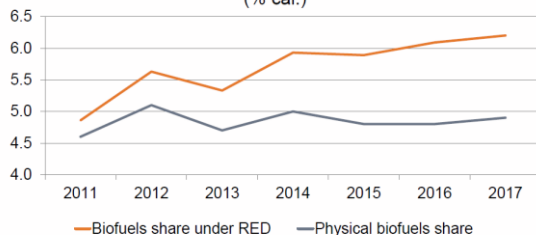
F.O. Licht | Agribusiness Intelligence

Why biofuel market shares differ between member states:

- Biofuels quota levels
- Fuel taxation
- Blending standards
- Sanctions and penalties for not meeting the targets
- Double counting/ratification of RED
- Volumetric/energetic/greenhouse gas-based targets and subsidies
- Co-processing of plant oils/Use of hydrotreated vegetable oils
- Tax waivers, also for pure biofuels and high blends
- There is no legal provision which forces member states to start renewable energy use in transport before 2020

F.O. Licht | Agribusiness Intelligence

EU – Biofuels Market Share (% cal.)



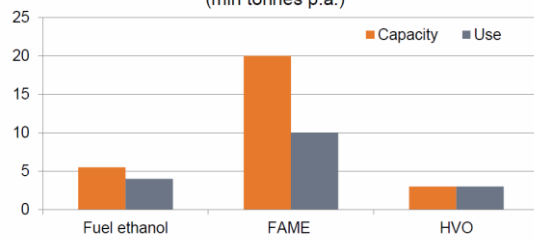
Source: F.O. Licht
F.O. Licht | Agribusiness Intelligence

The European Commission's Clean Energy Package – the proposed quotas:

- Decreasing cap for crop-based product
- Rising minimum for alternative energy in transport including advanced biofuels, beyond UCOME/TME/fuel ethanol from molasses (Annex IX B)
- Cap for established non-crop-based biofuels (see above)

F.O. Licht | Agribusiness Intelligence

EU – 2017 Biofuels Capacity Utilization (mIn tonnes p.a.)



Source: Licht Interactive Data

F.O. Licht | Agribusiness Intelligence



Summary

- Current biofuels demand is far below the 2020 target; this must not be forgotten, when discussing 2020-2030 projections
- The Clean Energy Package requires a significant investment in advanced biofuel production capacity. But the preconditions for such an investment (long-term horizon, established technologies, ...) do not exist.
- The political logic speaks against the proposal.

10 F.O. Licht | Agribusiness Intelligence



The EU biofuels sector – key points:

- Decreasing cap for crop-based product
- Rising minimum for alternative energy in transport including advanced biofuels (Annex IX A) , beyond UCOME/TME/fuel ethanol from molasses (Annex IX B)
- Cap for the non-crop-based biofuels listed in Annex IX B

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Thanks you for your attention

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Some thoughts on EU biofuels post 2020:

- Overcapacities in the crop-based sector, mainly for FAME.
- No need for new capacity in Annex IX B
- Several cellulosic ethanol projects are in the pipeline and some industrial capacity exists, but there is no experience with the majority of advanced biofuel production pathways at an industrial/commercial scale (except for tall oil-based biodiesel, methane from straw, biomethanol)
- What is the final stance on palm oil?
- How much potential offers the fossil fuel market for biofuels?

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Rohaise Low (LMC)



LMC EU Ethanol Outlook

19th October 2017

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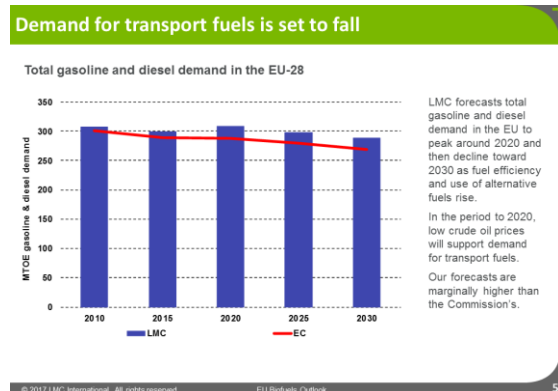




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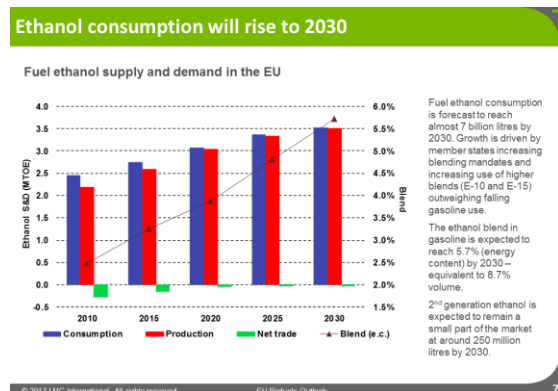
- [Assumptions](#)
- [Ethanol demand and supply outlook](#)



Biofuel demand and supply outlook



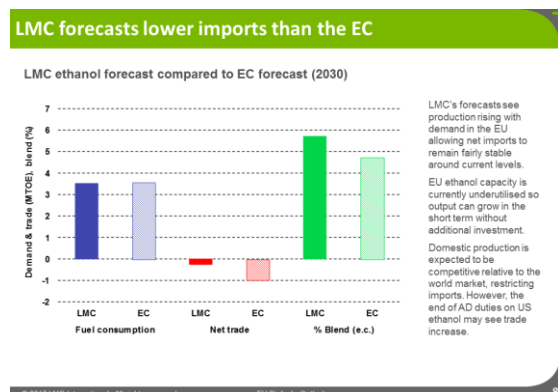
Forecast assumptions



Policy will remain a key driver for biofuels

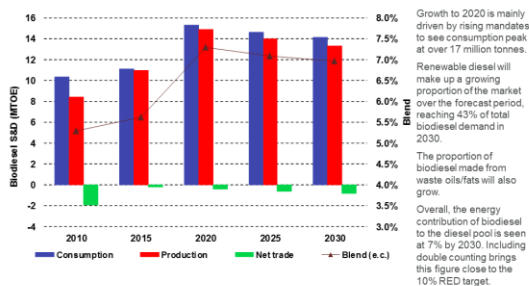
- The policy environment in the EU remains uncertain, restricting growth in the biofuels industry.
 - The most recent proposals for the RED beyond 2020 include a lower cap on crop-based biofuels of just 3.8% by 2030.
 - Major changes in trade barriers are underway with anti-dumping duties for both ethanol and biodiesel being lowered or revoked.
- LMC's base case forecasts are based on:
 - The current RED legislation (as passed in 2015) with a 7% cap on crop-based biofuels and no ILUC included in GHG calculations.
 - Countries permitting the use of E-10 by 2020 and E-15 by 2030 for ethanol.
 - A B-7 blend wall for biodiesel (FAME).

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Biodiesel demand is forecast to peak in 2020

Biodiesel supply and demand in the EU



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EU Biofuels Outlook

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Points to watch

- Anti-dumping duties are set to be cut or expire on US ethanol and Indonesian and Argentine biodiesel. These could have a significant impact on the domestic EU industry.
- The proposals of a lower crop-based biofuel cap under the RED to 2030 could drastically cut biofuel demand, the impact on ethanol would be the most significant as there is very little waste-based production and cellulosic technology is still struggling to make its mark.
- A move toward GHG mandates could see a shift in the biofuels market in the EU. As yet only Germany and California have these in place but several other countries are considering implementing them. These would give higher incentives to lower carbon fuels such as waste-based biodiesel and advanced ethanol.

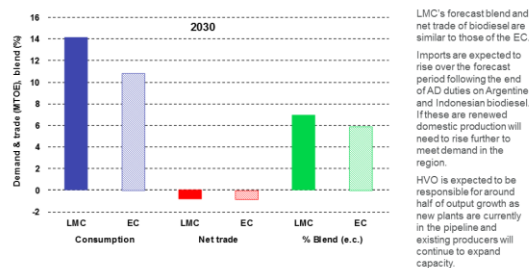
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EU Biofuels Outlook

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LMC biodiesel forecast higher than EC

LMC biodiesel forecast compared to EC forecast



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EU Biofuels Outlook

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Talking points

- Will the EU impose trade restrictions on biodiesel and ethanol imports in the future?
- What are the prospects for E5/E10 and B7 blend walls being lifted?
- How likely is that the crop based limit on biofuels will be lowered to 3.8%.
- What is driving the decline in transport fuel consumption? What impact will electric vehicles have in the period to 2030?
- Will the adoption of advanced biofuel mandates have a material impact on advanced biofuel production?
- How many other states will move towards a GHG mandate system? What impact will these have on future biofuel demand?

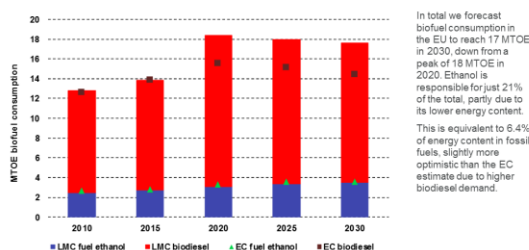
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EU Biofuels Outlook

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Overall LMC estimate a blend of 6.4% biofuels (e.c.)

Total biodiesel consumption in the EU LMC vs EC



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EU Biofuels Outlook

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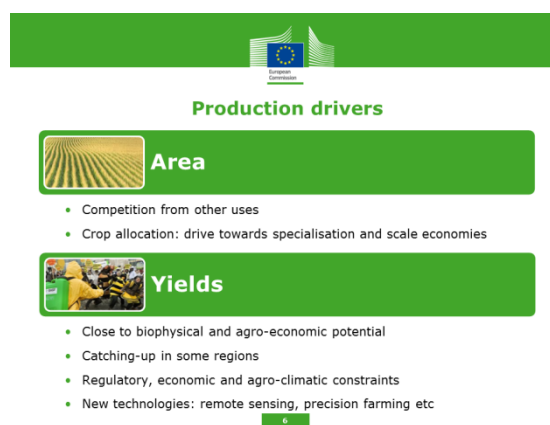
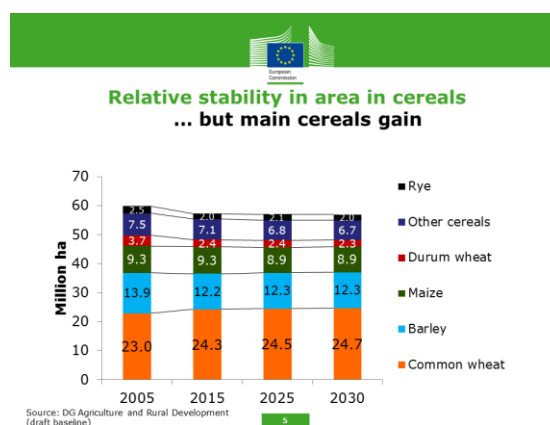
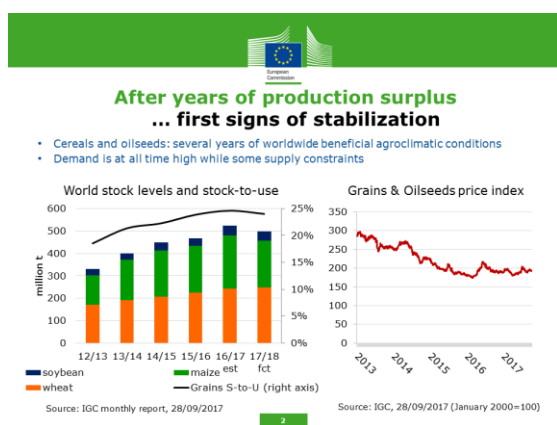
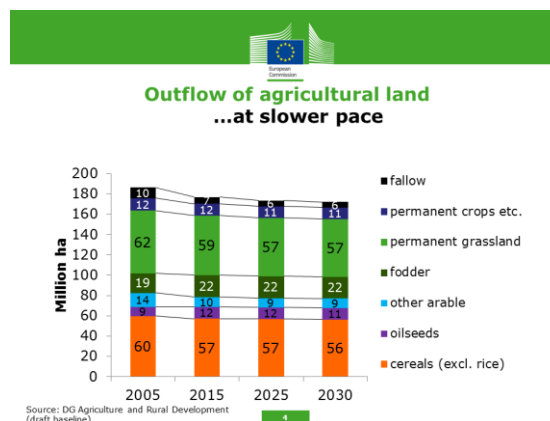
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Session 4: Cereals and Oilseeds

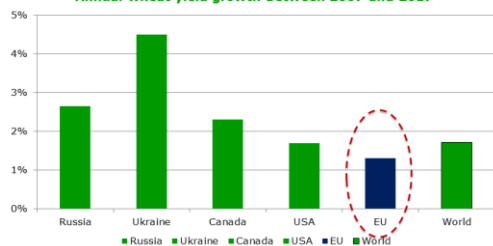
Koen Mondelaers (DG AGRI)





While yield growth low in the EU

Annual wheat yield growth between 2007 and 2017



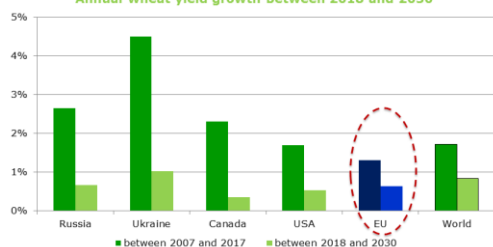
3 year averages taken
Sources: DG AGRI, OECD-FAO Outlook 2017

7



While yield growth low in the EU

Annual wheat yield growth between 2018 and 2030

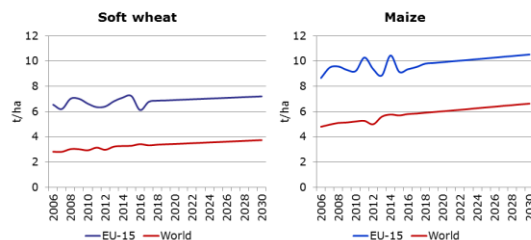


3 year averages taken
Sources: DG AGRI, OECD-FAO Outlook 2017

8



... while gap with world level remains high...

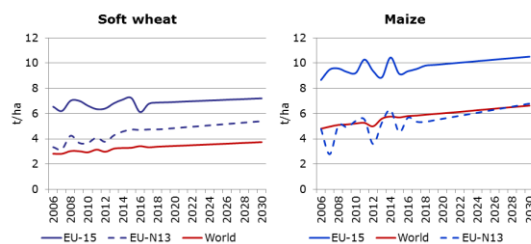


Source: DG Agriculture and Rural Development (draft baseline)

9



... within the EU the yield gap closes further...



Source: DG Agriculture and Rural Development (draft baseline)

10



Market drivers



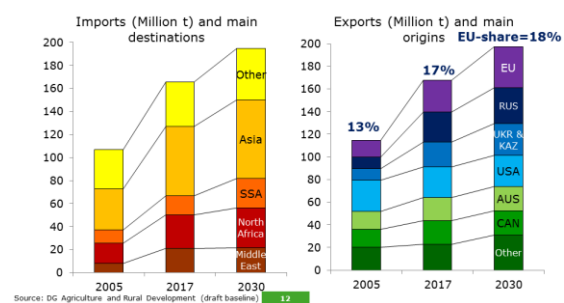
Exports

- strong demand for cereals
- in particular EU wheat but also barley

11



... so opportunities remain to export wheat



Source: DG Agriculture and Rural Development (draft baseline)

12



Market drivers



Exports

- strong demand for cereals
- in particular EU wheat but also barley



Feed

- Increased milk yields
- Firm poultry and pig production



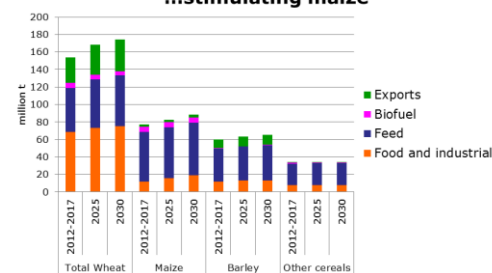
Biofuels

- Limited growth in domestic oilseeds
- Increased maize use for ethanol

13



Domestic feed use dominates EU cereal use ...stimulating maize

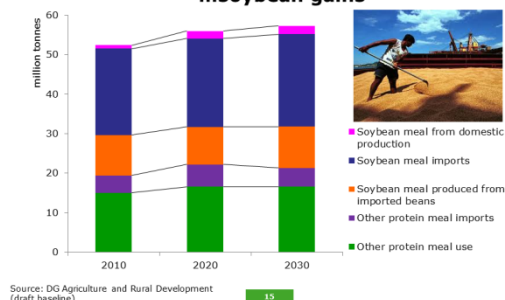


Source: DG Agriculture and Rural Development (draft baseline)

14



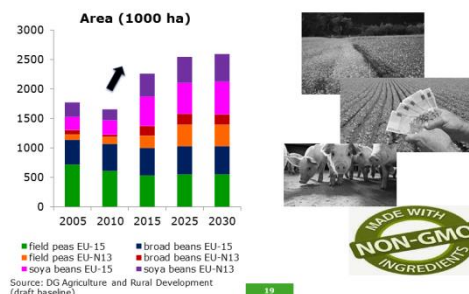
Feed use will also dominate oilseeds ...soybean gains



15



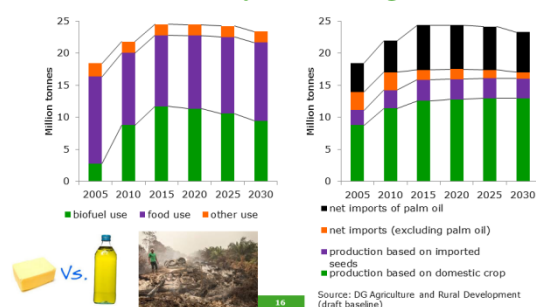
... but domestic soybean also coming in strong



19



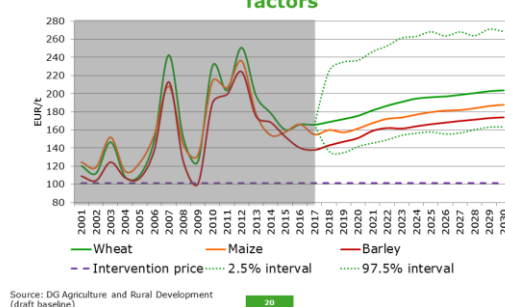
Food use more important for vegetable oils



16



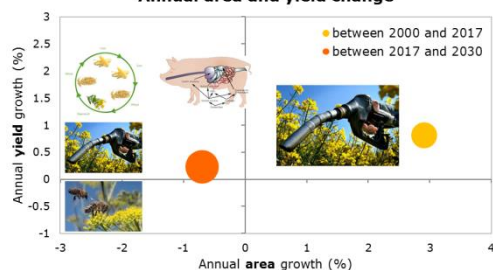
EU cereal prices still affected by exogenous factors



20



... having effect on rapeseed production Annual area and yield change



Source: DG Agriculture and Rural Development (draft baseline)

17



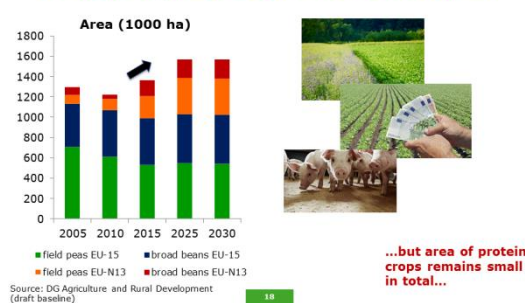
Questions

- Will main cereals become more dominant in area? Yield stagnation in EU-15? Precision farming potential? How fast catching up in EU-N13?
- Wheat exports: competition from Russia and Ukraine in our export markets? Bio-economy and industrial uses?
- Meals more important in oilseed complex? Vegetable oil for food use? What about rapeseed? Protein crop area to stabilize or not? Potential of domestic soybean production?

21



Protein crops expected to recover in the EU



18

...but area of protein crops remains small in total...

Thomas Chatzopoulos (JRC Seville)



How could EU cereals markets be affected by climate extremes?

Scenarios on the preliminary baseline

EU Agricultural Outlook Workshop, 19-20 October 2017, Brussels

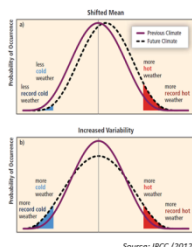
Thomas Chatzopoulos, Ignacio Pérez Domínguez, Matteo Zampieri, Andrea Toreti

European Commission, DG JRC

© Eufiliat.com

Climate, weather, and extremes

- What are extremes?
 - no universal definition
 - usually high/low values or tails
- 'Climate' or 'weather' extremes?
 - frequently used interchangeably
- Broad definition based on duration
 - hours to days → weather extremes
 - weeks to months → climate extremes
- In this case study:
 - climate extremes roughly two months before harvest
 - no climate change!



2

Linking commodity markets to climate extremes

- Combined Stress Index (CSI) – developed at JRC**
 - composite indicator of agro-climatic extremes, 1980-2010
 - heat waves, drought, excess soil moisture
 - occurrence, frequency, intensity, timing, spatial coverage
 - explains global wheat and maize yield variability by 40%-60%
 - incorporated –for this scenario– into the economic model that is used to derive the Outlook projections
 - statistical methods to derive sensitivity of yields to extremes



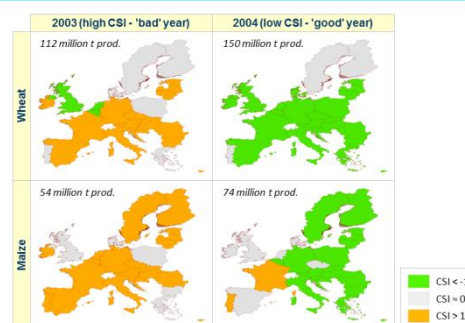
3

Production variability and the CSI



4

Scenario implementation: 'template' years



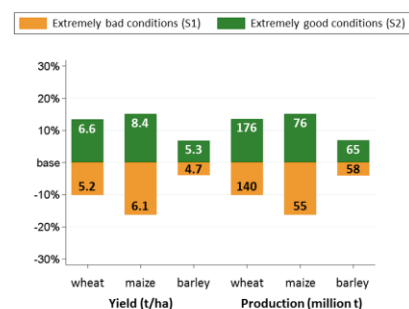
5

Main assumptions

- Scenario #1:** extremely *unfavourable* conditions in 2018
 - what if the 2003 CSI patterns recurred?
- Scenario #2:** extremely *favourable* conditions in 2018
 - what if the 2004 CSI patterns recurred?
- Only EU wheat, maize, and barley are directly affected
- Growing conditions for other EU crops, crops in the rest of the world, and across the remaining projection years are 'normal'
- Extremes occur during critical stages after planting (flowering, grain filling)

6

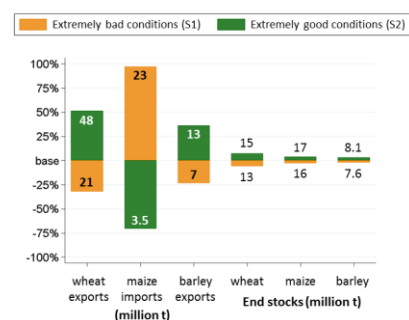
Results: yield and production, 2018/19



Vertical axis shows relative changes over the baseline. Numbers within bars show final levels.

7

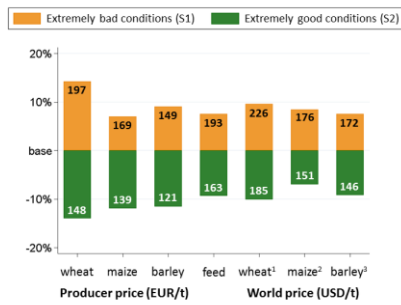
Results: trade and stocks, 2018/19



Vertical axis shows relative changes over the baseline. Numbers within bars show final levels.

8

Results: prices, 2018/19



Vertical axis shows relative changes over the baseline. Numbers within bars show final levels.
¹No. 2, hard red, US f.o.b., Gulf. ²No. 2, yellow, US f.o.b., Gulf. ³Feed barley, Rouen f.o.b.

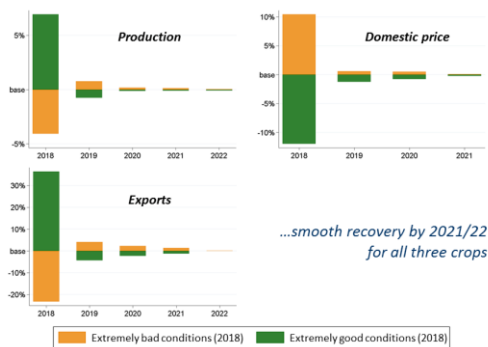
9

Caveats

- CSI is a recent index developed for descriptive purposes
 - projected data not yet available
- Single-year shocks
 - ongoing work on stochastic events (concurrent and recurrent) including alternative macroeconomic assumptions
- Model limitations
 - no distinction between rain-fed and irrigated crops
 - no distinction between different cultivars
- The likelihood of the examined scenarios is difficult to estimate
 - more negative extremes are expected

11

Results: market dynamics (example of barley)



10

Takeaways, marketing year 2018/19

- The potential impacts of climate extremes in the EU are visible on market fundamentals
- Most extreme changes in terms of crop returns
 - positive: +37 EUR/ha (barley, S1)
 - negative: -120 EUR/ha (maize, S1)
- Asymmetric market response to extremes
 - uneven shocks and market adjustments
- Significant trade effects in 2018/19, albeit markets recover smoothly
 - wheat exports (S1): Russia > USA > Canada > EU
 - near-zero trade balance for maize (S2)

12



Andrée Defois (Tallage)

**Outlook Workshop
Cereals and oilseeds**

October 19 2017

Andrée Defois / andree@tallage.fr / 01 64 70 54 34

tallage
agri-market forecasting

Tallage / Stratégie grains

- ✓ Tallage was set up in January 1993
- ✓ Owned by 3 associates and fully **independent** from any other organisations
- ✓ The company's main activities centre:
 - on the publication **Stratégie grains** (Monthly report and Web service) - **strategie-grains.com**
 - the production of **specific analytical services**
- ✓ Tallage is not involved in any trading or grain production
- ✓ Tallage main mission is fundamental analysis: forecast supply and demand in order to predict how prices can move

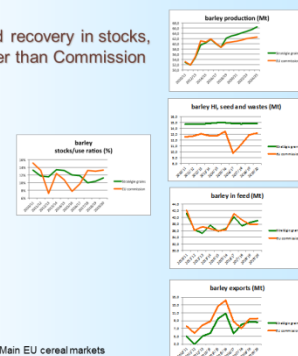


Main EU cereal markets

2

BARLEY: despite expected recovery in stocks, Stratégie grains view tighter than Commission

- ✓ Production expected higher by SG (area)
- ✓ Consumption expected higher by SG but exports lower



Main EU cereal markets

Tallage / Stratégie grains

- ✓ Our analysis products include:
 - ✓ Reports on grain, oilseeds and sugar
- Strategie grains - reports**
-
- ✓ Web service: strategie-grains.com, with permanent to SG data
 - ✓ Commissioned studies and specific analysis (China, impact of sugar reform etc)



Main EU cereal markets

3

Rather stable cultivated area since 2010, no big change to 2020

- ✓ Since 2010, the decline in main crop area (blue line) has stopped (pasture excluded)
- ✓ Within arable land, the cultivated area (green line) increased between 2010 and 2014 and then has remained about stable



Main EU cereal markets

7

SOFT WHEAT: Stratégie grains view slightly tighter than Commission

- ✓ Production expected slightly lower by SG due to area differences (due especially to higher SG assumption for sugar beet area increase)
- ✓ Consumption (other than feed) expected structurally higher by SG

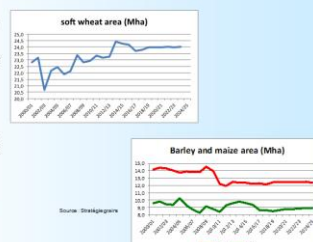


Main EU cereal markets

4

Cereal area expected about stable in the near future

- ✓ Between 2000 and 2014, EU soft wheat area increased slightly before stabilizing – No large change expected for the coming years with evolution limited by sugar beet increase
- ✓ Sharp decrease for barley around 2010 – Small recovery expected for the 2018 harvest (in North EU)
- ✓ After the recent pick of 2013/14, maize area capped by low margins – recovery expected to be slow due to global pressure

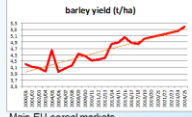
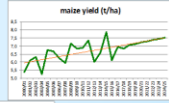
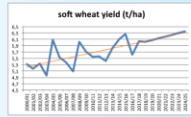


Main EU cereal markets

8

Yields expected moderately up by 2024/25

- Around 6.3 t/ha for soft wheat
- Around 5.3 t/ha for barley
- Around 7.5 t/ha for maize
- ✓ About 7 to 10 years for EU 13 to catch up with EU 15
- ✓ New cultivating technology to benefit revenue more than yields by cutting production costs
- ✓ Climatic swing factor?

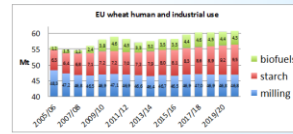


Main EU cereal markets

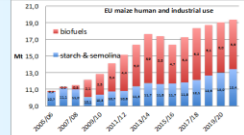
Source: Strategisource 9



Human and industrial use: starch production to lead growth, in maize consumption especially



Isoglucose to account for between 1 to 1.5 Mt growth between 2016 and 2021 for maize and around 0.5 Mt max for wheat

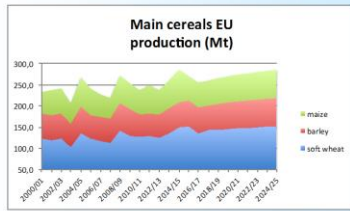


Main EU cereal markets

Source: Strategisource 13



Production in moderate growth



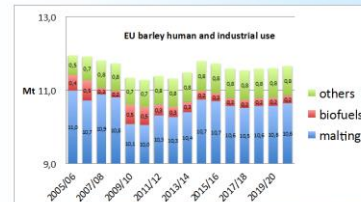
- ✓ EU: +25 Mt of cereals between 2017 and 2024, +10 Mt for soft wheat and +8 Mt for maize and barley

Main EU cereal markets

Source: Strategisource 10



Human and industrial use: moderate growth only for barley under the lead of malt demand



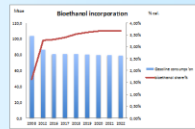
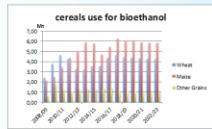
Main EU cereal markets

Source: Strategisource 14



Bioethanol: production capped close to 3 Mt due to debate for after 2020

EU Consumption (Mtoe)	2008	2012	2016	2017	2018	2019	2020	2021	2022
Gasoline consumption	103.8	86.3	81.1	80.9	80.7	80.3	79.9	79.5	79.1
Bioethanol	1.7	2.8	2.7	2.7	2.9	2.9	2.9	2.9	2.9
Bioethanol content in gasoline (% Energy)	1.63%	3.27%	3.31%	3.39%	3.54%	3.60%	3.67%	3.67%	3.67%
Gasoline consumption	200.7	198.5	212.0	214.5	214.1	214.4	214.7	214.9	215.1
Biodiesel	7.8	11.2	10.6	10.9	11.1	11.4	11.5	11.5	11.6
Biodiesel content in gasoline (% Energy)	5.9%	5.6%	5.0%	5.1%	5.2%	5.5%	5.4%	5.4%	5.4%
Biofuels content in fossil fuels (% Energy)	7.14%	8.97%	8.36%	8.49%	8.74%	9.14%	9.11%	9.11%	9.11%
Incorporation (including double counting % Energy)									



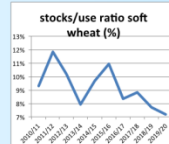
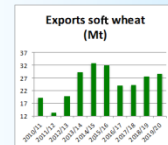
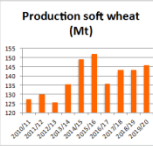
- ✓ No big potential for cereal use increase

Main EU cereal markets

Source: Strategisource 11



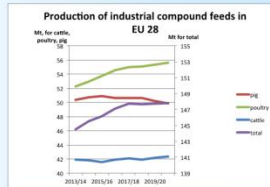
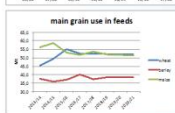
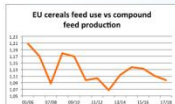
WHEAT: EU balance-sheet to remain rather tight short term even with small export growth (capped by Black sea availabilities)



Main EU cereal markets



Animal feed: stabilization of total feed produced by beginning of 20'



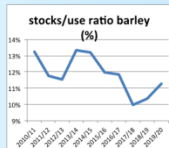
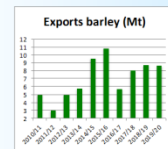
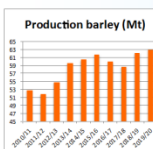
- ✓ Trend to lower share for cereals

Main EU cereal markets

Source: Strategisource 12



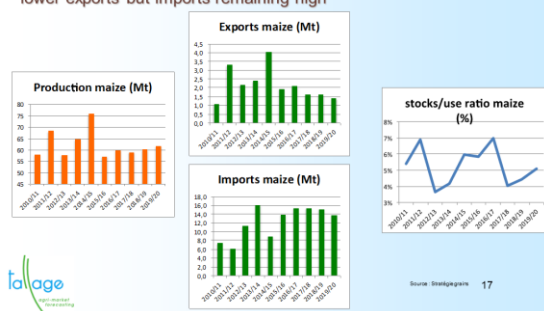
BARLEY: EU balance-sheet to get heavier by 2020 but highly subject to Saudi and Chinese demand



Main EU cereal markets



MAIZE: EU balance-sheet rather balanced by 2020 based on lower exports but imports remaining high



Thomas Mielke (OilWorld)

Oilseed Outlook

Presentation at the Workshop Cereals and Oilseeds in Brussels on 19 Oct 2017

Thomas Mielke, ISTA Mielke, Oil World,
Global Market Research on Oilseeds, Oils and Meals

Feel free to contact me for assistance at <thomas.mielke@oilworld.de>



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Global Impacts from Oilseeds

In the past 20 years

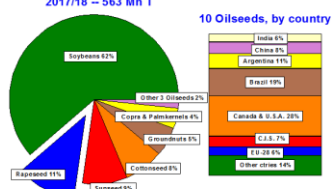
- world output of soybeans more than doubled from 158 Mn T in 1996/97 to an estimated 349 Mn T in 2016/17

-and of 10 oilseeds from 255 to 560 Mn T

-The EU-28 accounts for only 6% of world output

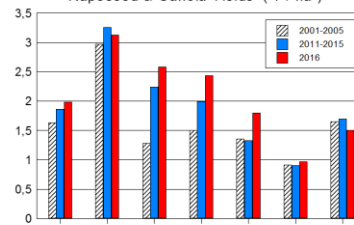
Global Production of 10 Oilseeds

2017/18 – 563 Mn T



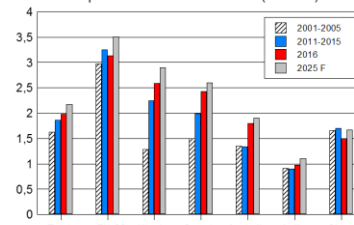
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Rapeseed & Canola Yields (T / ha)



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Rapeseed & Canola Yields (T / ha)



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RAPESEED & CANOLA : World Production by Country (Mn T)

	Forecasts					
	24/25F	19/20F	16/17	14/15	09/10	04/05
EU-28	22.00*	22.90*	20.49	24.29	21.81	15.48
C.I.S.	6.00*	4.80*	2.76	4.65	3.35	0.57
Canada	24.00*	21.50*	19.73	16.41	12.90	7.67
China	8.20*	6.80*	5.70	10.00	13.66	13.18
India	7.80*	7.20*	7.00	5.00	6.00	6.21
Australia	5.00*	4.35*	4.42	3.47	1.90	1.43
Oth. ctrs.	5.20*	4.25*	3.44	3.19	2.25	1.76
WORLD	78.20*	71.80*	63.54	67.01	61.87	46.30



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SUNFLOWERSEED : World Production by Country (Mn T)

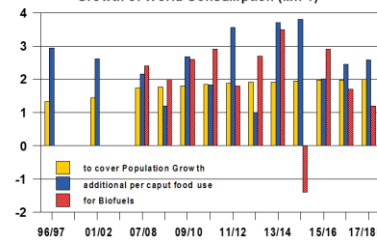
	Forecasts		16/17	14/15	09/10	04/05
EU-28	24/25F	19/20F	8.50	9.05	7.12	6.42
C.I.S.	9.20*	8.70*	28.29	20.49	14.67	8.82
Argentina	31.74*	29.62*	3.30	3.00	2.65	3.73
China	4.50*	4.00*	2.75	2.38	1.96	1.70
India	3.10*	2.94*	0.29	0.39	1.00	1.35
Turkey	0.40*	0.35*	1.47	1.35	0.85	0.65
Oth. ctrs.	1.85*	1.68*	5.10	4.70	5.08	3.81
WORLD	6.06*	5.51*	49.70	41.36	33.33	26.48



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17 Oils & Fats

Growth of World Consumption (Mn T)



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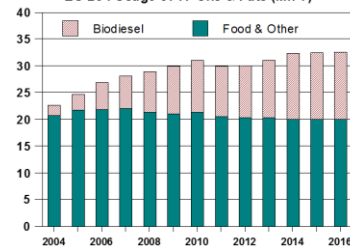
SOYBEANS : World Production by Country (Mn T)

	Forecasts		16/17	14/15	09/10	04/05
WORLD	24/25F	19/20F	348.49	320.02	259.43	216.40
Thereof to:						
EU-28	3.45*	2.87*	2.45	1.87	1.07	1.16
C.I.S.	10.40*	9.00*	7.77	6.58	2.13	0.91
Canada	10.60*	9.30*	6.46	6.05	3.51	3.04
U.S.A.	126.00*	118.00*	116.92	106.88	91.47	85.02
Argentina	65.00*	58.00*	55.50	60.00	53.50	39.70
Brazil	135.00*	120.00*	114.08	97.18	68.69	53.05
China	15.50*	14.50*	11.56	12.15	14.98	17.40
India	12.00*	10.80*	10.50	8.50	8.40	5.80



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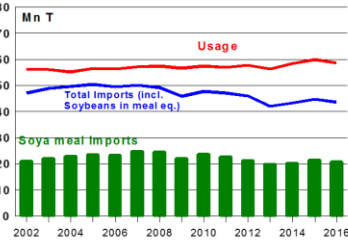
EU-28 : Usage of 17 Oils & Fats (Mn T)



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About 75% of EU-28 demand for oilseed-based protein is imported in form of soybeans or soya meal ...
Important to understand for EU regulators!!

EU-28: Usage of 12 Oilmeals & Importance of Soya Meal



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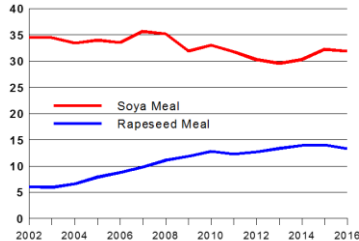
Palm oil

is of major importance in the global oils & fats market



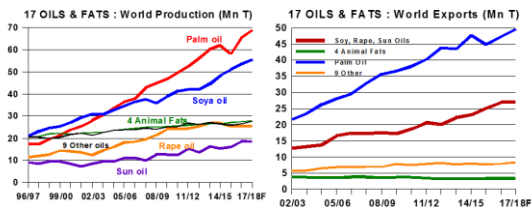
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EU-28: Usage of Major Meals (Mn T)



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Sizeable increase in palm oil imports (up 4.2 Mn T in Jan/Dec 2017)



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Rapidly Rising World Demand of Oils & Fats

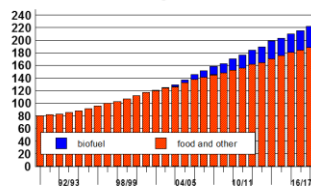
17 Oils & Fats : World Consumption Total Usage in Mn T

Average demand growth in past 5 seasons:

Total per year +6.5 Mn T

Biofuel +1.7 Mn T

Food/other +4.8 Mn T



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Palm oil output and stocks lower than expected



The labour shortage contributed to reduction of palm oil yields below potential.

Longer harvest intervals, less loose-fruit collection and delayed replanting

In the 10 years to 2016 wages for Malaysian plantation employees virtually doubled, thus significantly raising production costs!

Lack of replanting

Partly less effective fertilizer application

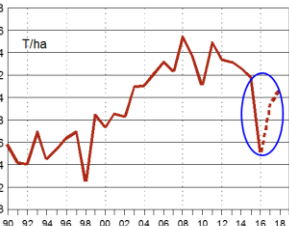


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Malaysian palm oil yields per ha on a downtrend for the average of the past 8 years !!

This is contrary to the sizeably rising yields of soybeans, rapeseed and sunflowerseed in key exporting countries

MALAYSIA: Annual Palm Oil Yields (T/ha)



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BIODIESEL & HYD: World Production by Country (Mn T)

	2022F	2016	2015	2010	2005
EU-28	12.97	12.61	12.41	9.72	2.99
U.S.A.	8.78	6.21	4.72	1.14	0.30
Argentina	3.88	2.86	1.81	1.82	-
Brazil	6.88	3.33	3.46	2.10	-
Colombia	0.55	0.51	0.51	0.34	-
Singapore	1.05	0.99	0.87	0.12	-
Indonesia	6.98	3.15	1.22	0.70	-
Malaysia	1.29	0.51	0.67	0.19	0.03
Thailand	1.35	1.16	1.14	0.65	-
Oth. ctrs.	3.45	2.95	2.89	1.71	0.32
Total	45.97	34.08	29.79	18.61	3.54

EU-28: Feedstock Used for Biodiesel & HYD Production (Mn T)

	2022F	2016	2015	2010	2005
Feedstock	2022F	2016	2015	2010	2005
Rape oil	5.30	6.03	6.31	5.66	-
Palm oil	3.29	3.43	3.36	2.77	-
Soya oil	0.70	0.67	0.44	0.29	-
Sunflower oil	0.16	0.16	0.10	0.08	-
Yellow/Greases	0.89	0.49	0.43	0.41	-
Others	0.14	0.09	0.06	0.08	-
Used waste oil	2.20	1.74	1.71	1.42	-
Biodiesel output	12.97	12.61	12.41	10.71	-



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PALMOIL: World Production by Major Countries (Mn T)

	2022F	2020F	2016	2015	2010	2005
Production	48.00*	41.70*	32.10	33.40	22.50	14.10
Indonesia	23.10*	21.70*	17.32	19.96	16.99	14.96
Malaysia	14.20*	11.74*	9.48	9.44	6.80	5.11
Oth. ctrs.	85.30*	75.14*	58.90	62.80	46.29	34.17

PALMOIL: World Consumption with Breakdown by Major Countries (Mn T)

	2022F	2020F	2016	2015	2010	2005
Indonesia	13.80*	11.90*	9.19	7.06	5.46	3.55
Malaysia	3.75*	3.35*	2.66	2.92	2.18	1.97
EU-28	6.92*	7.30*	7.05	7.25	5.75	4.38
U.S.A.	1.80*	1.53*	1.23	1.07	0.86	0.38
India	13.50*	11.20*	9.22	9.25	6.72	3.31
China, PR	7.17*	6.15*	5.13	5.73	5.63	4.34
Pakistan	3.40*	3.00*	2.62	2.57	1.99	1.55
Oth. ctrs.	34.76*	30.37*	25.50	24.96	17.82	14.18
WORLD	85.10*	74.80*	62.60	60.81	46.61	33.66



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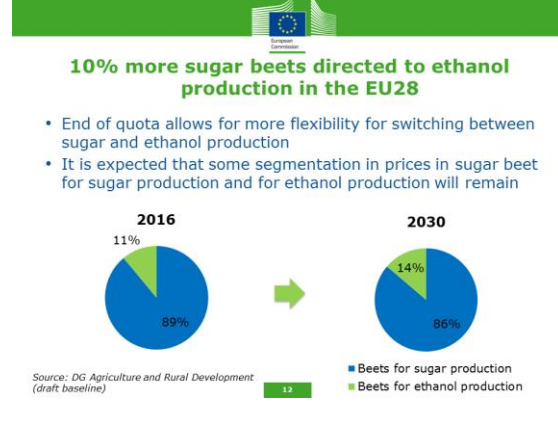
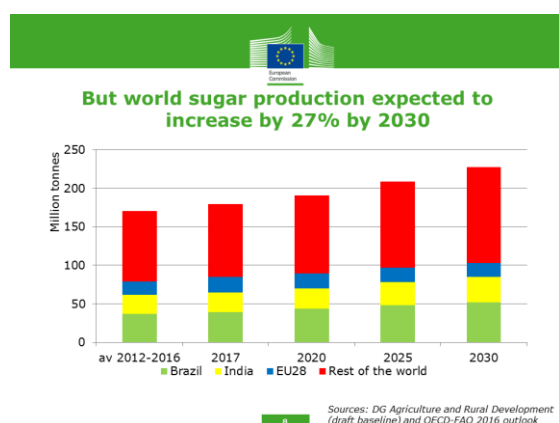
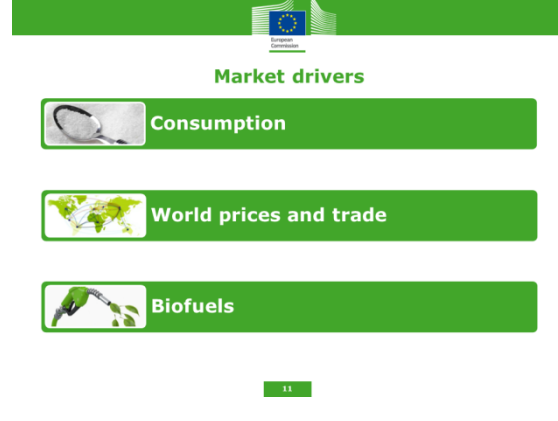
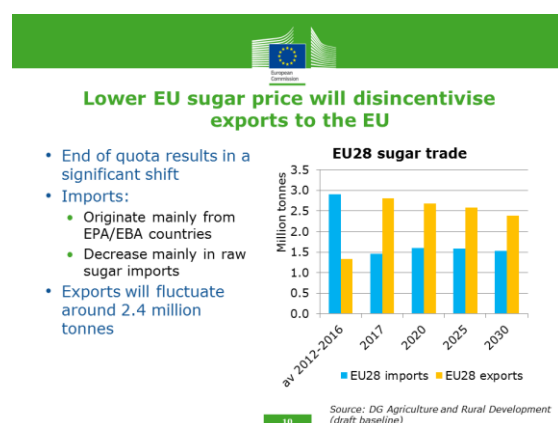
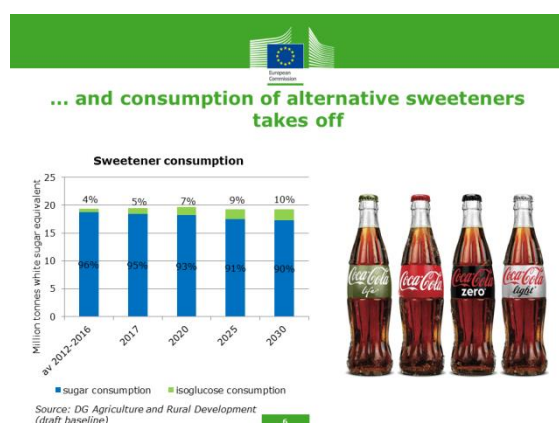
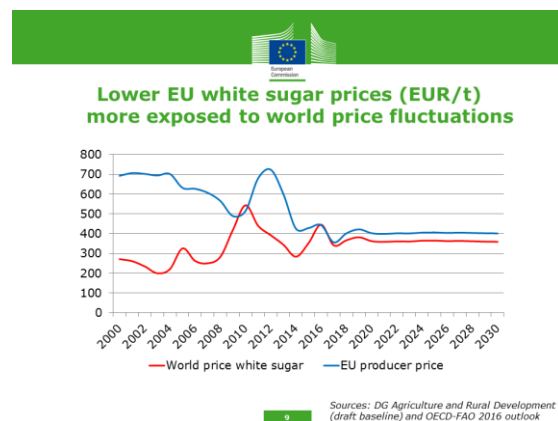
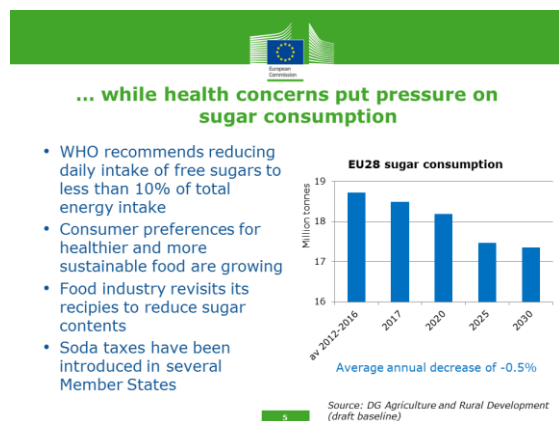
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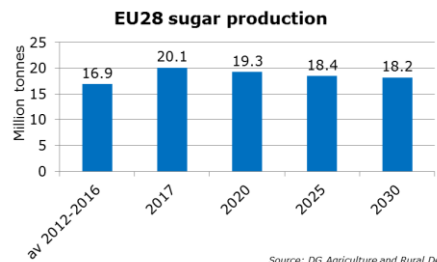
Session 5: Sweeteners

Sylvie Barel (DG AGRI)





High 2017 sugar production is not expected to last but remains 8% above quota production



Source: DG Agriculture and Rural Development (draft baseline)

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Annexes

15



Questions



How strongly will sugar reduction campaigns influence sugar consumption?
What trend is expected for industrial sugar use?
And the trend for isoglucose consumption?



Will the EU28 white sugar premium be maintained?
Are the higher exports sustainable?

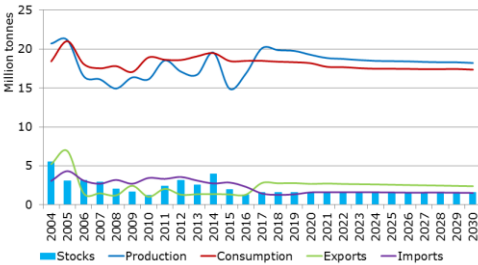


Will the segmentation between sugar beet price for sugar production and for ethanol production remain?

14



EU28 sugar balance



Source: DG Agriculture and Rural Development (draft baseline)

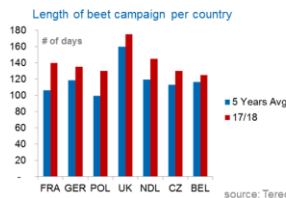
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Pierre-Henri Dietz (Tereos)



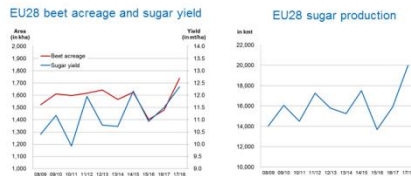
End of quota: unleashing idle production capacity

- Under quota system, EU sugar plants were underused (restricted sugar outlets)
- With the end of quota, sugar producers aim to reduce their fixed costs by increasing length of beet campaign
- Duration of beet campaign likely to expand by 20% (but not evenly distributed)



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17/18 EU sugar production forecasted at 20 MMT



- Farmers answered positively to sugar mills: 17/18 beet acreage = highest over 10 years
- Thanks to good weather conditions, 17/18 beet yields likely to be highest over 10 years
- ⇒ 17/18 EU sugar production likely to reach 20 MMT (25% y/y increase)



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EU to move from net importer to net exporter

EU-28 S&D (mln MT)	16/17	17/18
Sugar production	15.9	20.0
Sugar consumption	17.7	17.5
Imports	3.2	1.1
Exports	1.4	3.8

Source: Tereos

- y/y increase of sugar production (>4MMT) leading to a significant 17/18 surplus
- Imports likely to decrease significantly; isoglucose unlikely to take a significant market share in the short term
- ⇒ EU moving from being one of the largest importers to becoming a significant exporter



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More arbitrage opportunities in post quota market environment

- No more constraints for producers to sell sugar
- ⇒ sugar / ethanol production arbitrage driven by markets conditions
- Similar arbitrage for consumers with sugar and isoglucose
- ⇒ sugar demand to be affected by grain prices

London Sugar and Ethanol price (in sugar eq.)



EU Ethanol production (beet based)



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EU to compete with other exporters and refiners on the world market

White sugar exporters - top10

MMT/y	2018	Avg 2014-2016
EU-28	4.0	1.4
Thailand	3.7	3.4
Brazil CS	3.3	2.8
India	1.8	2.4
UAE	1.4	1.1
Pakistan	1.2	0.6
Guatemala	1.1	1.2
Ukraine	0.5	0.2
Colombia	0.4	0.4
Serbia	0.2	0.2

White premium (ie spread btw refined and raw sugar on world market)



- EU likely to become the largest white sugar exporter in 17/18
- ⇒ Additional EU export putting pressure on competitors like refiners (as reflected on the white premium)



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Conclusion

- EU producers are moving from a model with attractive prices but limited volumes/flexibility to a model with lower margins but more arbitrage opportunities.
- EU sugar Supply and Demand likely to become much more dynamic.
- EU is poised to become one of the largest white sugar exporter, offering another alternative for importers.



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Claudiu Covrig (S&P Global Platts / Kingsman)

S&P Global
Platts

CHALLENGES AND OPPORTUNITIES FOR THE EU SUGAR INDUSTRY

Dr. Claudiu COVRIG,
Sr. Analyst Agriculture
S&P Global Platts / Kingsman

MEDIUM-TERM OUTLOOK FOR THE EU AGRICULTURAL COMMODITY MARKETS

Organizer: EU Commission (DG JRC and DG AGRI)
October 19, 2017, University Club Foundation, Brussels

PLATTS ANALYTICS

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GENERAL OUTLOOK

GLOBAL SUPPLY AND DEMAND: HEADING TO A SURPLUS YEAR

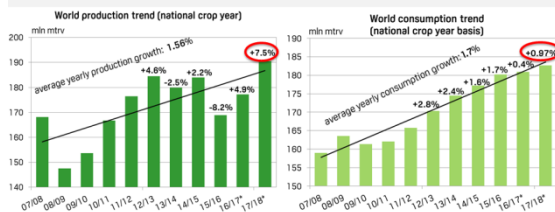


- 2017-18 surplus seen at 3.87 million mtrv. It was expected higher but less sugar production expected in CS Brazil (more sucrose to be shifted to ethanol) and Cuba was hit by Hurricane Irma
- 2016-17 ended in a deficit at 2.03 million mtrv
- Still, the world produced 26.78 million mt more sugar than it consumed between 2006-07 and 2017-18

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3

GLOBAL: LOWER AND LOWER INCREASE IN CONSUMPTION!

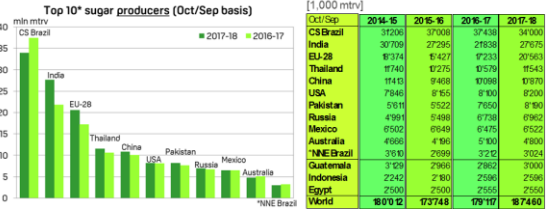


- 2017-18 (national crop year): The highest increase in global production in the past 7 years. A low increase in global consumption
- 2017-18 (Oct/Sept): Production growth: +4.66%. Consumption growth: +1.1%

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4

TOP GLOBAL SUGAR PRODUCERS

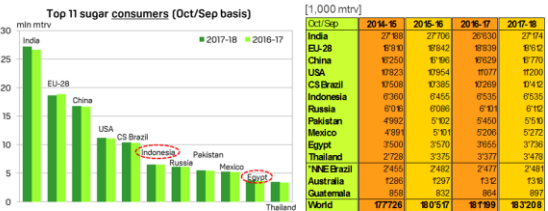


- The EU-28 is part of the top 3 world sugar producers
- CS Brazil, India and the EU-28 represent 42.5% -44% of global sugar production

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TOP GLOBAL SUGAR CONSUMERS

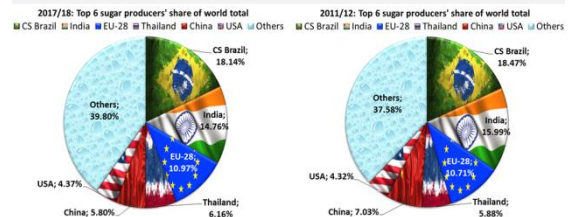


- Generally the top 10 sugar producers can be also found in top 11-12 sugar consumers
- The EU-28 is the second largest consumer in the world
- India, the EU-28 and China have a share of about 34% in global sugar consumption

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TOP 6 SUGAR PRODUCERS' SHARE IN WORLD TOTAL

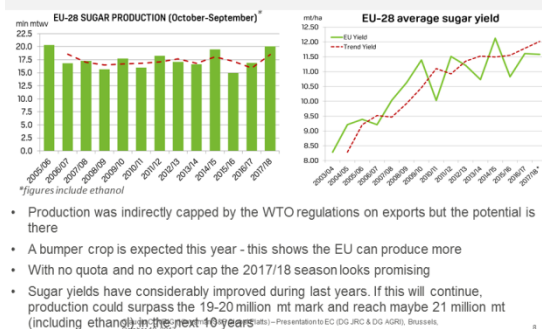


- Top 6 producers' share in world total was on a downtrend to 60.2% in 2017/18 vs 62.42% in 2011/12
- Other producing countries are increasing their share: Pakistan (at 4.4% vs 2.9%), Russia (at 3.7% vs 3.1%), Guatemala (at 1.6-1.7% vs 1.4%), Mexico (at 3.5% vs 3.1%)

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7

EU-28: PRODUCTION COULD EASILY BE HIGHER



SUGAR BEET GROWERS MIGHT HESITATE BETWEEN CROPS

Some questions for producers:

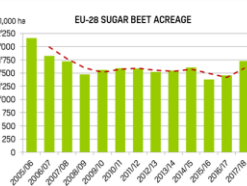
- What do they get from beet business now?
- Minimum beet purchasing price for quota production (EU: from €26/mt)
- Flexible in the crop switch (replant each year) depending on price signals

From October 2017 onwards: no minimum prices for beet?

- Competition between crops
- No production security anymore

Stocks:

- Stocks could hit the world market very fast (if global prices make economic sense)
- In the past the EU managed to carry from one year to another maximum stocks of 3.5-3.7 million mt. Most probably this shall not happen again

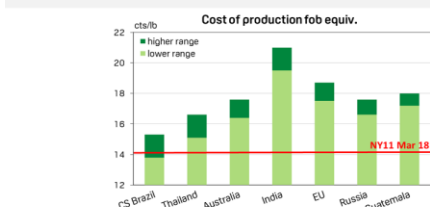


Sugar beet advantages (producers vs refiners):

- No dependence on the white premium
- Efficiency (significant investments made)

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PRODUCTION COSTS: AT THESE GLOBAL PRICES ONLY BRAZIL COULD STILL BE A COMPETITIVE PRODUCER



- Producing sugar below 15c/lb remains a Brazilian affair
- At current New York prices only Brazil could be competitive
- Production costs (FOB equiv) in CS Brazil are still below 14-15 cents/lb (at current \$/BRL exchange rate)

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BRAZIL: COST OF PRODUCTION EX-MILL AND FOB

CS BRAZIL RAW SUGAR PRODUCTION COST FOB



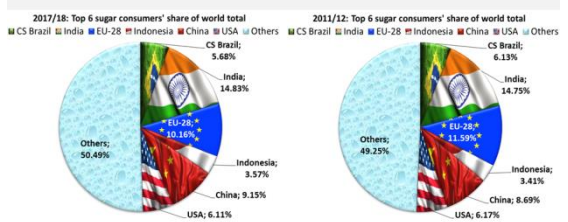
- Average ex-mill costs (with no capital costs included) increased from 347 BRL/mt in 2008-09 season to 480-485 BRL/mt in 2010-11, to 590 BRL/mt in 2011-12 to and went up to more than 785 BRL/mt in 2016-17
- Capital costs/charges vary from 1-1.2 US\$/lb for the mills in very good financial shape to 2.6 c/lb for mills that are struggling (or struggled in the past)
- Minimum FOB production costs for mills in good financial shape are now at 13.6-13.9 c/lb mark while on the upper side they are close to 15.1-15.3 c/lb for mills with higher capital costs

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TOP 6 SUGAR CONSUMERS' SHARE IN WORLD TOTAL



- Top 6 consumers' share in world total on a small downtrend to 49.5% in 2017/18 vs 50.8% in 2011/12
- Other producing countries are increasing their share: Pakistan (at 3% vs 2.8%); Mexico (at 2.9% vs 2.7%)

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WHAT ABOUT THE EU-28 DOMESTIC DEMAND?

- Domestic sugar consumption is generally on a slight downtrend. In 2017-18 it is expected to be down 1.2% on the year after 2 years of stagnation
- Possibly more isoglucose to be used in the future (if grain prices stay low) and replace part of sugar consumption
- For 2017-18 we consider isoglucose demand at 1 million mt vs 720,000 mt in 2016-17
- Around 1.7 – 2.7 million mt of imports should still come every season (Oct/Sep basis)

Quota and duties for sugar imports into EU	
CXL	676,925 mt; duty of Eur98/mt
BAIKAN	200,000 mt; no duty
FTA	287,380 mt; no duty
EPA-EBA	NON ACP-LDC unlimited quantity (formula related/safeguard threshold); no duty
	ACP-LDC 1.9 million mt (formula related/safeguard threshold); no duty
	ACP-NON-LDC 1.6 million mt (formula related/safeguard threshold); no duty

*African, Caribbean and Pacific states (ACP)
*Least Developed Countries (LDC)

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EU DELIVERED PRICES IN FREEFALL



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WHITE PREMIUM COMING OFF ITS HIGHS

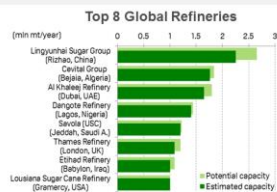


- The March/March white premium hit life of contract lows at \$53/mt in September. EU producer pricing, exports from Pakistan and expected higher availabilities from Thailand, pushed the white premium down
- The July/Aug white premium was healthy, it expired at \$102/mt aided by a global shortage of deliverable whites. Thailand was the only viable origin, as Indian and Central American origins were mostly sold out. Strong demand from East Africa – primarily drought-affected Kenya – also boosted demand
- The low white premium is expected to significantly reduce demand for raw sugar

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COMPETITION IN MENA: THE RISE OF MIDDLE EAST REFINING

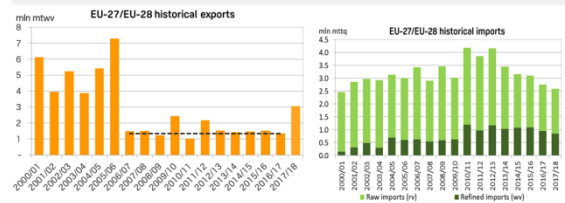


- The MENA region is becoming an important center of sugar refining and consumption
- In the top 8 global refineries that account for an estimated capacity of about 11.3 min mt per year, 4 are from the MENA region, totaling an estimated capacity of around 5.5 min mt a year

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EU-28: EXPORTS COULD BE MUCH HIGHER



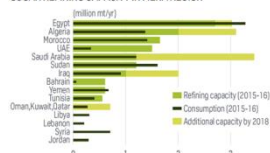
- Before 2006 EU used to be **net exporter**. The WTO export cap determined the EU to turn into a **net importer**
- From 2017-18 on the EU is expected to become a net exporter
- 2017-2027: **Net export volumes** expected to vary between 460,000 mt and 3.9 million mt

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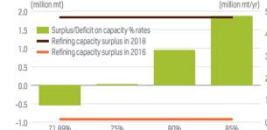
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CAPACITY USE IN MENA IS KEY

SUGAR REFINING CAPACITY IN MENA REGION



MENA ESTIMATED SHORTAGE/SURPLUS BY 2018



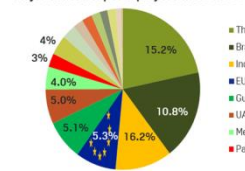
- There is likely to be a capacity surplus by 2018-19
- With an estimated 4.6 min mt of new capacity expected to still come online in the region by 2019 we will surely see an impact of this surge in capacity regionally, globally, and, in particular, on the white sugar premium

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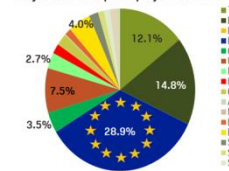
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EU-28: TO REGAIN THE SHARE LOST IN GLOBAL EXPORTS?

Major whites exports players in 2016-17



Major whites exports players in 2005



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WHAT ABOUT THE TRADE?

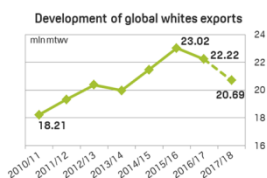
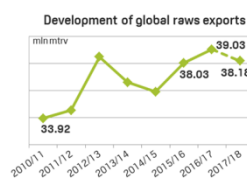


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SO WHAT'S NEXT FOR THE EU-28?



WHAT ABOUT THE TRADE? WORLD EXPORTS EXPECTED LOWER FOR THIS YEAR



*China not importing much

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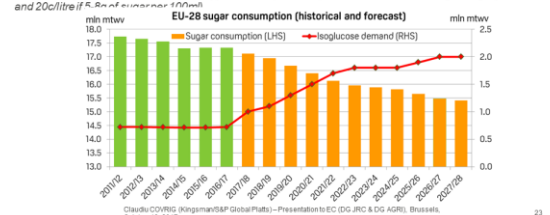
EU-28 CONSUMPTION FORECAST: POTENTIAL SCENARIO

EU-28 sugar consumption trend (assumption): linear

- Losing every year an average of 0.45%
- Losing the difference in isoglucose consumption yearly increase as a substitute for sugar

*Campaigns against sugar consumption in the form of new tax on sugar-sweetened drinks will also hit sugar demand

Latest example: The new Irish tax to be applied from April 2018 (30c/litre if there are over 8g of sugar per 100ml and 20c/litre if 4.5g-8g of sugar per 100ml)

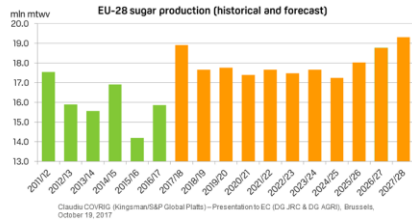


Claudio COVIRG (Kingsman/S&P Global Platts) – Presentation to EC (DG JRC & DG AGRI), Brussels, October 19, 2017

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EU-28 PRODUCTION FORECAST: POTENTIAL SCENARIO

- Higher yields to compensate for eventual drops in surface
- Big groups to keep on encouraging farmers to plant beet by insuring minimum prices
- Sugar prices are more and more linked with crude oil prices
- 10 years sugar production forecast made more sense when quotas were there. Now more accurate are the 2 - 3 years forecasts when we have a better view on decisions taken by farmers and on the forward sugar price curve



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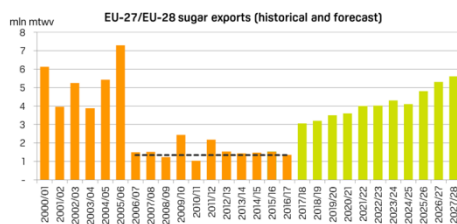
CONCLUSIONS

- The change in Petrobras policy in Brazil to adjust gasoline prices on a daily basis brings a closer relationship between sugar prices and crude oil prices. We are in a new sugar/ethanol world. Higher crude oil prices could send sugar prices higher
- This could incentivize sugar producers in Europe
- The decrease in sugar consumption and higher isoglucose demand would give more export availability of European sugar
- World sugar demand still expected to increase even if at lower rates
- The EU-28 exports could be much higher in the following years and reach levels seen before the WTO cap
- EU-28 imports to stay in the 1.7-2.7 million mt range
- The premium between EU-28 sugar prices and world prices is expected to considerably narrow. As soon as the EU-28 sugar volumes will hit the international market domestic sugar could still trade at a premium (extra volumes are cleaned from the tape)

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EU-28 EXPORTS FORECAST: POTENTIAL SCENARIO



*Availability of containers to move the sugar could be tight for now
*The completion of the sugar terminal in Antwerp is a positive signal of the EU's capability to export

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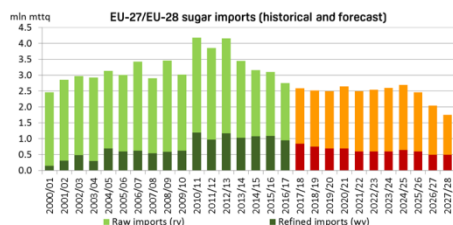
THANK YOU KINDLY FOR YOUR ATTENTION!

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- Yahoo IM: claudiucovrig
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WHITES EU-28 IMPORTS FORECAST: POTENTIAL SCENARIO



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CONCLUSIONS

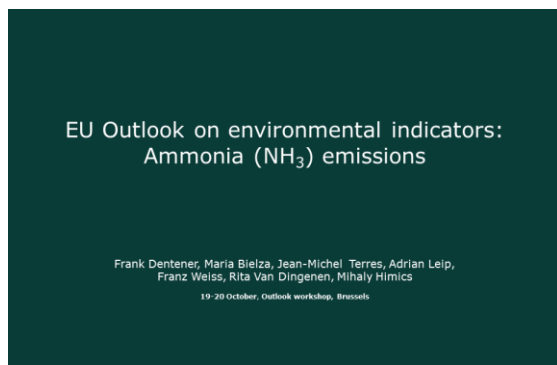


Session 6: Environment and Climate Change

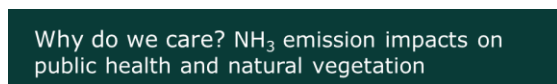
Frank Dentener (JRC Ispra)



1



2



- 92 % of the NH_3 emissions are agricultural- manure (80%) and mineral fertilizer (20 %)
- Health: formation of the aerosol component ammonium nitrate, which is part of particulate matter ($\text{PM}_{2.5}/\text{PM}_{10}$)
- EEA report (2017): in the EU-28 400,000 premature deaths attributable to air pollution- substantial contribution from ammonium nitrate
- Vegetation: contribution to excessive N-deposition on semi-natural ecosystems- leading to eutrophication

3



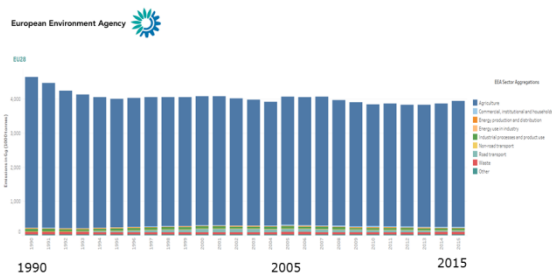
National Emission Ceilings Directive (NECD)

- Air pollution travels across countries: the EU-wide NECD (2016) sets national emission reduction targets for a number of substances, like SO_2 , NO_x , and also NH_3
- The objectives are defined for each MS as relative reductions compared to 2005 emissions- resulting from negotiations informed by multi-criteria optimisation
- EU-wide NH_3 emissions need to be reduced by 6 % in 2020 and 19 % in 2030 – compared to 2005
- Advise on which fertilizers to use, and NH_3 emission reduction technologies.
- Countries report emissions and can provide projections for 2020 and 2030.

4



National Emission Ceilings Directive (NECD): reported EU NH_3 emissions

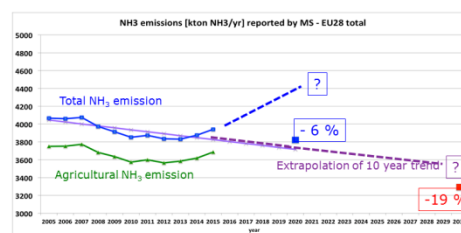


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<https://www.eea.europa.eu/data-and-maps/dashboards/nced-directive-data-viewer>



National Emission Ceilings Directive (NECD): reported EU NH_3 emissions

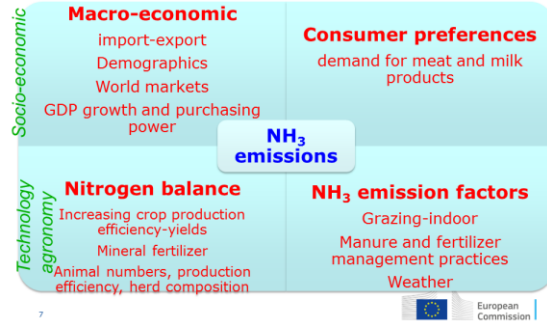


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- Need for assessment of agro-economic drivers of future NH_3 emissions

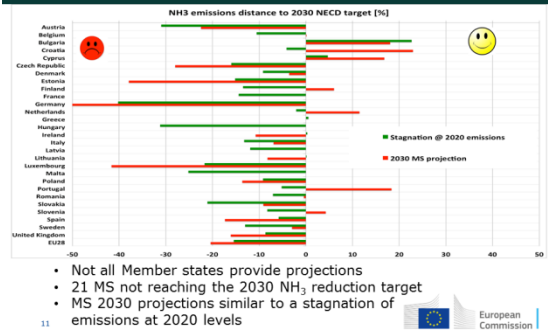


What is driving NH₃ projected emissions until 2030 ?



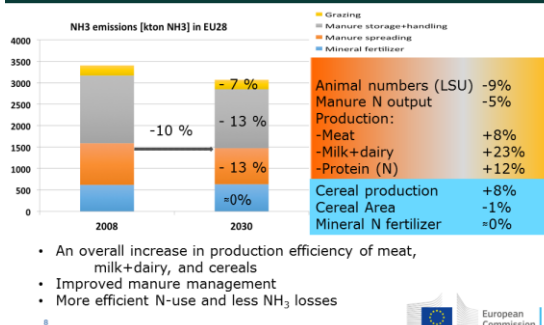
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Distance to NECD-target in 2030 Member States projections



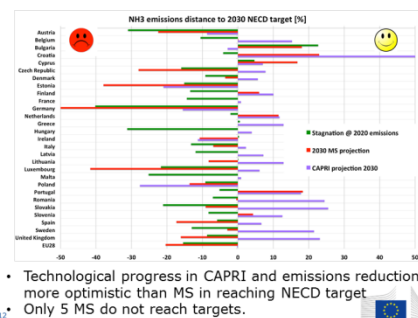
11

NH₃ Emissions in the EU28 2008-2030 scenario's



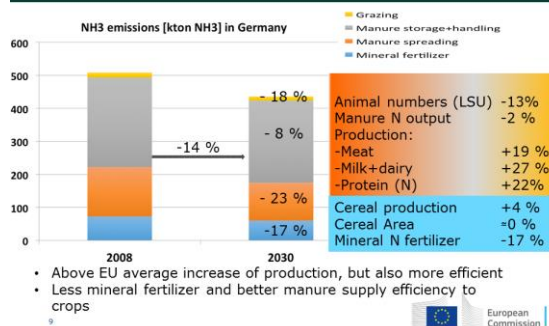
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Distance to NECD-target in 2030- CAPRI



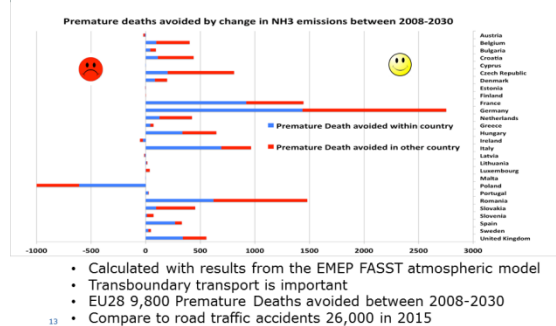
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NH₃ Emissions in Germany 2008-2030 scenario's



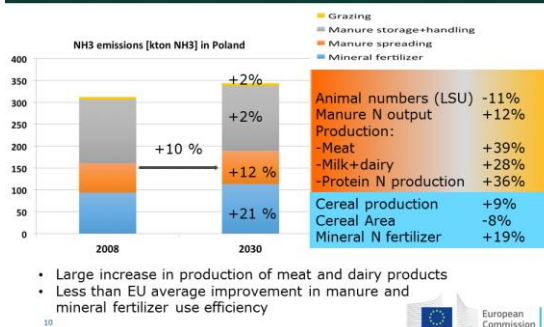
9

Premature deaths avoided by NH₃ emission reduction (CAPRI projection)-2030 vs 2008



13

NH₃ Emissions in Poland 2008-2030 scenario's



10

Conclusions

- Ammonia is an environmental problem affecting human health- and semi-natural ecosystems.
- NH₃ emission projections in CAPRI suggest that in many MS improvement in production efficiency can be large enough to comply with NECD in 2030, but they are substantially more optimistic than MS. Animal and crop production efficiency improvements vary across countries, depending on crop and animal production systems in place.
- Substantial improvements in public health and societal benefits by reducing NH₃ emissions.
- Nutrient (N) management is also key to understand NH₃ emissions: from farms to aggregated Member State emissions.

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Thanks


frank.dentener@ec.europa.eu

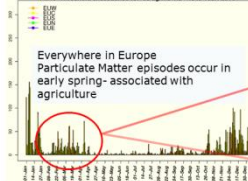


Extra's



Impact of agriculture on Particulate Matter: CAMS Copernicus Atmosphere Service



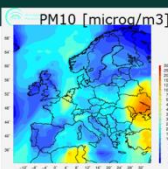


PM10 threshold exceedance for 2016 (µg/m³) (2016)

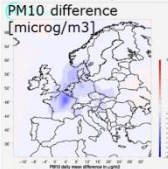
13th March forecast using current emissions

Forecast with policy scenario: 30 % reduction of agricultural emissions

Everywhere in Europe Particulate Matter episodes occur in early spring- associated with agriculture



PM10 [microg/m3]



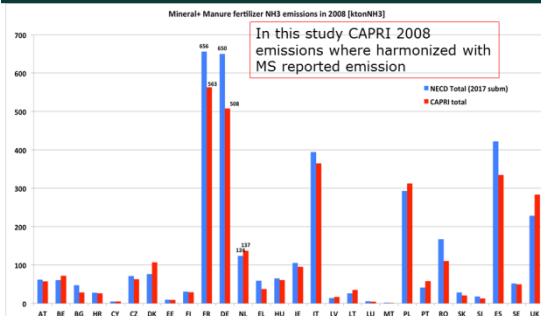
PM10 difference [microg/m3]

- Reducing NH₃ would bring Particulate Matter closer to limit values
- But not in the remit of local air quality managers

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Courtesy: L. Rouil- Sheris, 2017

Comparison of 2008 MS reported NH₃ emissions and CAPRI



Mineral+ Manure fertilizer NH₃ emissions in 2008 (ktorrNH₃)

In this study CAPRI 2008 emissions were harmonized with MS reported emission

■ NECD Total (2017 subm)
■ CAPRI total

Claudia Olazábal (DG-ENV)




Overview of EU environmental legislation linked to agricultural



Claudia Olazábal
Head of Unit – Land use and management
DG Environment
European Commission

EU AGRICULTURAL OUTLOOK- October 2017



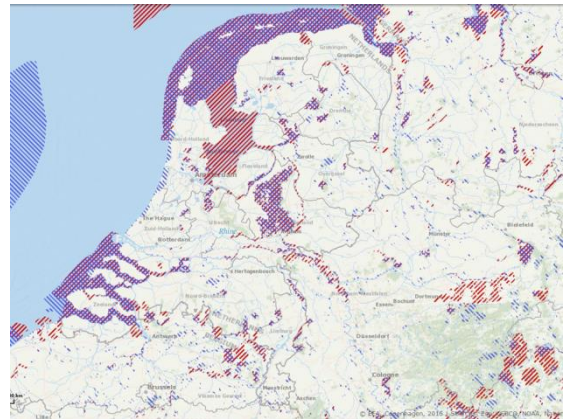
EEA – State of the environment Report 2015

Key trends

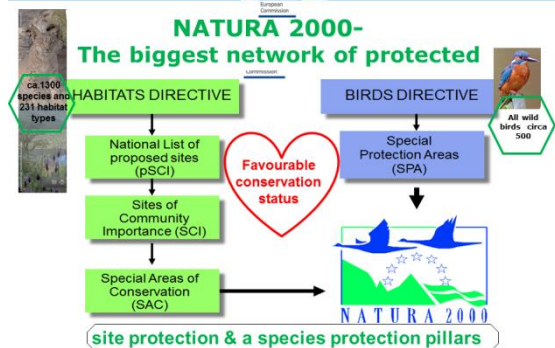
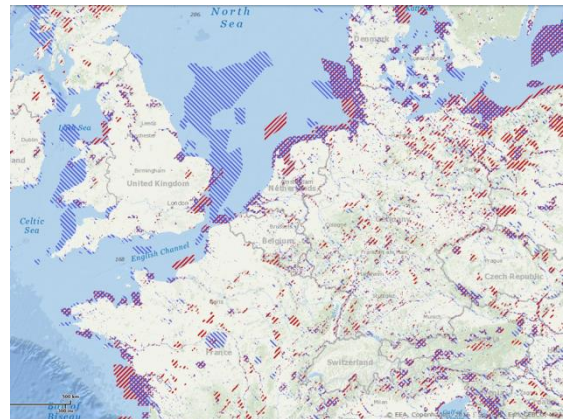
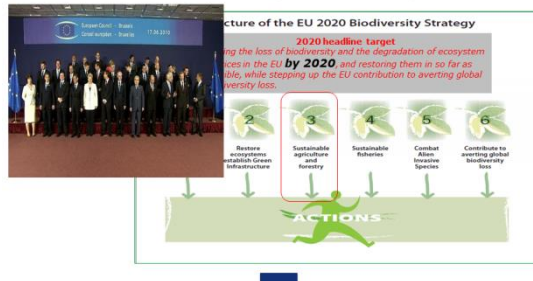
The long-term sustainability of agriculture and the ability of agro-ecosystems to provide services beyond food production is being undermined by environmentally-harmful farming practices. These cause soil degradation and water contamination, as well as declines in pollinators, the loss of natural biological control of pests and diseases, and of plant and animal genetic diversity



EU Biodiversity Strategy Habitats and Birds Directives

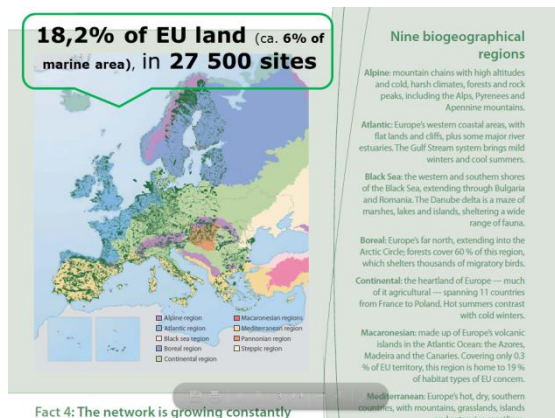


EU Biodiversity Strategy UN Convention on Biological Diversity



Natura 2000 and agriculture

- a very important share of the Natura 2000 habitat types and species are strongly dependent on the maintenance or imitation of traditional agricultural practises
- some of these species and habitats are extremely sensitive to land use changes (e.g. switch from moving to grazing, etc.), hydrological changes and/or fertilisation
- main threats are **intensification** and **land abandonment**
- need for **targeted** & **continuous** agricultural management
- ultimately, **dependency on viable agricultural systems** !



Planning tools

Biogeographical regions- Process with Strategies

Sites - Natura 2000 Management Plans

Management of the sites to maintain or improve conservation status
Strong legal protection at site level, although new activities or developments are not automatically excluded

Species- Species Action Plans

Wider Biodiversity - National (Regional) Biodiversities Strategies





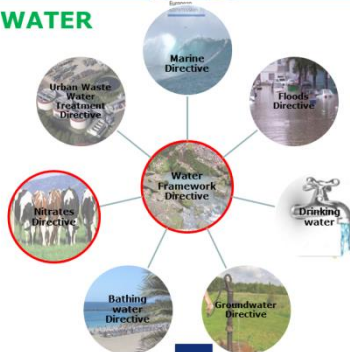
Important information sources

- Farming for Natura 2000: <http://ec.europa.eu/environment/nature/natura2000/management/docs/FARMING%20FOR%20NATURA%202000-final%20guidance.pdf>
- Habitat types dependent on agricultural practises: <http://ec.europa.eu/environment/nature/natura2000/management/docs/FARMING%20FOR%20NATURA%202000-ANNEXES%20A-D-final.pdf>
- EU-wide Natura 2000 database: <https://www.eea.europa.eu/data-and-maps/data/natura-8>
- Natura 2000 Viewer: <http://natura2000.eea.europa.eu/>
- EU-wide Article 17 dataset: <https://www.eea.europa.eu/data-and-maps/data/article-17-database-habitats-directive-92-43-ec-1>
- Article 17 Reporting Viewer: <https://bd.eionet.europa.eu/article17/reports2012/>

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WATER



The EU Water Framework Directive

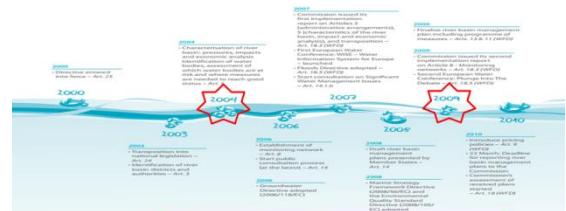
- Scope**
- all water bodies, including transitional waters and coastal waters.
 - all impacts on waters
 - all pressures
- Objectives**
- Protect and enhance fresh surface and ground waters, as well as coastal waters
 - No deterioration**
 - Achievement of **good-Ecological and chemical – status by 2015**
 - Special protection for drinking water resources



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River Basin Concept



Planning tool

River Basin Management Plans - What should be in a RBMP?

- description of the characteristics of the river basin district.
- a summary of **significant pressures and impact** of human activity on the status of surface water and groundwater
- identification and mapping of protected areas as required by Article 6 and Annex IV;
- map of the **monitoring networks** and a presentation in map form of the results
- a list of the **environmental objectives** established and of instances where use has been made of exemptions
- a summary of the economic analysis of water use
- a summary of the **programme or programmes of measures**, including the ways in which the objectives shall be achieved;
- a register of any **more detailed programmes and management plans** for the river basin district dealing with particular **sub-basins, sectors, issues or water types**, together with a summary of their contents;
- a summary of the public information and consultation measures taken, their results and the changes to the plan made as a consequence, - a list of competent authorities
- how to obtain the background documentation and the actual monitoring data



Programme of measures (Art. 11)

Basic measures

Measures under existing legislation
Article 11.3 (a)

- Urban Waste Water Treatment Directive (91/271/EEC)
- Nitrates Directive (91/676/EEC)
- Industrial emissions Directive (2010/75/EU)
- Birds and Habitats Directive (79/409/EC and 92/43/EC)
- Etc.

Additional WFD basic measures
Article 11.3 (b-i)

- Cost recovery
- Safeguarding drinking water
- Controls over abstraction
- Emission controls for point and diffuse sources
- Controls over hydro-morphological alterations
- Prohibitions on direct discharges to groundwater
- Eliminating/controlling pollution by priority substances and reducing pollution by other substances

Supplementary measures

Supplementary measures
Article 11.4

- Those measures designed and implemented **as needed on top of** the basic measures, with the aim of achieving the objectives established pursuant to Art.4. To be defined by Member States.



WFD Implementation Reports



http://ec.europa.eu/environment/water/water-framework/impl_reports.htm

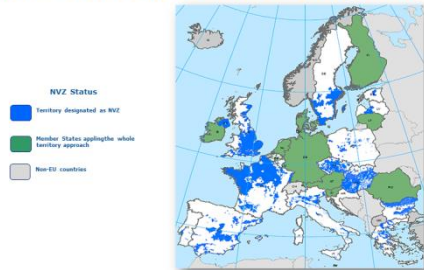
Nitrates Directive- prevent water pollution caused by nitrates from agricultural sources



Nitrates Directive (91/676/EEC)



Nitrate Vulnerable Zones designation



Planning tools

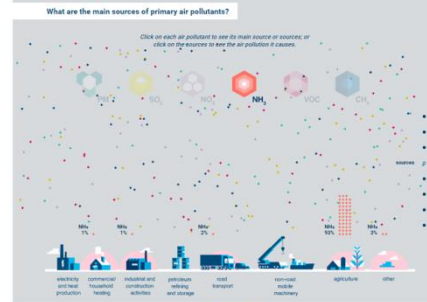
Codes of Good Practice (voluntary) Action Programmes

Measures

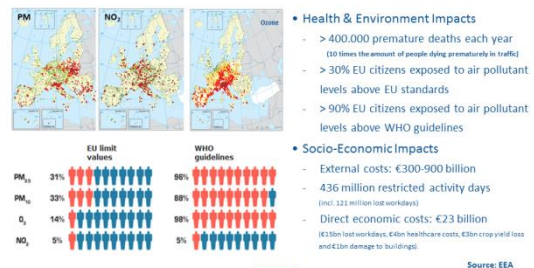
- **When** to put fertilisers (closed periods)
- **How** to store manure
- **How much** fertilisers to use
- **Where NOT** to use fertilisers
- **Where** to put **barriers** (buffer strips near water courses)

Practices in EU Member States to apply balanced fertilization
Mandatory crop specific application standards
Mandatory soil sampling, mandatory nutrient balance accounts, other methodologies, using various approaches and indicators (e.g. field balance vs.farm gate balance)

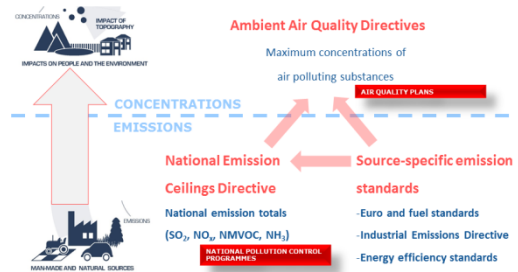
AIR quality



Air quality today in the EU significant remaining challenges to resolve



Clean Air Policies in Europe – An Overview



Planning tools The Ambient Air Quality Directives

Directive 2008/50/EC on ambient air quality and cleaner air for Europe, and Directive 2004/107/EC relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air, **Oblige Member States to:**

- Achieve **objectives** for ambient air quality;
- **Maintain** air quality where it is good and improve it in other cases;
- **Assess** ambient air quality in their territory and **obtain information** on ambient air quality in order to help combat air pollution;
- Make **information** available to the public;
- Promote cooperation between the Member States in reducing air pollution.



Planning tools Air Quality Plans and Air Quality Measures

The Ambient Air Quality Directive - air quality plans

- General information and details on measuring stations
- Nature and assessment of pollution (incl. trends)
- Techniques used for air quality assessments
- Origin of pollution (incl. source apportionment)
- Details of measures and estimate of improvement of air quality planned, and the expected time required



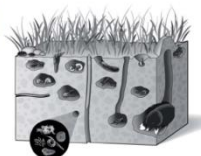
Planning tools National Pollution Control Programmes

Member States shall develop National Pollution Control Programmes (NAPCs) in accordance with the United Nations Economic Commission for Europe Framework Convention on the Reduction of Air Pollution and the Protocol to the Convention on the Reduction of Air Pollution.

- Setting out the national reduction commitments
- Identifying the main sources of pollution and the measures to be taken to reduce them
- Improve long-term environmental quality and local air quality
- Enhance coordination at the national level: better coordination and local action
- Better cross-sectoral cooperation (e.g. in priority areas)
- Special focus on ammonia emissions



Soil



The missing link



While no planning tools at EU level, there is data to determine the needs and guidelines on soil measures

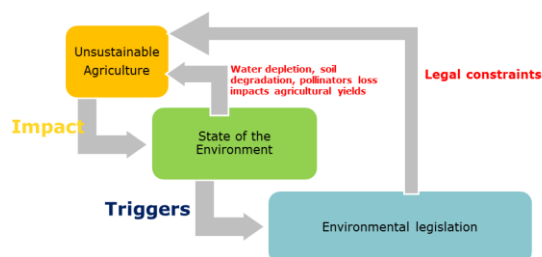


Possible measures for maintaining or increasing SOM

- Catch and intercrop / winter cover / buffer strips
- Choice of appropriate crop/crop rotations
- Incorporation of crop residues
- Use of mature and organic soil improvers like compost
- Conservation tillage / mulching
- Adjusting stocking rates
- Restricting controlled burning
- Restricting uncontrolled burning
- Growing fire-resistant plant communities
- Change of arable to grassland
- Reduce deforestation
- Increase of water table to restore cultivated peat soils



The link with Agricultural OUTLOOK



Thank you for your attention!

Claudia.Olazabal@ec.europa.eu

Session 7: Milk and Dairy Markets

Sophie Hélaine (DG AGRI)



Main drivers of dairy market development

Growing global and EU demand

- Strong local and global demand for cheese, butter, cream
- Demand for powders remains high
- Big challenge: decrease in liquid milk consumption in the EU
- Demand is supporting milk price increase

Continuous growth in world import demand though lower than in the past decade

Global dairy market annual increase (Mt of milk eq.)

Category	2007-2017	2017-2030
Total	1.7	1.6
WMP	0.6	0.3
SMP	0.7	0.3
Cheese	0.3	0.2
Butter	0.1	0.1

Notes: Based on trade of SMP, WMP, cheese and butter in milk equivalent (total solids). Source: DG Agriculture and Rural Development (draft baseline).

Diverging consumption trends

Share of individuals skipping at least 1 breakfast per week in France

Category	2007	2013
Enfants	13%	29%
Adultes	14%	21%

Source: CREDOC 2013 CCAR surveys

Per capita consumption (kg/capita)

EU-28 liquid milk consumption will continue decreasing by 0.5 kg/capita per year

Notes: For cheese, break in time series in the EU-28 in 2013. Source: DG Agriculture and Rural Development (draft baseline).

EU domestic consumption to expand

- + 800 000 t per year consumed in the EU
- Mainly cheese and the other dairy products
- SMP too (for chocolate, FFMP, baby food...)
- Cream use will continue growing
- Yogurt consumption could stabilise
- While liquid milk consumption will continue decreasing

Annual change in EU dairy product consumption (1000 t of milk eq.)

Notes: Based on trade of SMP, WMP, cheese and butter in milk equivalent (total solids). Source: DG Agriculture and Rural Development (draft baseline).

EU exports to expand by 500 000 t/year (in milk equivalent)

More than 1/3 of world trade growth for cheese, SMP, WMP and butter

EU exports (1000 t of product weight)

Share of EU exports in global trade

Source: DG Agriculture and Rural Development (draft baseline).



Do we produce too much SMP in the EU?

• EU SMP stocks

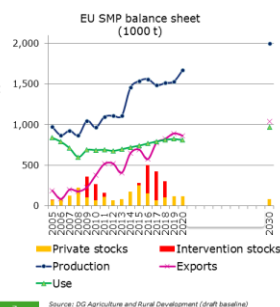
- End 2016: 351 000 t
- Purchase in 2017: around 30 000 t
- Stock level = 3 months of production
- Working assumption: release in 2018 and 2019

• EU SMP exports

- Boosted by low prices and by demand in the long-run

• EU SMP use

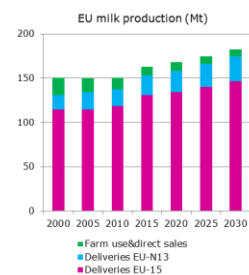
- Increasing for FFMP, chocolate, baby food...



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Higher EU milk collection in the EU



• EU milk production up to 182 Mt by 2030

- +1.4 Mt / year
- 2nd highest growth in the world behind India

• EU milk deliveries up to 174 Mt by 2030

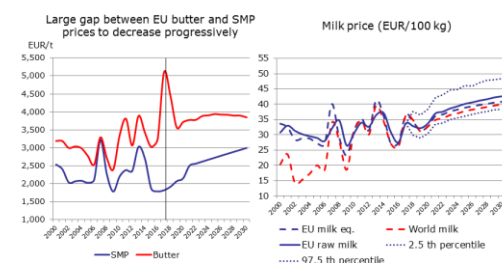
• Faster growth rate in the EU-N13

- Rate of deliveries from 76% in 2016 to 86% in 2030 in the EU-N13

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Dairy product prices (EUR/t): back to normal price relationship Butter/SMP after stocks are emptied



8



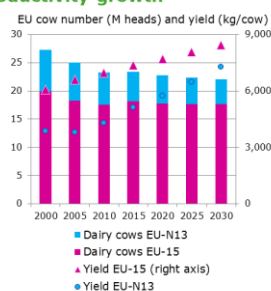
Higher EU milk collection in the EU, driven by productivity growth

• Slowdown in yield growth

- Because more organic milk and change in breeds:
 - Share of organic milk assumed in 2030 = 10% in the EU-15, 6% in the EU-N13
 - Lower growth of yield for organic production (EU-15 +0.5% per year, vs. +1.5% in conventional, EU-N13 +1.5% per year for organic cows vs +3% in conventional)

• Decrease in dairy herd mainly in the EU-N13

• In the EU-15, number of dairy cows in 2030 > 2013



11



Main drivers of dairy market development



Growing global and EU demand



Moderate EU supply increase

- Back to dairy herd decline but at a slower pace
- Environmental constraints to play an increasing role

9



Questions



Robustness of EU cheese consumption growth and EU cheese exports?

Any possibility to stop the decline in liquid milk?

Do you share the SMP use picture?



Can the number of dairy cows remain that high in the EU? Which yield increase potential?

What is the potential for EU organic milk production development?

Do you expect environmental legislations to limit more milk production development?

12

Hans Jensen (JRC Seville)

India's Dairy Sector:

Could India become a Dairy Net Exporter in the near future?

Scenario on the preliminary baseline



EU Agricultural Outlook Workshop
19-20 October 2017, Brussels
H. Jensen & I. Pérez Domínguez
European Commission, DG JRC

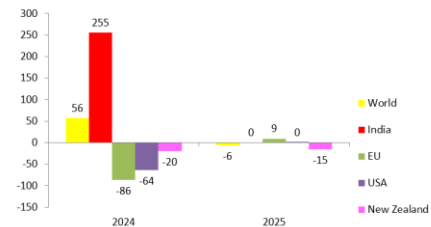
Scenario Description

- What if India exported SMP (as did in 2013)?
- Opportunistic net exporting position in the future (not a permanent feature).
- Year 2024 selected
- Assumption: What if India exported 256.000 t of SMP
- Capturing 10% share of global market

Background

- With 122 million heads & 160 million t of milk produced in 2016 India has the world largest dairy herd
- Production has been growing by 4.5% p.a.
- Almost 90% of livestock is held by 122 mill. holdings of less than 4 ha (average 1.8 heads, 1.1 female cows)
- Roughly 40% of the milk is consumed on-farm and 60% is sold on the market (with 17% commercialised through cooperatives and private companies)

Market Impacts: Change in SMP Exports (1000 t)

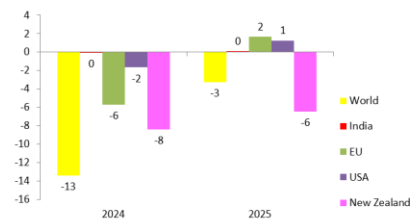


Milk Outlook for India (I)

	2016	2026	% p.a.
Animal heads (million heads)	122	140	1.3
Yield (kg)	1309	1572	1.9
Milk production (million tonnes)	160	219	3.2
Milk price	26	48	6.2
Consumption dairy (kg/person)	19	24	2.2
Population (million)	1327	1468	1.0
GDP			7.0
SMP exports (1000 ton)	15	1	

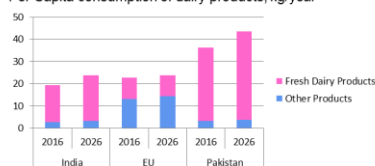
- Milk production is expected to grow by 6 Mt per year: highest growth in the world
- For domestic market only
- No change in Net trade
- More milk through organised commercial channels

Market Impacts: Change in Butter/Ghee Exports (1000 t)



Milk Outlook for India (II)

Per Capita consumption of dairy products, kg/year



Note: Solid milk basis, calculated by adding the amount of fat and non-fat solids together for each product

- Large vegetarian population who love dairy products

Market Impacts: Change in Cheese Exports (1000 t)





Market Impacts: EU Exports 2024

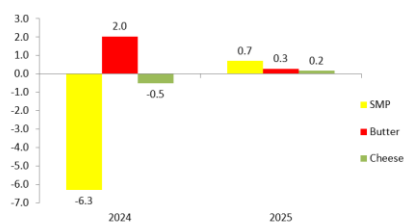


Concluding remarks

- India is mainly focused on its domestic market
- However, SMP is a by product of Ghee and can be processed when prices are attractive on the world market
- India can rapidly enter the world market
- Leading to a substantial decrease in EU exports of SMP
- But the impact on EU milk price remains small



Market Impacts: Change in world market prices (%)



Thank you for your attention

Hans.Jensen@ec.europa.eu

Joint Research Centre

Serving society
Stimulating innovation
Supporting legislation



Market Impacts: EU 2024

Changes in EU production

	Change	
	1000 t	%
SMP	-76	-4.3
Butter	-15	-0.6
Cheese	28	0.3
WMP	4	0.5
Fresh Dairy Products	312	0.7

EU Farm gate milk price declines by 0.7%
With no change in stocks



Christophe Lafougère (GIRA)



Production of Drinking milk and Yogurts Two major changes expected by the Commission

World dairy consumption growth Special focus on Whey 2017 - 2022

The 2017 EU Agricultural Outlook Workshop
Brussels, 20th of October

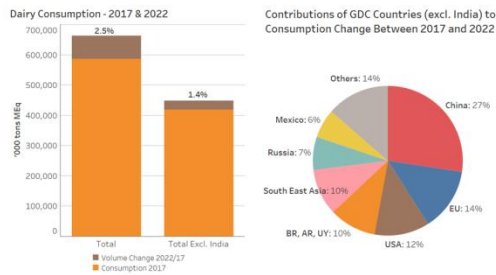
Christophe Lafougère
clafougere@girafood.com



- Two major changes expected by the Commission:
- A strong decrease for drinking milk
- A rebound of yogurt production



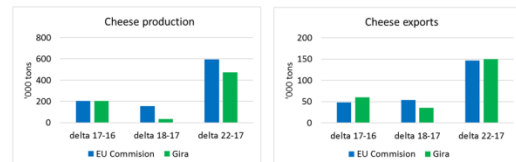
Dairy Consumption Change 2017-2022 CAGR 17/22: +2.5%



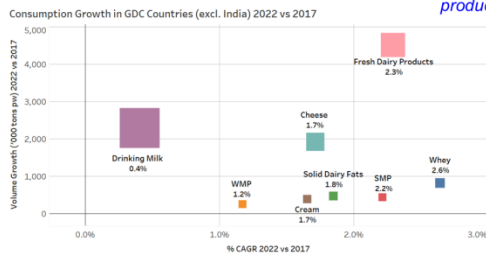
Source: Gira GDC17



Production & Exports: Cheese Similar expectations for Production & Exports



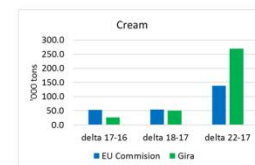
Global Consumption Growth - 2017-2022 Lowest growth rate for drinking milk but largest consumption volume; Strong growth for fresh products



Source: Gira GDC17
Notes: 1. The size of the squares is proportional to the consumption volume in 2022. 2. India was excluded.



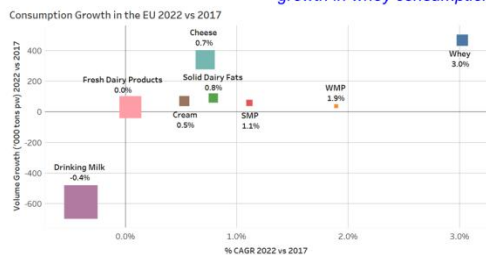
Production of Cream More growth expected by Gira thanks to export demand



- Stronger increase of production expected by Gira (mostly for export growth)



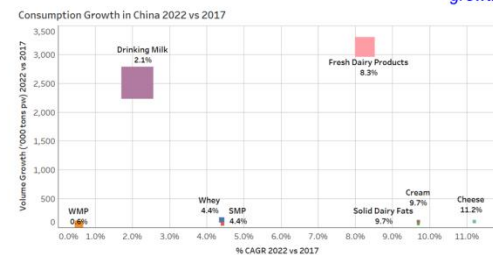
Consumption Growth in the EU - 2017-2022 Drinking milk consumption set to decline; Strong growth in whey consumption



Source: Gira GDC17
Note: The size of the squares is proportional to the consumption volume in 2022.



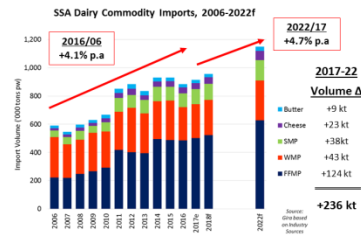
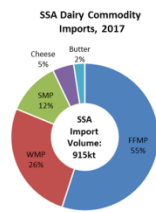
Consumption Growth in China - 2017-2022 Yogurt expected to lead consumption volume growth



Source: Gira GDC17
Note: The size of the squares is proportional to the consumption volume in 2022.

SSA Dairy Commodity Imports

Growing demand not met by production... pulling imports

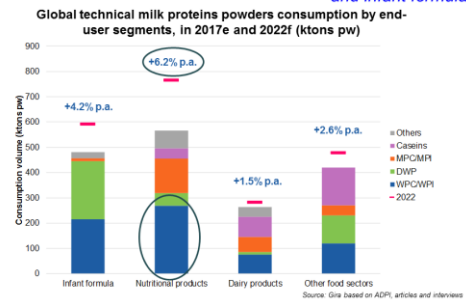


Powders are the main product imported... traditionally dominated by WMP
FFMP has become the most important, driven by its 'lower price point'
• Brand loyalty for FFMP products has grown rapidly

9

Whey: Global consumption

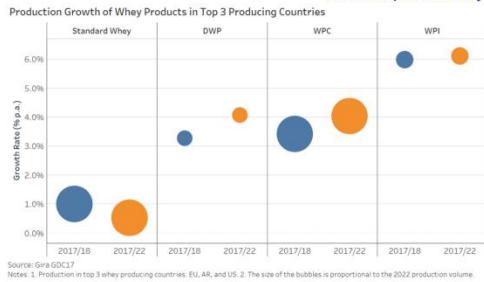
Demand driven by Nutritional products and Infant formula



12

Special Focus on Whey

Growth still accelerating for the concentrated products, but not spectacularly so



10

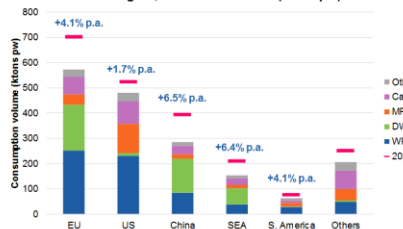


13

Whey: Global consumption

High growth everywhere

Global technical milk protein powder consumption by product and region, in 2017e and 2022f (ktons pw)



11

Mirko Wätjen (DMK)



EU Dairy Market Outlook

Mirko Wätjen, DMK Market Intelligence

21. October 2017

Agenda

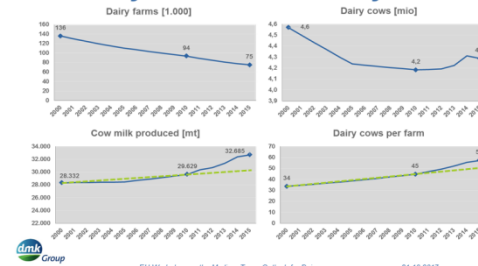
DMK at a glance

Structural change in German dairy farming

Milk Supply & Valorisation

Comments on the EU Market Outlook 2027

Structural change in German dairy farming – Increased dynamics in the last five years



Structural change in German dairy farming – Increased dynamics in the last five years

- Two different phases in the structural change:
 - Moderate development in the period of the year 2000 to 2010
 - Accelerated development since the year 2010 until today

Different phases of structural change					
Compound Annual Growth Rate					
Year	Dairy farms (1,000)	Dairy cows (1,000)	Dairy cows per farm	Cow milk produced (mt)	Milk yield (kg/cow/year)
2000–2010	-3,6 %	-0,9 %	+2,9 %	+0,4 %	+1,3 %
2010–2015	-4,4 %	+0,5 %	+5,1 %	+2,0 %	+1,8 %



EU Workshop on the Medium-Term Outlook for Dairy

21.10.2017

Germany's largest dairy cooperative - owners: DMK eG and DOC Kaas

- 23 locations around Germany in ten federal states and two locations in Hoogetveen in Holland
- Approx. 7.200 employees



EU Workshop on the Medium-Term Outlook for Dairy

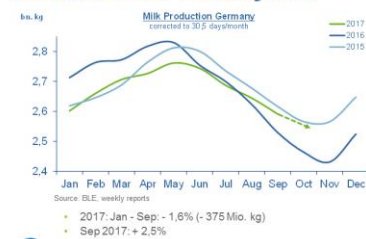
21.10.2017



EU Workshop on the Medium-Term Outlook for Dairy

21.10.2017

Supply: Milk Production Germany 2017



EU Workshop on the Medium-Term Outlook for Dairy

21.10.2017

A broad portfolio to meet the most exacting of requirements



EU Workshop on the Medium-Term Outlook for Dairy

21.10.2017

Closure of dairy farms and raw milk price in context



EU Workshop on the Medium-Term Outlook for Dairy

21.10.2017

Agenda

DMK at a glance

Structural change in German dairy farming

Milk Supply & Valorisation

Comments on the EU Market Outlook 2027

Influencing factors as determinants of future dairy production in Germany

Influencing factors (short and medium term) for the dairy production in Germany/EU:

- Political Regulations:
 - Change of the fertilizer ordinance in Germany/EU
 - Laws about storage of feeding stuffs
 - Political restrictions for agricultural buildings (animal housing systems...)
 - Emission protection laws...
- Social acceptance of animal husbandry:
 - Animal welfare
 - Environmental protection
 - Industrial animal husbandry ...



EU Workshop on the Medium-Term Outlook for Dairy

21.10.2017



EU Workshop on the Medium-Term Outlook for Dairy

21.10.2017

Agenda

DMK at a glance
Structural change in German dairy farming
Milk Supply & Valorisation
Comments on the EU Market Outlook 2027



EU Workshop on the Medium-Term Outlook for Dairy

21.10.2017

Changes in milk supply drives world price



EU Workshop on the Medium-Term Outlook for Dairy

21.10.2017

Milk Supply & Valorisation Supply follows valorisation with a time lag



EU Workshop on the Medium-Term Outlook for Dairy

21.10.2017

Agenda

DMK at a glance
Structural change in German dairy farming
Milk Supply & Valorisation
Comments on the EU Market Outlook 2027



EU Workshop on the Medium-Term Outlook for Dairy

21.10.2017

Comments on the EU Market Outlook 2027

Milk Supply	➡	<ul style="list-style-type: none"> • EU will be an important global supplier • Supply follows valorisation with a time lag • More challenges for social / environmental reasons
Demand	➡	<ul style="list-style-type: none"> • Growing local and global demand cheese/butter • SMP powder is the challenge • more focus on international free trade agreements
Stocks	➡	<ul style="list-style-type: none"> • High intervention stocks SMP difficult to sell • Butter stocks tighter than SMP • What should be the future safety net?
Prices	➡	<ul style="list-style-type: none"> • Milk fat rather drives than milk protein • Average milk price level of 40 ct/kg is difficult • Volatility in prices will stay – new tools needed



EU Workshop on the Medium-Term Outlook for Dairy

21.10.2017

**Thank you very
much for your attention**

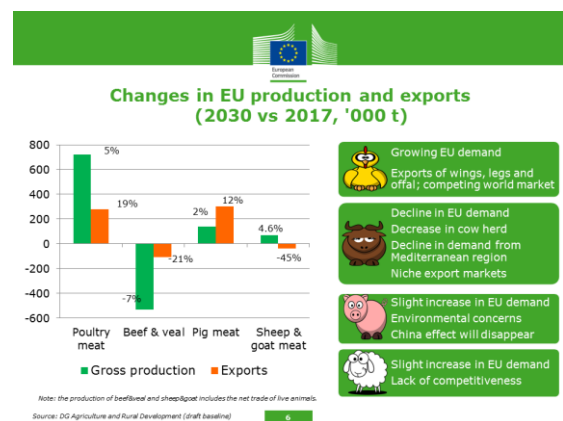
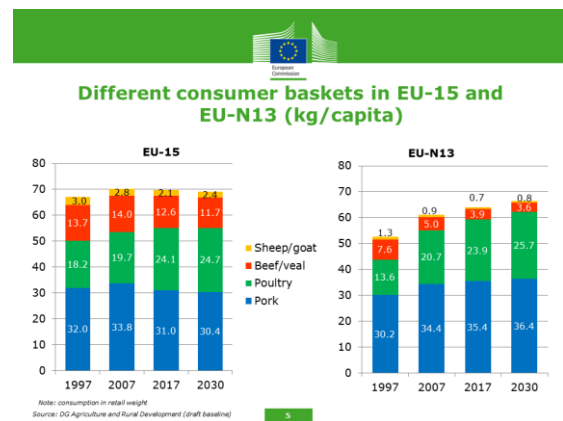
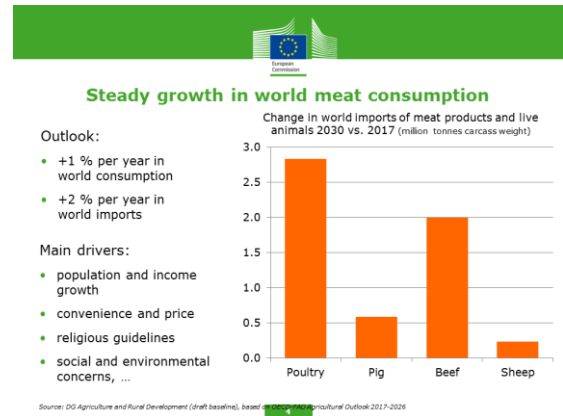
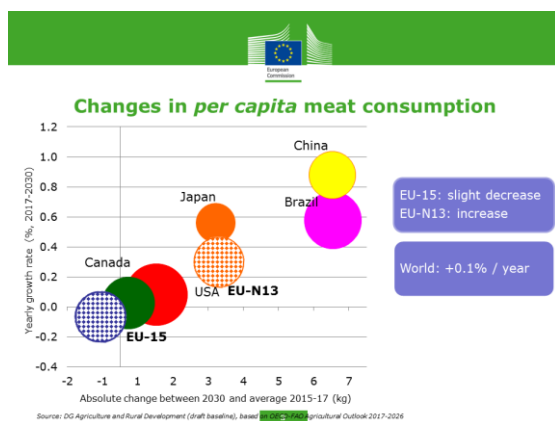


EU Workshop on the Medium-Term Outlook for Dairy

21.10.2017

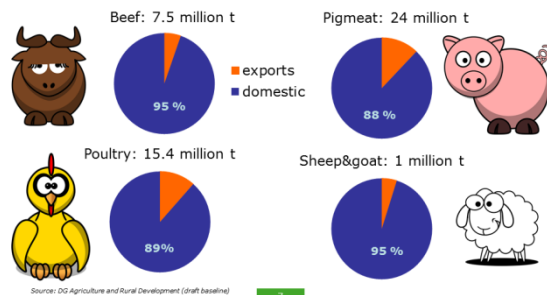
Session 8: Meat Markets

Ben Van Doorslaer (DG AGRI)





More than 88% of EU meat production goes to EU market



7



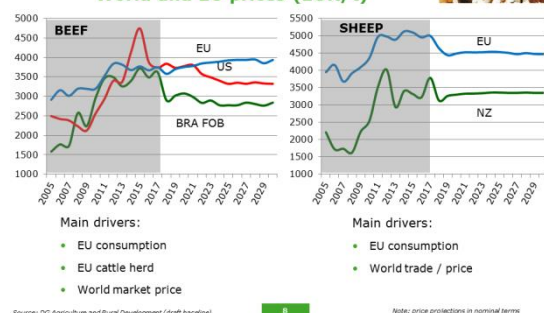
Questions

- How much will meat consumption go down in the EU by 2030?
- How high is the EU export potential of pig meat ?
- What are the limits to EU poultry production (if any) ?
- What will be the decline of the EU beef herd ?
- Is the trend in EU sheep consumption reversed (or not) ?

11



World and EU prices (EUR/t)



8



EU prospects report and data available at:
http://ec.europa.eu/agriculture/markets-and-prices/medium-term-outlook/index_en.htm

OECD-FAO Outlook at:
<http://www.agri-outlook.org/>

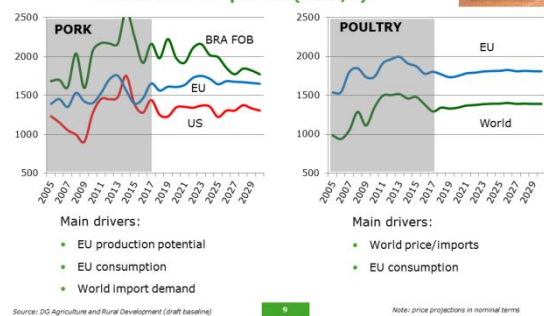
Short term outlook at:
http://ec.europa.eu/agriculture/markets-and-prices/short-term-outlook/index_en.htm

Thanks

12



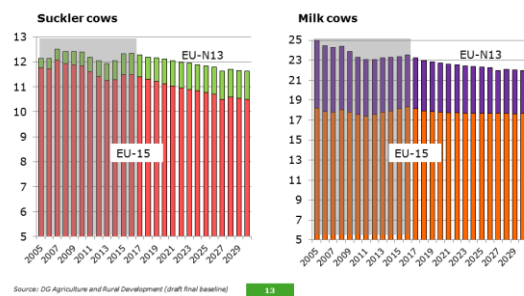
World and EU prices (EUR/t)



9



Declining beef and dairy herd



13



Take away messages



Meat consumption: EU-15= stable; EU-N13= catching up, but first signs of stabilisation
 Different patterns by meat type



Increasing world meat demand, especially for poultry and beef, not much room for pig meat



Slowly increasing EU meat production (600 000 tonnes or 1.3% by 2030)
 88-95% of production to EU consumer

10

Simone Pieralli (JRC Seville)

Hitting two birds with one stone?
Production and consumption impacts of an EU-wide avian flu outbreak

Scenarios on the preliminary baseline




EU Agricultural Outlook Workshop
19-20 October 2017, Brussels

S. Pieralli & I. Pérez Domínguez
European Commission, DG JRC


Scenario

Scenario description

- Two-year ban on poultry imports from the EU in 2018 and 2019 with potentially production and consumption disruptions
- First year destroyed production for approximately 3 months (2 cycles, -25% production)
- Media reports on Avian Flu outbreaks → Decrease in EU consumption in first and second year of the ban (-10% consumption)

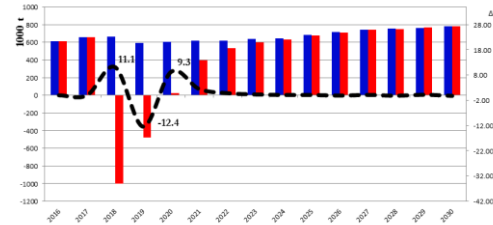
Background

- Avian flu is a highly infective disease (in EU no human)
- Highly pathogenic avian influenza has different strains
- Since 27th October 2016, many cases of flu in 19 Member States
- Main effects:
 - on animals: requires culling of infected birds
 - on humans: prevention requires thorough cooking
- Main producers affected: Poland, UK, France, Germany, Spain, Italy
- EU is the third largest exporter (1.6 million t) and third largest importer (0.9 million t)
- EU net exporter but 1/3 of exports are concentrated in four countries (Ukraine)




Results

- Volatile EU poultry price
- Strong drop in net trade during the years of the ban



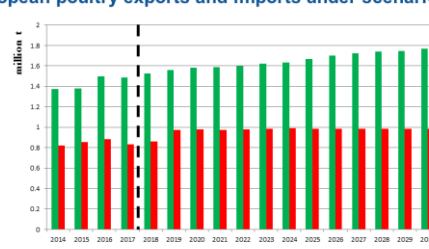
Source: Preliminary DG Agriculture and Rural Development (draft baseline)

Background



Results

European poultry exports and imports under scenario ban



Source: Preliminary DG Agriculture and Rural Development (draft baseline)

Background

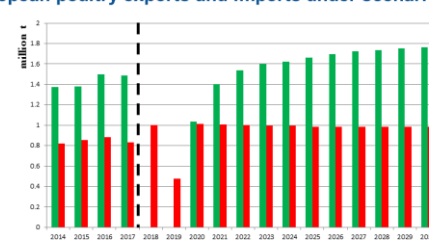
Why a trade ban scenario?

- EU banned imports from Ukraine end 2016, but since February 2017 regional ban is restricted to the South region
- Many countries (among which Ukraine) could respond similarly against EU
- What would happen in the case of a total ban on imports from the EU due to a pandemic avian flu in the EU?



Results

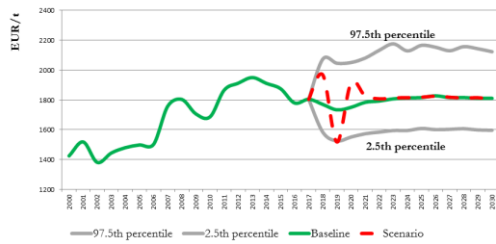
European poultry exports and imports under scenario ban



Source: Preliminary DG Agriculture and Rural Development (draft baseline)

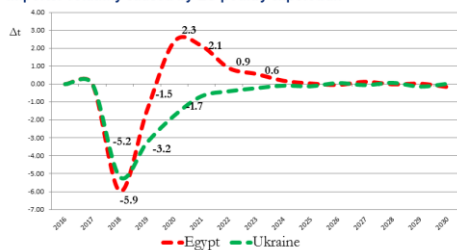
Results

European poultry price in a stochastic world



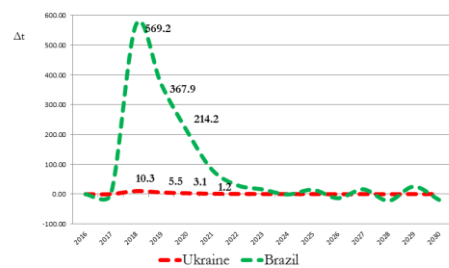
Results

Imports: volatility caused by EU poultry export ban



Results

Exports: EU replaced by world leaders



Conclusions

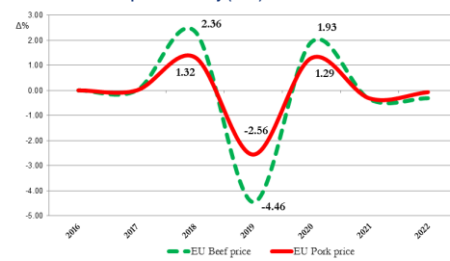
- Extreme consequences of a ban from EU imports
- Volatility of poultry price in the EU
- Slow pick-up of EU exports in the years following the ban
- Slightly higher net trade for Ukraine
- Volatility in markets caused by EU poultry export ban
- Higher exports for world market leader



ANNEX

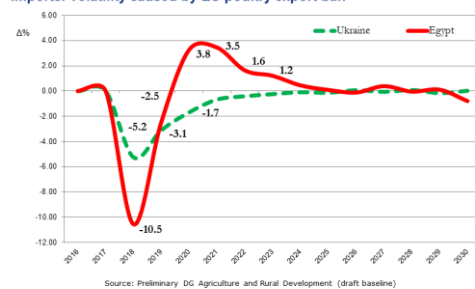
Results

EU Beef and Pork price volatility (in %)



Results

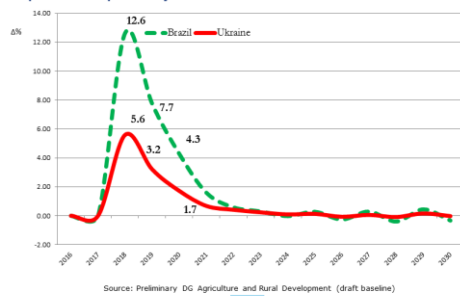
Imports: volatility caused by EU poultry export ban



Results



Exports: EU replaced by world leaders



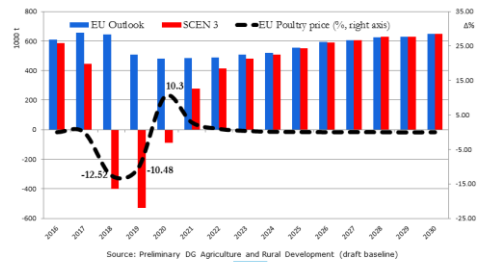
Source: Preliminary DG Agriculture and Rural Development (draft baseline)



Avian flu scenario III



Block 2018 and 2019 and drop in production of 10% and 10% drop in consumption



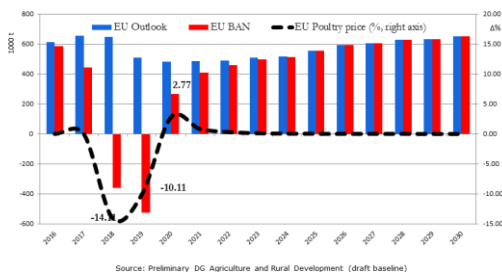
Source: Preliminary DG Agriculture and Rural Development (draft baseline)



Avian flu scenario I



Block EU exports in 2018 and 2019



Source: Preliminary DG Agriculture and Rural Development (draft baseline)



Aglink-Cosimo

- Recursive-dynamic partial equilibrium multi-commodity market model of world agriculture
- Aggregate: 44 countries, 12 regions, 93 commodities, 40 world prices
- Medium-term baseline projections (10 years)
- System of non-linear equations
- Production, consumption, imports, exports

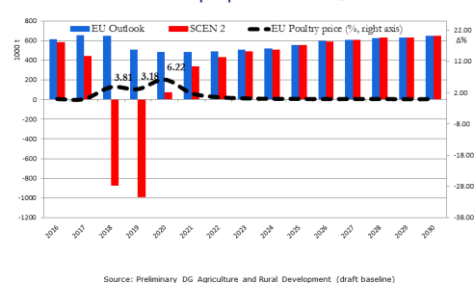
Percentage SL
Percentage HL



Avian flu scenario II



Block 2018 and 2019 and drop in production of 10%



Source: Preliminary DG Agriculture and Rural Development (draft baseline)



Aglink-Cosimo

```

E15_CK_PP: E15_CK_PP = EUN_CK_PP ,
E15_PT_QP: E15_PT_QP = E15_CK_QP+E15_OP_QP ,
E15_CK_QP: LOG(E15_CK_QP) = C.E15_CK_QP.CON+C.E15_CK_QP.E15_CK_PP*LOG((
E15_CK_PP+E15_CK_QP)/E15_PT_CPCI)+C.E15_CK_QP.E15_NR_FECI*LOG(
E15_NR_FECI/E15_PT_CPCI)+C.E15_CK_QP.LAG1*LOG(E15_CK_QP(-1))+LOG
(R.E15_CK_QP) ,
EUN_CK_QP: EUN_CK_QP = E15_CK_QP+NHS_CK_QP ,
E15_OP_PP: E15_OP_PP = EUN_OP_PP ,
E15_PT_QP: E15_PT_QP = E15_CK_QP+E15_OP_QP ,
E15_OP_QP: LOG(E15_OP_QP) = C.E15_OP_QP.CON+C.E15_OP_QP.E15_OP_PP*LOG((
E15_OP_PP+E15_OP_QP)/E15_PT_CPCI)+C.E15_OP_QP.E15_NR_FECI*LOG(
E15_NR_FECI/E15_PT_CPCI)+C.E15_OP_QP.LAG1*LOG(E15_OP_QP(-1))+LOG
(R.E15_OP_QP) ,
EUN_OP_QP: EUN_OP_QP = E15_OP_QP+NHS_OP_QP ,
    
```



Petra Salamon (Thünen Institute)



Beef Markets Development at MS-level Application of AGMEMOD

Petra Salamon, Martin Banse, Josef Efken (Thünen Institute), Roel Jongeneel, Myrna van Leeuwen, David Verhoog (Wageningen Economic Research), Kevin Hanrahan (Teagasc), including information from market experts



Highlights: Beef Markets until 2030

Demand

- Use per capita will mostly decline (FR, IT, NL), increase in DE
- Total use moderated in EU-15, but augmented in EU-13 MS by population change

Production

- Dairy herd dominating beef production
- Some MS beef herd increases, especially in EU-13 (CZ, PL, HU, RO)

Production and use quite balanced, slight increase in net-imports

Uncertainties

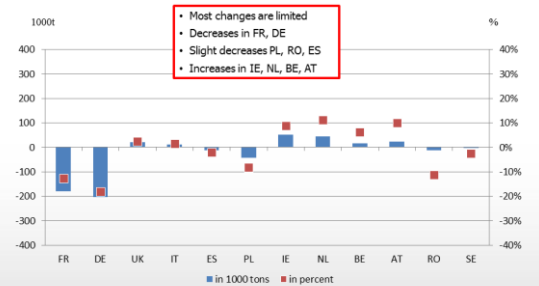
- Demand developments
- Environmental obligations, animal welfare regulations
- Embodiment of BREXIT for UK and EU-27 MS
- Exchange rates Eurozone – Non-Eurozone

Slide2
20/10/2017

Petra Salamon
Medium-Term Outlook



Change in Beef Production (Net Indigenous) Selected MS, 2030 versus average 2014-16

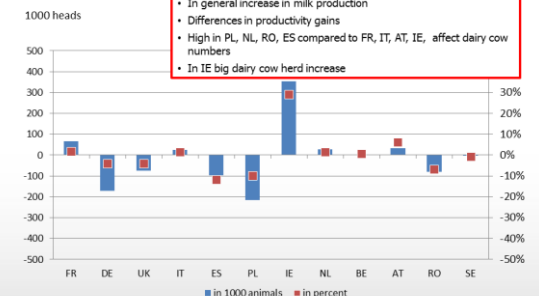


Slide5
20/10/2017

Petra Salamon
Medium-Term Outlook



Dairy Cows - Change in Herd in Selected MS 2030 versus average 2014-16, in 1000 animals and %

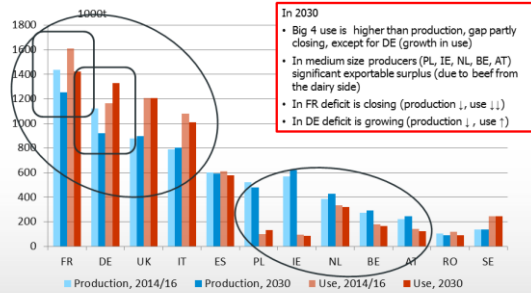


Slide6
20/10/2017

Petra Salamon
Medium-Term Outlook



Beef Production (Net Indigenous) and Use Selected MS, 2014/16 and 2030, in 1000t

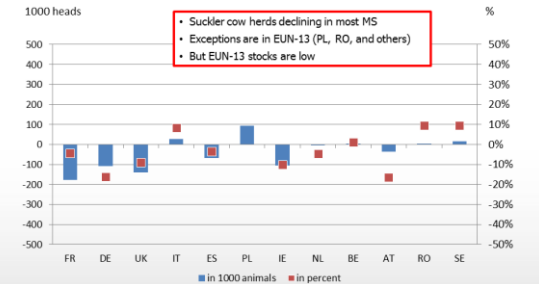


Slide3
20/10/2017

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Medium-Term Outlook



Suckler Cows - Change in Herds in Selected MS 2030 versus average 2014-16, in 1000 animals and %

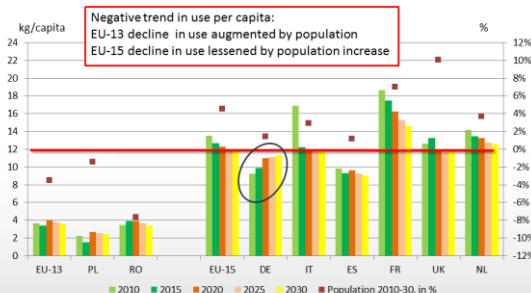


Slide7
20/10/2017

Petra Salamon
Medium-Term Outlook



Apparent Use per Capita in Selected MS Retail Weight (kg/head) and Change in Population (%)

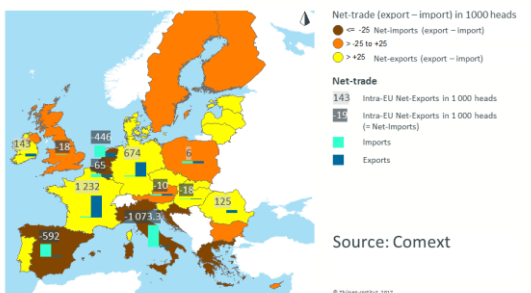


Slide4
20/10/2017

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Medium-Term Outlook



Intra-EU Trade in Bovine in Selected MS Average for 2014 - 2016

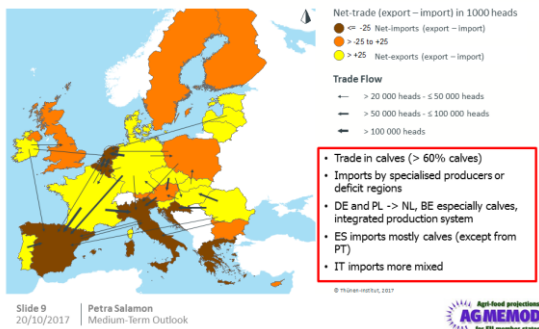


Slide 8
20/10/2017

Petra Salamon
Medium-Term Outlook



Intra-EU Trade in Bovine in Selected MS Average for 2014 - 2016



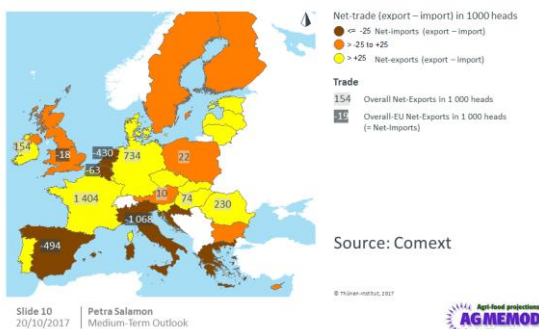
Questions

- How will the domestic use of beef evolve in MS?
- Will EU become a net importer of beef
 - with a declining in use of beef and an increase in milk production?
- What impact has sexing/hybrids in different MS?
- Share of organic milk in 2030
 - impact on productivity increase?
- What effect has the exchange rate
 - in PL, UK and others?

Slide13
20/10/2017
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Medium-Term Outlook



Total Trade in Bovine in Selected MS Average for 2014 - 2016



On behalf of the AGMEMOD Partnership

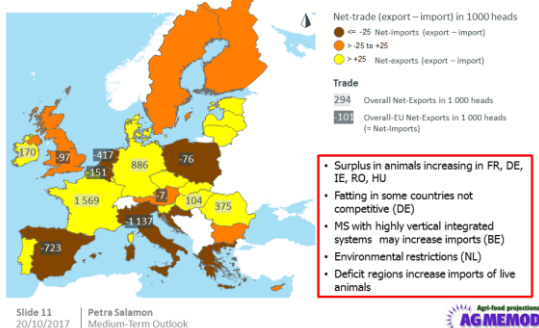
Questions to

Petra.salamon@thuenen.de

Slide14
20/10/2017
Petra Salamon
Medium-Term Outlook



Total Trade in Bovine in Selected MS Outlook 2030



Selected Factors Influencing Beef Production 2016 – 2030

	FR	DE	UK	IT	ES	PL	IE	NL	BE	AT	RO	SE
Beef production (%)	-13%	-18%	2%	2%	-2%	-8%	9%	11%	6%	10%	-11%	-2%
Demand												
Suckler cows versus total cows												
Beef exports/production (%)												
Voluntary coupling beef												
Milk yield												
Dairy under quota abolition												
Environmental constraints												
Animal welfare concerns												

■ limits growth ■ stabilizes growth ■ supports growth

• DE, FR, UK, BE, NL facing relatively many constraining factors
 • PL, IE, ES, RO have many supporting factors
 • Changes in production not always reflect these:
 • Influence of live trade

Slide15
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Medium-Term Outlook



Highlights: Beef Markets until 2030

Demand

- Use per capita will mostly decline (FR, IT, ES), increase in DE
- Total use moderated in EU-15, but augmented in EU-13 MS by population change

Production

- Dairy herd dominating beef production
- Some MS beef herd increases, especially in EU-13 (CZ, PL, HU, RO)

Production and use quite balanced, slight increase in net-imports

Uncertainties

- Demand developments
- Environmental obligations, animal welfare regulations
- Embodiment of BREXIT for UK and EU-27 MS
- Exchange rates Eurozone – Non-Eurozone

Slide 12
20/10/2017
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Medium-Term Outlook



Features of AGMEMOD – Focus on Member States

AGMEMOD (AGricultural MEmber states MODelling)

- Partial equilibrium, net-trade model
- Econometrically estimated behavioral equations
- Here top-down embedded in EU-Com Projections
- Features
 - Partnership at Member State level
 - Often applied within Member States
 - Data from national and EU sources (short-term outlook, price dashboard, COMEXT discrepancies between EU and national sources)
 - Intensive feedback and dialogue
 - between policy makers and AGMEMOD team
 - between market experts and AGMEMOD team
 - between national agencies and AGMEMOD team

Slide16
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Medium-Term Outlook



Apparent Use per Capita Retail Weight (kg/head) and Change in Population (%)

Apparent use includes all domestic uses by households, firms and governments:

Apparent use = Production + imports – exports

Therefore it comprises manifold disappearances including

- eaten quantities (households, restaurants)
- waste in households including parts which are not edible (fat, bones, perished meats)
- waste in restaurants, cafeterias, in shops etc.
- processing into other food items and into other products
- animal feed (pets)
- changes in stocks (firms, government, households)

Most of those items go unregistered or data is unavailable.

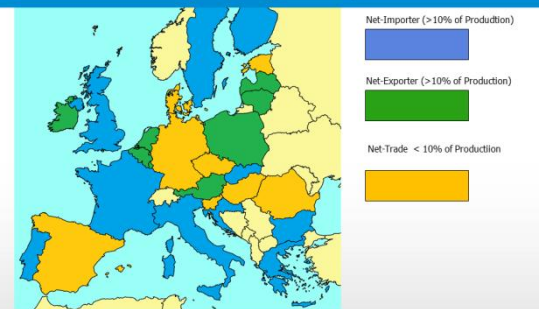
Data from households panel and market balances do not fit very well

Slide17
20/10/2017

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Medium-Term Outlook



Net-trade in Beef (Excluding Bovine), 2016

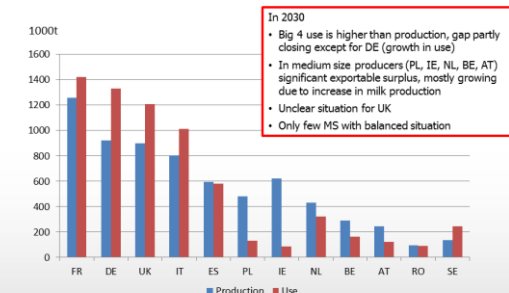


Slide20
20/10/2017

Petra Salamon
Medium-Term Outlook



Beef Production (Net Indigenous) and Use Selected MS, 2030, in 1000t

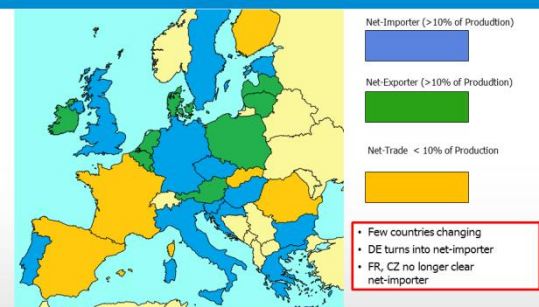


Slide18
20/10/2017

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Medium-Term Outlook



Net-trade in Beef (Excluding Bovine), 2030

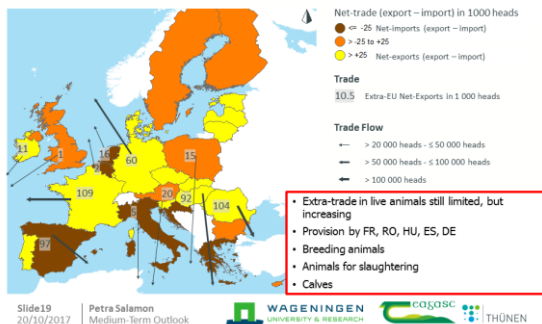


Slide21
20/10/2017

Petra Salamon
Medium-Term Outlook



Extra-EU Trade in Bovine Selected MS, Average for 2014 - 2016



Slide19
20/10/2017

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Medium-Term Outlook



Lukasz Dominiak (National Poultry Council)

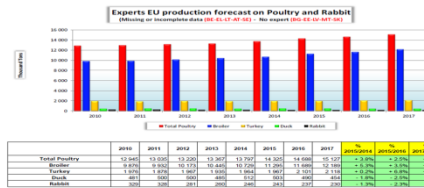


EU Poultry Industry Prospects and Challenges

Lukasz Dominiak
General Director KRD-IG

Brussels, 20/10/2017

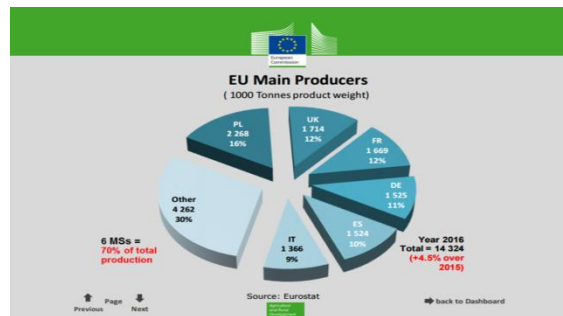
FORECAST



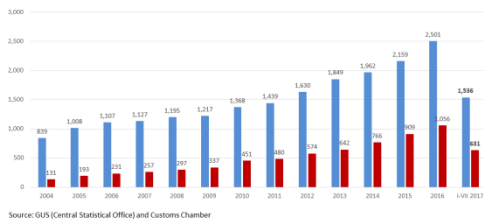
EU market situation for Poultry



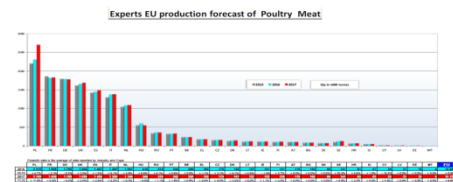
PL and EU Market Data



PL Market Data Poultry Production and Export in 2004-2016 and I-VII 2017 (in 1000 tonnes)



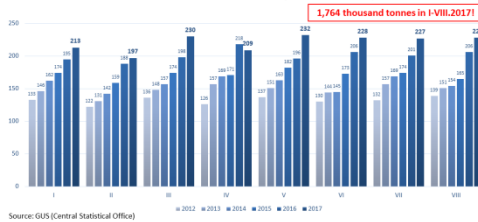
FORECAST



EU market situation for Poultry



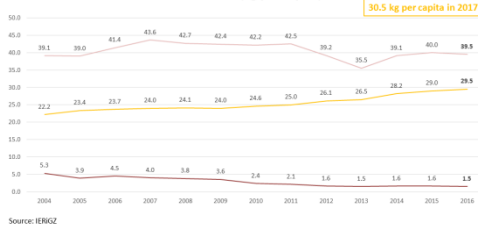
PL Market Data Comparison of Poultry Meat Production Increase in I-VIII 2012 and I-VIII 2017 (in 1000 tonnes)



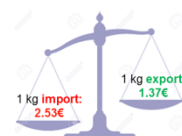
Questions & (No) Answers



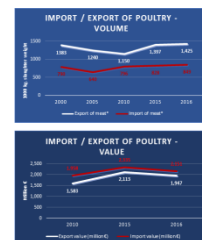
PL Market Data Pork/Poultry/Beef Consumption 2004-2016 (kg per capita)



EU Poultry Meat Trade (Im)Balance



1 kg import: 2.53€
1 kg export: 1.37€



EU Consumers Expectations

EU has already highest standards in the world in terms of

- Food Safety,
- Animal Welfare,
- Animal Health,
- Environment

The EU Poultry Sector has made HUGE investments to comply with farm to fork principle = not always appropriately recognized



Specific Case of South Africa

- Unjustified protectionist measures
 - Anti-dumping,
 - Safeguard,
 - SPS following AI
- SA implements measures neglecting agreement signed with the EU and International standards **UNACCEPTABLE!!!**
- Clear risk of imposition of safeguard duty on 35%
- No double remedy can be accepted (NL, DE, UK)
- COM needs to "show some teeth" (using the threat of retaliation) for countries not respecting international agreements



EU Consumers Expectations

Consumer expectations are still very high:

- More welfare,
- Slow growing strains,
- Access to outdoor,
- Non GMOs,
- Organic...

The EU poultry sector has adapted by diversifying... BUT conventional production should still be recognized as a production with high food safety, good animal welfare and fine environmental protection providing great value for money!



Brexit... Main Questions

A huge amount of poultry meat is imported into UK from 3rd countries per year both directly and indirectly

- Will EU27 have to 'absorb' 400,000-500,000 t?
- What will it do to the prices?
- Does the production in EU27 has to go down?



a.v.e.c. position:

Allocate the quota on historical data on both direct and indirect trade

Over 500,000 t of poultry meat produced in EU27 per year is imported into UK

- Where to sell it?
- What will it do to the prices?
- Does the production in EU27 has to go down?

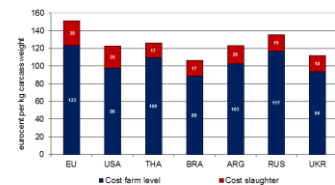


a.v.e.c. position:

Maintain status quo – preserve current trade flows



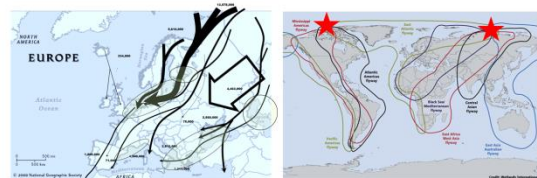
Higher Standards → Impact on Competitiveness on World Market



Home, P.L.M. van, 2017. Competitiveness of the EU poultry meat sector. Asser year 2015. International comparison of production costs. Wageningen, Wageningen Economic Research, Report 2017.005. 38 pp. 14 fig. 11 tab. 10 ref. <https://www.avec.com/ve/en/competitiveness>



Avian Influenza – Migration Flows



How to Remain Competitive?

The EU Commission has to demand that imports from 3rd countries has the identical high standards all along the food chain... What about poultry meat from Brazil Thailand and Ukraine???

The standards have to be promoted and explained at international level. We welcome the work already done...but more needs to be done...

Labelling of origin (EU/non EU + name of 3rd countries) is a minimum... The EU consumer needs to be informed about the origin of their food



<https://publications.europa.eu/en/publication-detail/-/publication/5f5f5f5f-5f5f-5f5f-5f5f-5f5f5f5f5f5f?locale=en>



Main Messages Trade... Imports

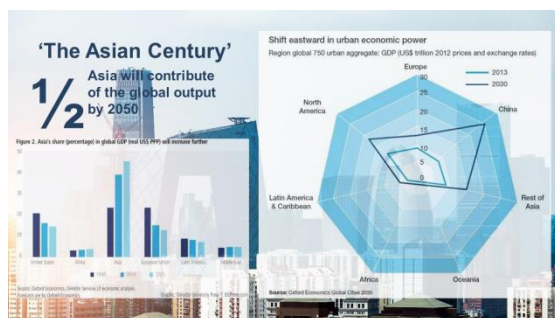
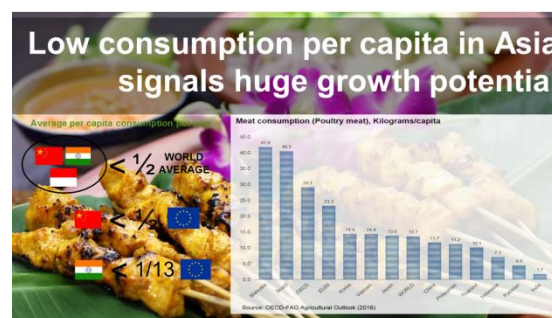
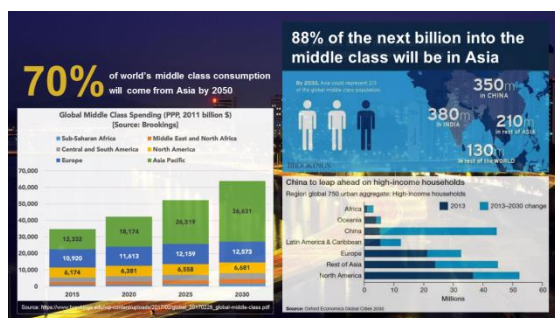
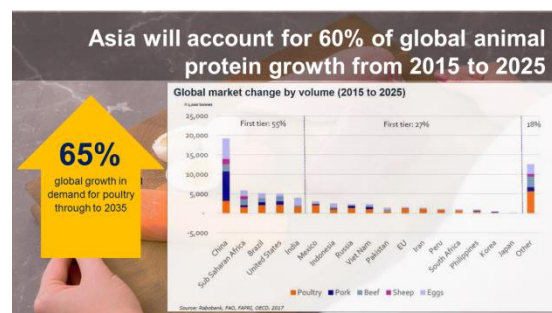
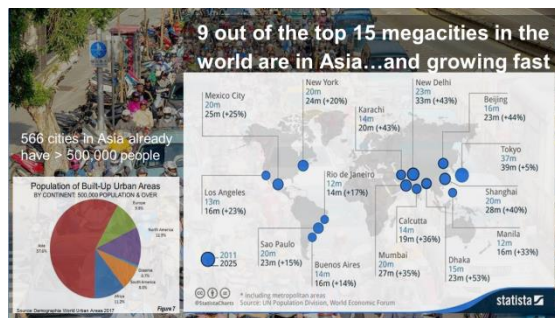
- The imports has to have the identical high standards as European Poultry Meat
- Already VERY open... Imports 2016¹
 - Poultry meat 895,000 t,
 - Beef = 309,000 t,
 - Sheep = 206,000 t,
 - Pork = 15,000 t
- 25% of the breast meat consumed in the EU is coming from 3rd Countries!!!
- Future threats
 - Short term Ukraine,
 - Long term Russia and maybe Canada
- We should accept imports if we have reciprocal access:
 - South Africa,
 - China

Enough is Enough



¹Source: <https://ec.europa.eu/agriculture/ve/agriculture/ris/harmonisation-and-prices/medium-term-outlook/2016/09/16-collaps.pdf>





CONCLUSIONS

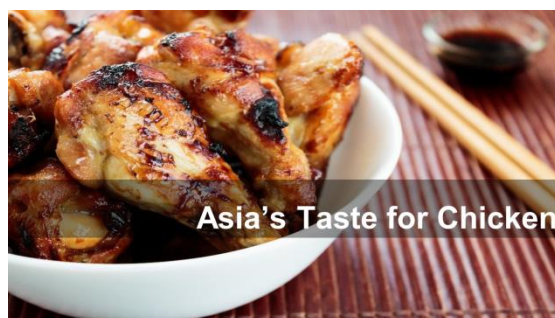
A further increase in the EU poultry production (more dynamic) and consumption (less dynamic) is expected. However, one should bear in mind the following factors that may negatively impact this growth:

At the EU level:

- A market shift – increased production of different-than-conventional poultry meat (diversification), more dynamic in the EU-13, following the expectations of EU consumers,
- The possibility of some consumers completely eliminating meat from their diet (increased vegan/vegetarian trends),
- Introduction of EU law enabling Member States to restrict or prohibit the use of GMOs for animal feed,
- Continued failure to resolve the reintroduction of MBM (BSE) via cross-feeding of non-ruminants.

At the global level:

- Decreased competitiveness of the EU poultry sector on the global market – due to imposing stricter regulations concerning production standards (high food safety, animal welfare, environmental protection, etc.),
- European Commission not assuring that the imports from Third Countries have equally high standards all along the food chain,
- Danger of increasing poultry meat import quotas for Third Countries (Brazil, Thailand, Ukraine),
- Brexit and its impact on the EU poultry market (both offensive and defensive interest),
- Lack of strong EU support for offensive interests of the European poultry sector (South Africa, China),
- The continuing threat coming from the outbreaks of AI – crucial need of Third Countries accepting regionalisation.



Thank you for your attention!

Lukasz Dominiak
General Director KRDI-IG

ldominiak@krdi-ig.com.pl

The presentation has used fragments of the following materials:

- Introduction Speech – Mr Paul Lopez, President of a.i.a.c., Helsinki 22/10/2017
- 'Asia Rising' – Mr Chris Langholz, Group President of Cargill Poultry Group, Helsinki 22/10/2017

Michel Rieu (IFIP)



Future developments and challenges in the EU pork sector

Michel Rieu
Head of department of Economics



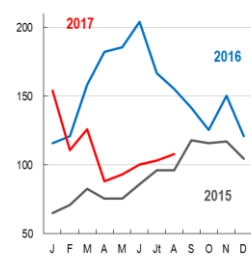
Price situation due to exports, but



Pork exports to third countries ('000 t/y)



To China ('000 t/m)



EU Market Outlook

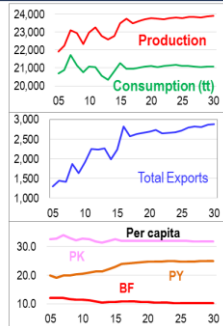
Source : Eurostat

20/10/2017

Two remarks on the EC's Outlook results for pork



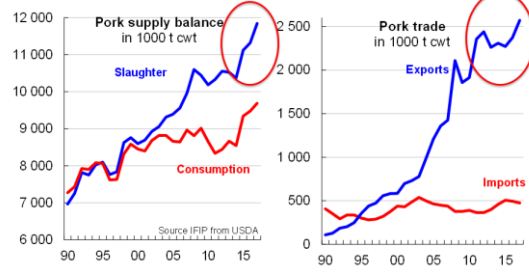
- Outlook seems "flat"... (confirmed by data)
- Obviously, they are trends
- But there are risks that can happen... and break the trends
- Even total meat consumption
- A significant increase of exports to third countries
- That allows a slight increase in production
- A real gamble



EU Market Outlook

20/10/2017

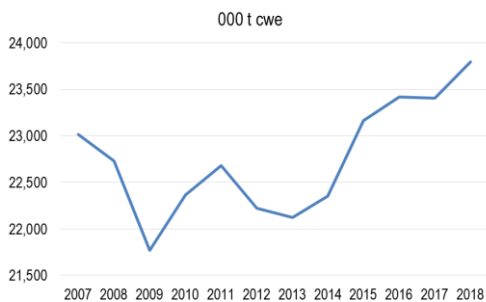
Global competition is growing



EU Market Outlook

20/10/2017

UE production at the highest



EU Market Outlook

20/10/2017

A dangerous sanitary situation

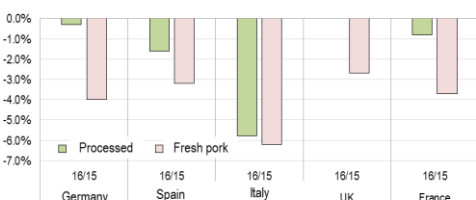


- ASF (African Swine Fever) present
 - Baltic Countries, Poland, The Czech Republic
 - Mostly in small farms and by wild boars
 - From Russia and passing through Ukraine and Belarus
- There is no vaccine against this disease (virus)
- Any outbreak in a large specialized farm and in region will close the door of many export markets
- Strong coordinated action required
 - between Member States and the EU authorities
 - With Russia, Belarus and Ukraine
 - A huge challenge!

EU Market Outlook

20/10/2017

UE Consumption sharply declining



- Attacks on meat products in the papers
- Germany : pillar of meat consumption, pork goes down while beef increases, because of a lower price

EU Market Outlook

20/10/2017

Thank you for your attention



www.ifip.asso.fr

Public demonstration



Source : ifip, d'après Eurostat, USDA et Sincame

EU Market Outlook



20/10/2017

Final remarks



- **Restore confidence**
 - A responsibility for companies, professional bodies and governmental entities
 - Otherwise the demand will continue to fall.
 - Main concerns: humane treatment of animals, harmlessness of products, environmental impacts...
- **But that will increase the costs of production**
 - Endanger the European competitiveness
 - ... unless the competitors follow the same way!
- **Many risks that could break the still development of the European pork sector**

EU Market Outlook

20/10/2017

Session 9: Wine

Marijke van Schagen (DG AGRI)



Foreword

- Not embedded in the model (Aglink Cosimo)
- Projections on supply and demand, based on expertise
- Change in methodology implying changes in estimated apparent consumption

2

Main drivers of EU wine market developments



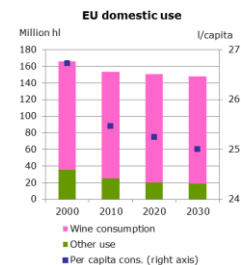
Global and EU demand

- Per capita consumption slightly decreases
- A steady growth in export

3

Small decline in EU domestic use...

- Domestic use will decrease by 0.2% per year.
- Strong decline of 'other uses' of wine (distillation, vinegar, Vermouth...) to continue, but at slower pace
- In the EU, wine consumption per capita declined by 0.5% per year in the last decade.
- Expected slowdown in the decline of per capita wine consumption in the EU to 0.1% per year.



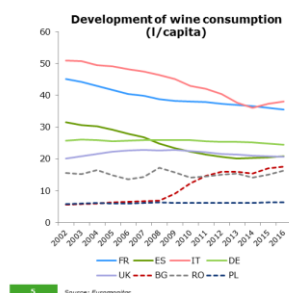
Note: Marketing year
Source: DG Agriculture and Rural Development (draft baseline).

4

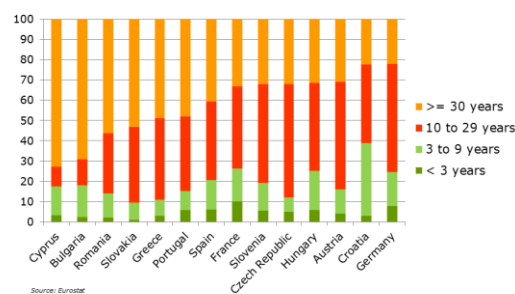


....and diverging trends in MS

- In the EU, wine consumption per capita declined by 0.5% per year in the last decade.
- Expected slowdown in the decline of per capita wine consumption in the EU to 0.1% per year
 - Recently break in trend in certain MS, due mainly to sparkling wine
 - Substitution between beer and wine

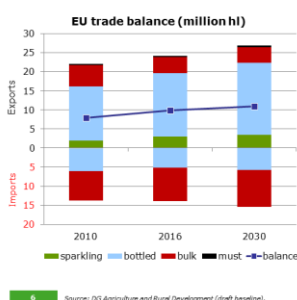


Age of vineyards in EU in 2015



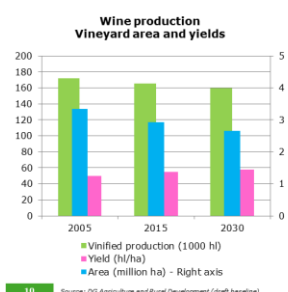
Steady growth in EU exports

- Increasing global demand mainly from US, China
- Strong competition from other wine producing countries: Chile, Australia.
- But sustained growth in EU exports (+1.6%) expected to close to 27 million hl in 2030, driven by:
 - Sparkling wines
 - EU GI's wines
- Small increase in imports



Small decline of EU wine production

- EU wine production expected to continue declining (-0.2% per year)
- In the EU, vineyard area declined by more than 1% per year in the last decade
- Slowdown on area outflow expected to -0.7% per year
 - Abandonment of less productive vineyards
 - Further expansion of GIs area
- Yield to further expand slowly to close to 58 hl/ha



Main drivers of EU wine market developments



Global and EU demand



Supply

- Further outflow of old vine yards
- Partially replanted
- Increase of average yields



Questions



Which future trend for consumption in main consuming countries and EU-N13?
Will EU exports to US and China keep on growing?
Which room for imports on EU market?

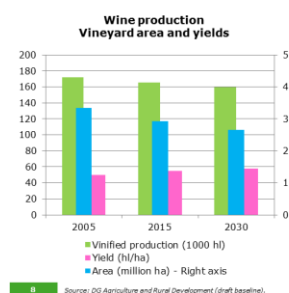


Replacement of old vineyards with new plantings?: to what extent?
How will the average yield develop?

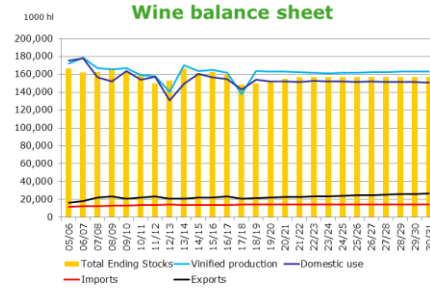


Small decline of EU wine production

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Wine balance sheet



Maria João Real Dias (Instituto da Vinha e do Vinho)

WINE MARKET

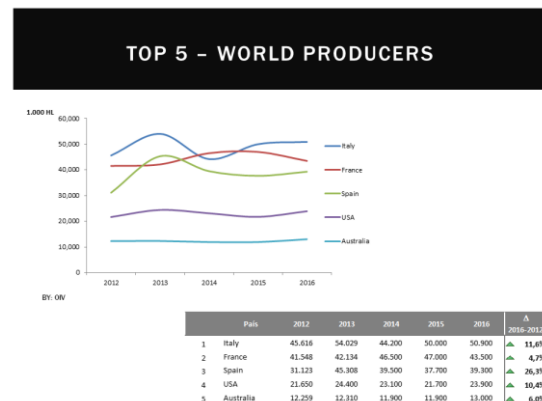
MEDIUM-TERM OUTLOOK FOR THE EU AGRICULTURAL COMMODITY MARKETS

OUTLOOK WORKSHOP, 20 OCTOBER 2017



INSTITUTO
DA VINHA
E DO VINHO

MARIA JOÃO
REAL DIAS

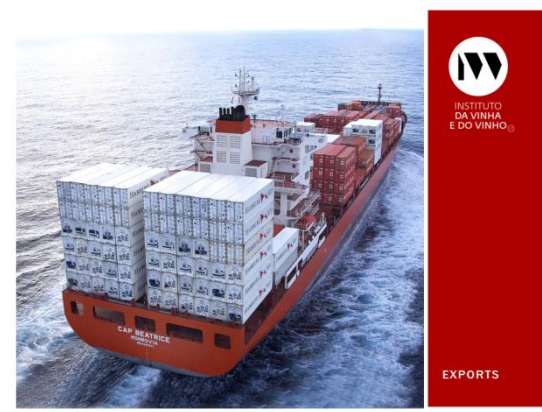
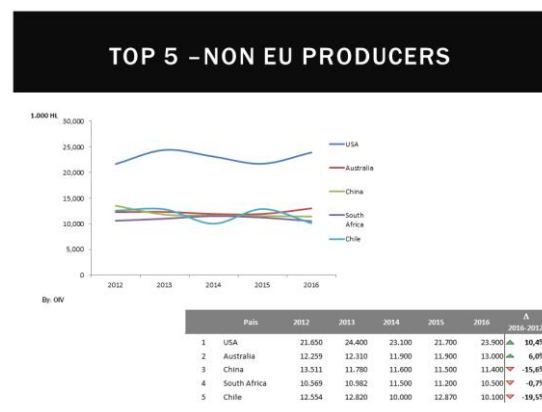
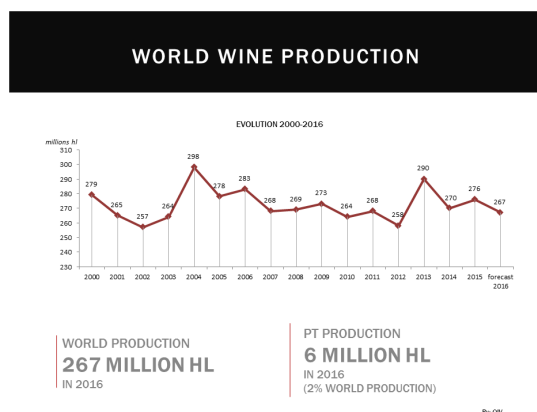
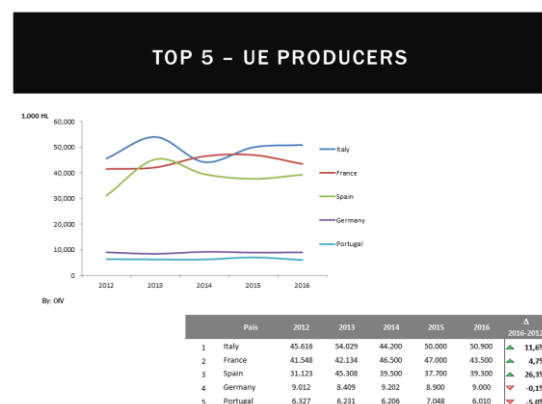




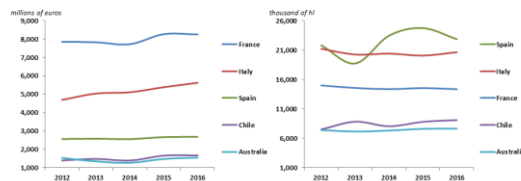


INSTITUTO
DA VINHA
E DO VINHO

WINE
PRODUCTION



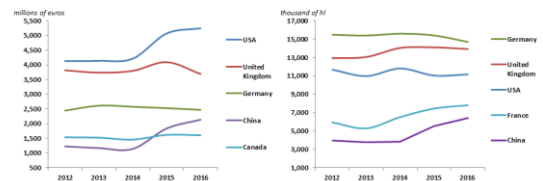
TOP 5 – WORLD EXPORTERS



Pais	2012	2013	2014	2015	2016	Δ 2016-2012
1 France	7.853	7.827	7.720	8.268	8.251	Δ 3,9%
2 Italy	4.693	5.019	5.328	5.364	5.622	Δ 19,8%
3 Spain	2.566	2.582	2.359	2.688	2.682	Δ 4,4%
4 Chile	1.398	1.482	1.366	1.660	1.675	Δ 19,8%
5 Australia	1.535	1.349	1.271	1.481	1.551	Δ 1,8%

Pais	2012	2013	2014	2015	2016	Δ 2016-2012
1 Spain	21.828	18.713	20.403	24.744	22.858	Δ 4,8%
2 Italy	22.227	20.254	20.423	20.078	20.636	Δ 2,8%
3 France	15.002	14.573	14.370	14.944	14.366	Δ 4,8%
4 Chile	7.536	8.838	8.089	8.854	9.110	Δ 21,2%
5 Australia	7.405	7.130	7.325	7.621	7.670	Δ 8,8%

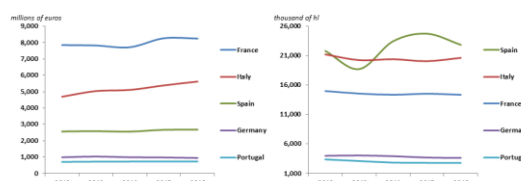
TOP 5 – WORLD IMPORTERS



Pais	2012	2013	2014	2015	2016	Δ 2016-2012
1 USA	4.128	4.136	4.230	5.066	5.240	Δ 27,0%
2 United Kingdom	3.654	3.704	3.706	4.061	4.069	Δ 10,9%
3 Germany	2.646	2.823	2.175	2.127	2.078	Δ 1,9%
4 China	1.229	1.170	1.142	1.837	2.137	Δ 73,8%
5 Canada	1.536	1.525	1.458	1.619	1.604	Δ 4,4%

Pais	2012	2013	2014	2015	2016	Δ 2016-2012
1 Germany	15.476	15.380	15.066	15.387	14.036	Δ -9,3%
2 United Kingdom	12.925	13.050	14.033	14.087	13.924	Δ 7,3%
3 USA	11.676	10.971	11.807	11.087	11.157	Δ 4,4%
4 France	5.598	5.286	6.506	7.444	7.802	Δ 39,4%
5 China	3.940	3.767	3.861	5.501	6.380	Δ 62,9%

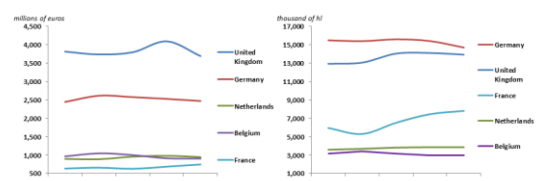
TOP 5 – UE EXPORTERS



Pais	2012	2013	2014	2015	2016	Δ 2016-2012
1 France	7.853	7.827	7.720	8.268	8.251	Δ 5,1%
2 Italy	4.693	5.019	5.328	5.364	5.622	Δ 19,8%
3 Spain	2.566	2.582	2.359	2.688	2.682	Δ 4,4%
4 Germany	987	1.031	985	914	942	Δ 4,9%
5 Portugal	703	720	726	754	727	Δ 3,8%

Pais	2012	2013	2014	2015	2016	Δ 2016-2012
1 Spain	21.828	18.713	21.403	24.744	22.858	Δ 4,8%
2 Italy	22.227	20.254	20.423	20.078	20.680	Δ 2,8%
3 France	15.002	14.573	14.370	14.540	14.366	Δ 4,9%
4 Germany	3.989	4.053	3.923	3.693	3.629	Δ -0,8%
5 Portugal	3.374	3.320	2.836	2.756	2.773	Δ -17,8%

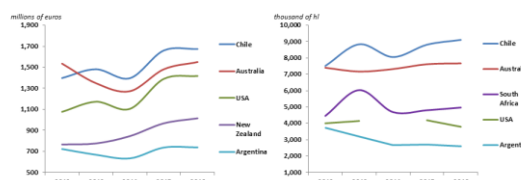
TOP 5 – EU IMPORTERS



Pais	2012	2013	2014	2015	2016	Δ 2016-2012
1 United Kingdom	3.654	3.704	3.706	4.061	4.069	Δ 10,9%
2 Germany	2.646	2.823	2.175	2.127	2.078	Δ 1,9%
3 Netherlands	994	985	916	960	942	Δ 6,4%
4 Belgium	964	1.045	999	911	903	Δ 6,4%
5 France	632	636	626	684	744	Δ 17,7%

Pais	2012	2013	2014	2015	2016	Δ 2016-2012
1 Germany	15.476	15.380	15.066	15.387	14.036	Δ -9,3%
2 United Kingdom	12.925	13.050	14.033	14.087	13.924	Δ 7,3%
3 France	5.598	5.286	6.506	7.444	7.802	Δ 39,4%
4 Netherlands	3.579	3.676	3.805	3.800	3.840	Δ 7,9%
5 Belgium	3.133	3.397	3.162	2.981	2.950	Δ -9,8%

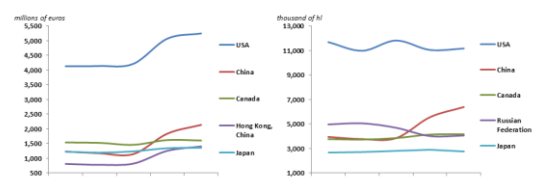
TOP 5 – NON EU EXPORTERS



Pais	2012	2013	2014	2015	2016	Δ 2016-2012
1 Chile	1.298	1.482	1.366	1.660	1.675	Δ 28,9%
2 Australia	1.535	1.349	1.271	1.481	1.551	Δ 1,8%
3 USA	1.077	1.173	1.325	1.390	1.438	Δ 33,7%
4 New Zealand	766	776	845	907	1.023	Δ 32,9%
5 Argentina	723	668	633	757	738	Δ 2,1%

Pais	2012	2013	2014	2015	2016	Δ 2016-2012
1 Chile	7.536	8.838	8.089	8.854	9.110	Δ 21,2%
2 Australia	7.405	7.130	7.325	7.621	7.670	Δ 8,8%
3 South Africa	4.626	6.034	4.989	4.902	4.998	Δ 11,9%
4 USA	4.006	4.148	4.352	3.792	3.792	Δ 5,4%
5 Argentina	3.721	3.212	2.664	2.702	2.588	Δ -30,4%

TOP 5 – NON EU IMPORTERS

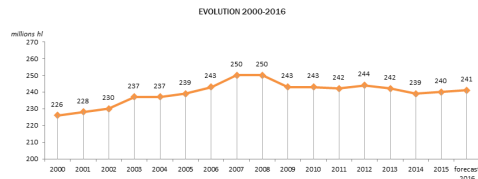


Pais	2012	2013	2014	2015	2016	Δ 2016-2012
1 USA	4.128	4.136	4.230	5.066	5.240	Δ 27,0%
2 China	1.229	1.170	1.142	1.837	2.137	Δ 73,8%
3 Canada	1.536	1.525	1.458	1.619	1.604	Δ 4,4%
4 Hong Kong	838	719	820	1.253	1.403	Δ 66,8%
5 Japan	1.238	1.181	1.210	1.342	1.303	Δ 10,7%

Pais	2012	2013	2014	2015	2016	Δ 2016-2012
1 USA	11.676	10.971	11.807	11.087	11.157	Δ 4,4%
2 China	3.940	3.767	3.861	5.501	6.380	Δ 62,9%
3 Canada	3.796	3.777	3.849	4.124	4.127	Δ 8,8%
4 Russian Federation	4.962	5.050	4.860	4.028	4.027	Δ -18,2%
5 Japan	2.680	2.730	2.794	2.861	2.780	Δ 4,8%



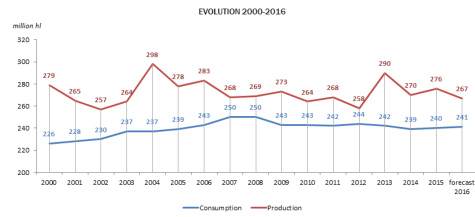
WINE WORLD CONSUMPTION



WORLD CONSUMPTION
241 MILLION HL
IN 2016

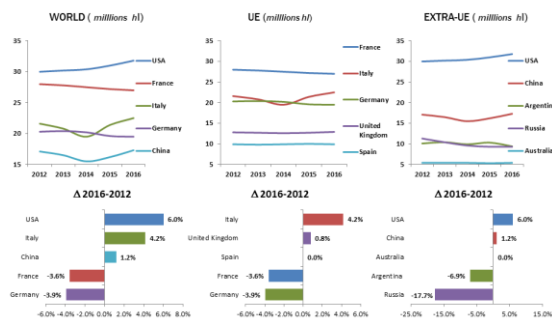
Fuente: OIV

WINE WORLD PRODUCTION AND CONSUMPTION



Fuente: OIV

TOP 5 CONSUMERS



(ITALY + FRANCE + SPAIN) / WORLD



INSTITUTO
DA VINHA
E DO VINHO

CONCLUSIONS

THANK YOU VERY MUCH



INSTITUTO
DA VINHA
E DO VINHO

Stefano Baldi (Nomisma)

Bruxelles, October 19-20, 2017

MEDIUM-TERM OUTLOOK FOR THE EU AGRICULTURAL COMMODITY MARKETS Session 9 - WINE

STEFANO BALDI

Project Manager Wine Monitor

Nomisma, Agriculture and Food Industry Unit

www.winemonitor.it

EU MEDIUM TERM OUTLOOK Comments

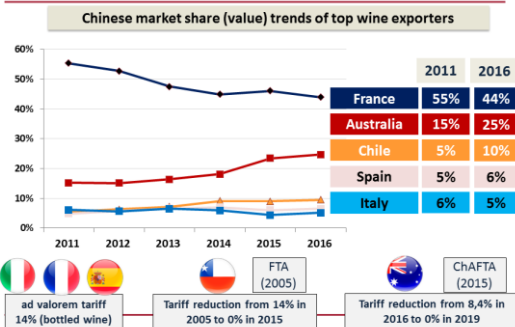
	2017/18	2018/19	2020/21	2005-2016	2018-2020
Vinified production	138.133	162.500	159.405	-0,5%	-0,2%
of which 5 main producer MS	122.253	147.675	146.270	-0,3%	-0,1%
other EU MS	15.880	14.825	13.135	-2,2%	-1,0%
Domestic use	143.200	151.696	148.229	-0,7%	-0,2%
Direct consumption	125.200	129.696	129.175	-0,3%	0,0%
per capita	24,50	25,30	25,00	-0,5%	-0,1%
Other uses	18.000	22.000	19.053	-2,7%	-1,2%
Imports	14.500	14.070	15.500	1,1%	0,8%
Exports	20.996	21.791	26.677	1,6%	1,7%
Total Ending Stocks	149.035	152.118	161.055	-0,1%	0,5%

- Forecasts are consistent with the main supply/demand trend expectations
- 2017: domestic use should not be affected by the crop shortfall. Stocks and exports will likely decrease
- 2030: will the new MS (i.e. Romania, Bulgaria, Slovenia, Hungary) increase their production? Will China invest in the industry? Will the EU increase imports from extra-EU countries?
- Italian area (and output) expected to level off - North ++ / South --

www.winemonitor.it

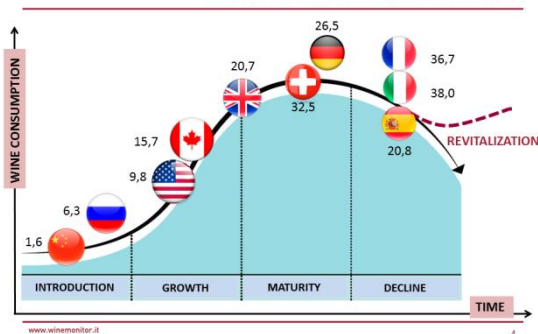
2

Free trade agreements effects on global wine trade



www.winemonitor.it

WINE LIFE CYCLE in some international markets



www.winemonitor.it

4

WINE CONSUMPTION PATTERNS in leading markets



- Market downturn
- Daily wine consumers decrease: wine became from daily beverage to occasional
- Premiumisation of sales: drink less but better
- Changing habits towards lower alcoholic drinks

- Wine became very popular replacing beer
- It is increasingly common to drink wine at meals
- Consumers are more knowledgeable and educated about wine
- Growing role of Millennials (mainly in US): they will drive the growth of wine sector in upcoming years



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5

Future trends in wine consumption patterns

What do you expect to be the forthcoming wine consumption trends in your country?		Top3 answers of wine users	
Envirnmt-sustainable packaging	23%	Natural wines (environmentally sustainable wines, less pesticides..)	21%
Natural wines (environmentally sustainable wines, less pesticides..)	23%	Local varietals	16%
Organic	13%	Screw cap	11%
Local varietals	35%	Natural wines (envirnmt-sustainable wines, less pesticides..)	25%
Organic	19%	Local varietals	14%
Smaller bottles (0,375)	13%	Organic	12%

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6

Source: Wine Monitor Nomisma consumer survey

Future trends in wine consumption patterns: not only organic...

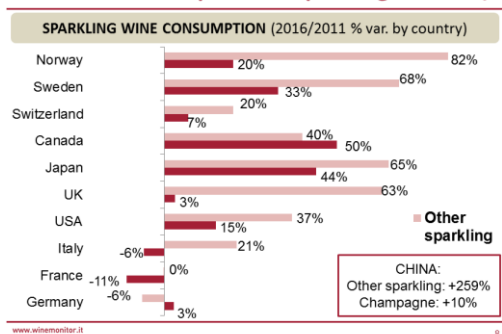


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7

Source: Wine Monitor Nomisma consumer survey

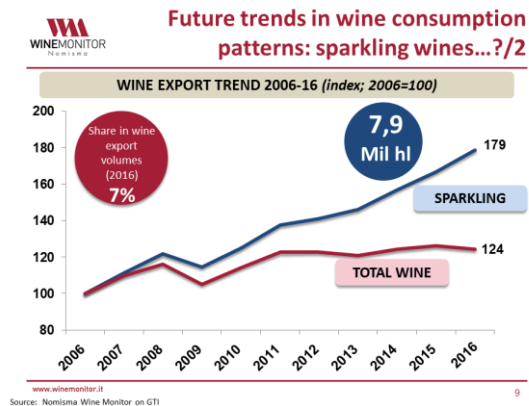
Future trends in wine consumption patterns: sparkling wines...?/1



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8

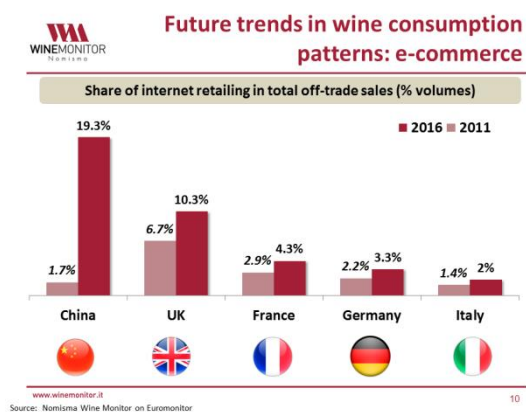
Source: Nomisma Wine Monitor an Euromonitor



THANK YOU FOR YOUR ATTENTION!

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 NOMISMA spa
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WINEMONITOR
NOMISMA



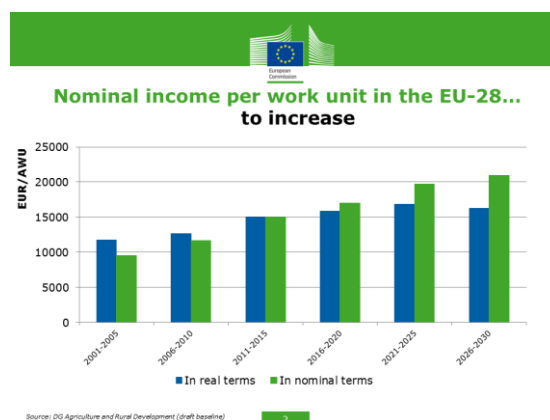
Session 10: Income, Costs and Value Added

Barthelemy Lanos (DG AGRI)

The 2017 EU Agricultural Outlook Workshop

Income prospects

Brussels, 19-20 October





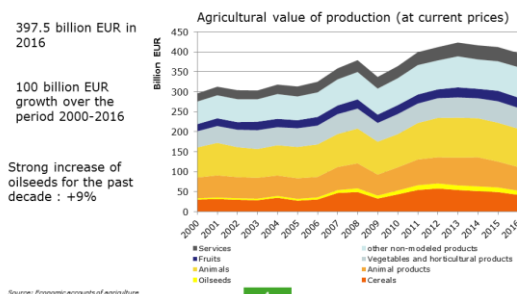
Farm income drivers



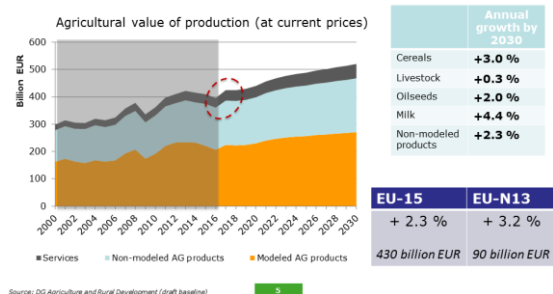
Value of production



Slight declining value of production in the EU-28...



...to increase in the outlook period



Farm income drivers



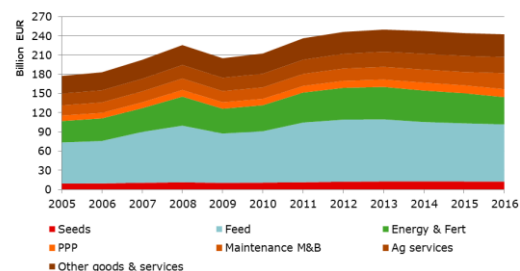
Value of production



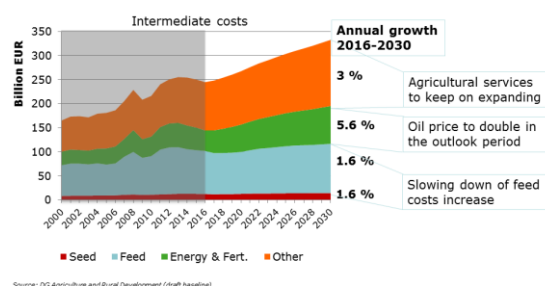
Intermediate costs



Relatively stable intermediate costs...



...are expected to rise by 2030



Farm income drivers



Value of production



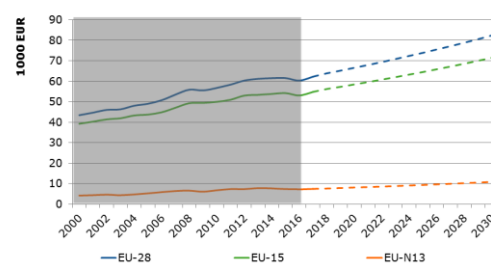
Intermediate costs



Depreciation



Depreciation expected to rise by 2030





Farm income drivers



Value of production



Intermediate costs



Depreciation



Workforce

11

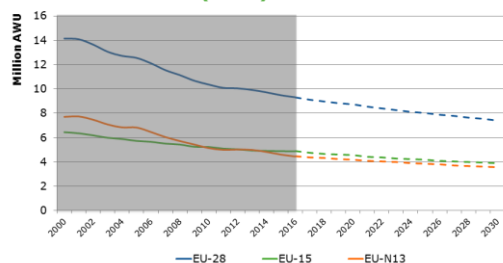


Thank you for your attention

15



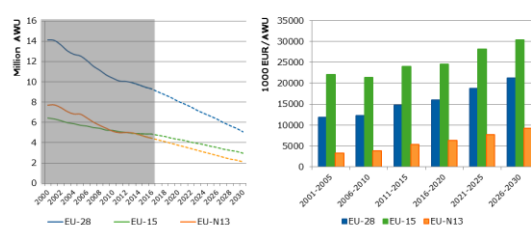
Continued decrease in agricultural workforce (AWU) assumed



12



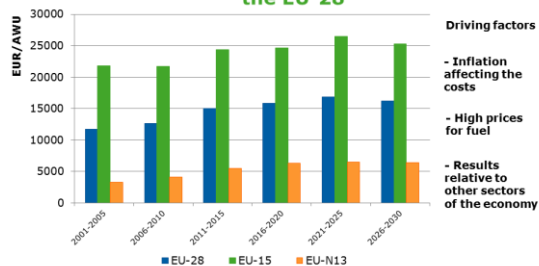
Another workforce assumption... for discussion



16



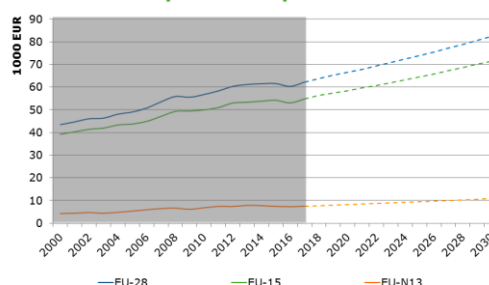
Relatively stable real income per work unit in the EU-28



13



Assumption on depreciation...



17



Questions for you



- Slow down of the outflow vs. we come back to the trend before the economic crisis ?
- In a large outflow assumption, what would this mean for other economic sectors in rural areas ?

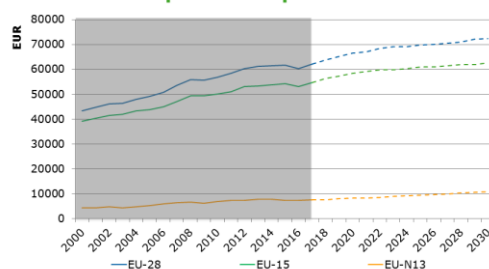


The assumption is a linear link between agricultural investments and inflation; Would you expect diverging trends ?

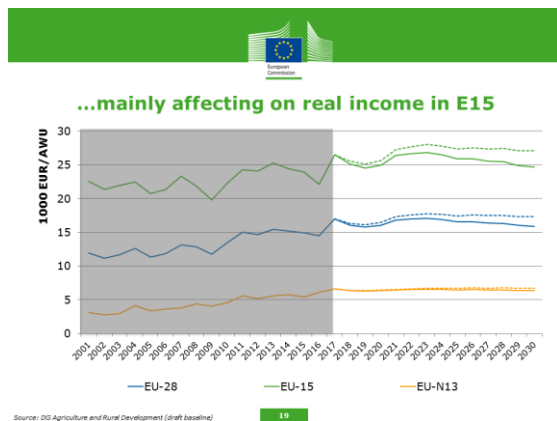
14



Assumption on depreciation...



18



Claus Deblitz (Agribenchmark)

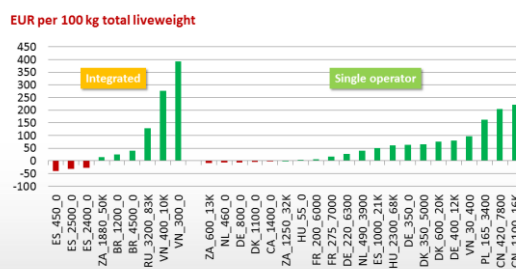


Profitability of pig and beef production

Claus Deblitz and network members
agri benchmark Beef and Sheep Network, agri benchmark Pig Network



Mid-term profitability of the sow enterprise 2016 (Total returns – cash costs – depreciation)

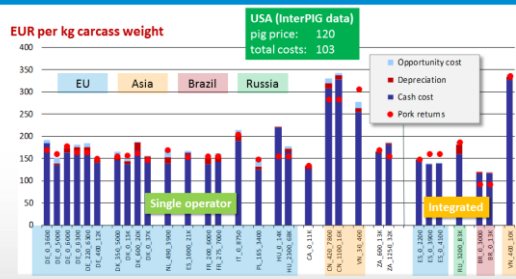


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20.10.2017

Claus Deblitz and network members
Profitability of pig and beef production



Total cost and returns of the pig finishing enterprise 2016



Page 5
20.10.2017

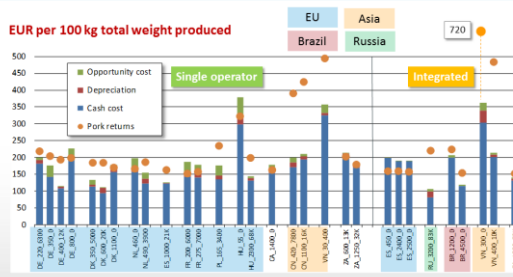
Claus Deblitz and network members
Profitability of pig and beef production



Pig results



Total cost and returns of the sow enterprise 2016

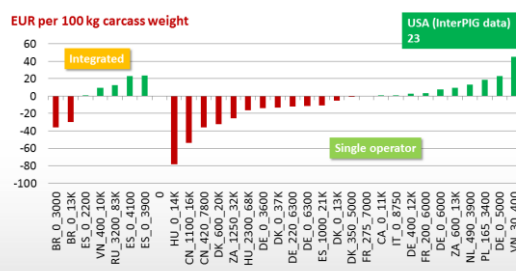


Page 3
20.10.2017

Claus Deblitz and network members
Profitability of pig and beef production



Mid-term profitability of the finishing enterprise 2016 (Total returns – cash costs – depreciation)



Page 6
20.10.2017

Claus Deblitz and network members
Profitability of pig and beef production



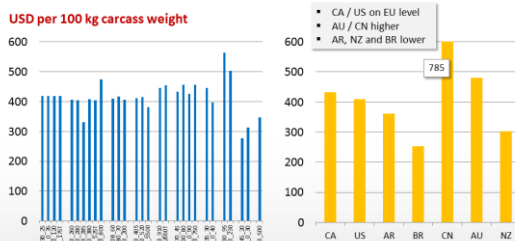
Beef results



Brussels
20.10.2017

agri benchmark
Beef and Sheep Conference 2017

Beef price levels for selected countries 2016 EU-farms vs. rest of the world

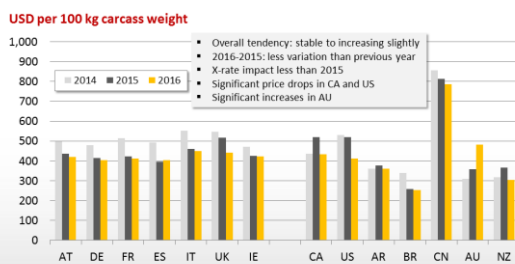


Page 8
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Claus Deblitz and network members
Profitability of pig and beef production

agri benchmark THÜNEN

Beef price levels for selected countries 2014 – 2016 averages of agri benchmark farms

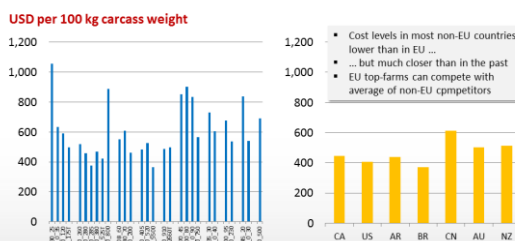


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Claus Deblitz and network members
Profitability of pig and beef production

agri benchmark THÜNEN

Total cost levels 2016 EU-farms vs. rest of the world

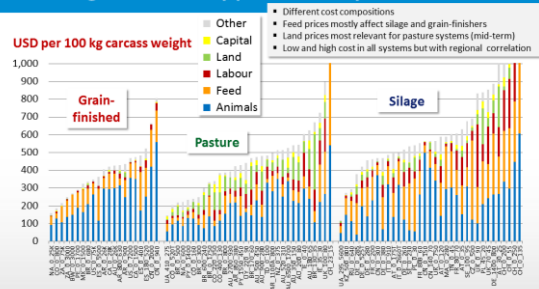


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20.10.2017

Claus Deblitz and network members
Profitability of pig and beef production

agri benchmark THÜNEN

Finishing: Total cost by production system 2016

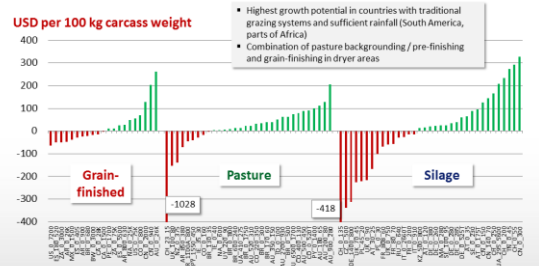


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Claus Deblitz and network members
Profitability of pig and beef production

agri benchmark THÜNEN

Finishing: Mid-term profitability 2016 by production system (total returns – cash costs – depreciation)

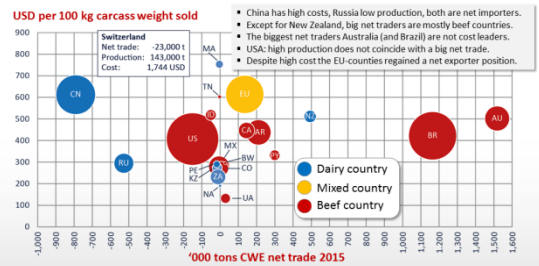


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Claus Deblitz and network members
Profitability of pig and beef production

agri benchmark THÜNEN

Production, net trade, cost of production and type of country 2015/16

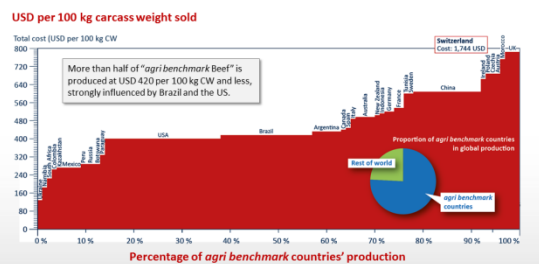


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20.10.2017

Claus Deblitz and network members
Profitability of pig and beef production

agri benchmark THÜNEN

The agri benchmark beef supply curve 2016



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20.10.2017

Claus Deblitz and network members
Profitability of pig and beef production

agri benchmark THÜNEN

Conclusions

- Pigs: sow results good and finishing less good (piglet pices), closed systems positive
- Beef: together with other OECD countries (CA, US, AU), EU remains a high cost producer but the distance to South America is much less than in the past
- Highest potential for beef is seen outside Europe, mainly in pasture systems in South America, or combination of pasture with grain-finishing
- China's potential will probably rather harvested in pig and poultry than in beef
- Russia is similar but has already started to produce beef for export and has respective expansion plans
- **agri benchmark's contribution to the Outlook could be**
 - Provision of farm-level results and expertise from our annual analysis
 - Application of the Outlook-Projections to calculate the development of costs, returns and profitability for *agri benchmark* typical farms

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20.10.2017 Claus Deblitz and network members
Profitability of pig and beef production



agri benchmark – passionate about facts



Claus Deblitz

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Internet: www.agribenchmark.org
www.thuenen.de/en/bw

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Profitability of pig and beef production



Harry Smit (Rabobank)



Agricultural Production Trends in Europe and Impact on Demand for Fertilisers

View from RaboResearch Food & Agribusiness

Harry Smit, 19 October 2017



Currency volatility expected to come down



Source: Bloomberg, Rabobank 2017

3

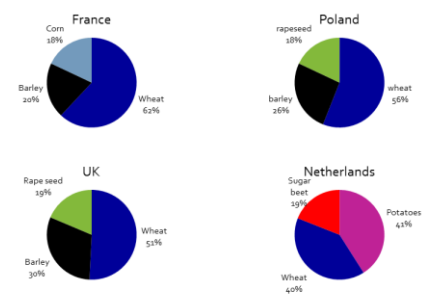
Agri commodity markets in their downcycle



Source: Bloomberg, Rabobank Agri Commodity Monthly, 2017

3

Farmer Crop Plans Vary Worldwide



Source: Rabobank Field Crop Margin Outlook, 2017

Jared Greenville (OECD)



Global trade in value added in agro-food

Jared Greenville
Trade and Agriculture Directorate, OECD

Medium-term outlook for the EU agricultural
commodity markets workshop
19-20 October 2017



What is trade in value added?

Represents the value created domestically that is traded

- Returns to factors of production domestically sourced by any given industry

Represents the domestic returns from trade

- What actually accrues to local producers

Trade and Agriculture Directorate | Organisation for Economic Co-operation and Development (OECD) | www.oecd.org/trade | trade.agriculture@oecd.org



Trade in agro-food products is more "global"

Sectors producing food source their inputs internationally

- Backward participation in value chains
= "buying from GVCs"

Food products also get used producing other food products

- Forward participation in value chains
= "selling into GVCs"

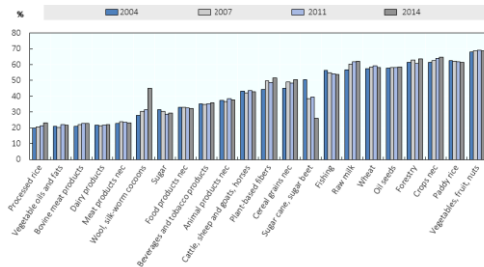
Interconnections mean policies have wider impacts on markets

- Trade tariffs and NTMs = "cumulative effect"

Trade and Agriculture Directorate | Organisation for Economic Co-operation and Development (OECD) | www.oecd.org/trade | trade.agriculture@oecd.org



Value added content of direct exports by sector, world averages



Trade and Agriculture Directorate | Organisation for Economic Co-operation and Development (OECD) | www.oecd.org/trade | trade.agriculture@oecd.org



Global Value Chains (GVCs) – what are they?

Value chains: a production process for a final good

- Full range of activities from concept to final good
- Represent all the links between industries

GVCs focus on international linkages (trade)

- They map the flow of value added – represents the domestic value or activity that goes into the trade
- Maps the links between economic activities in different places

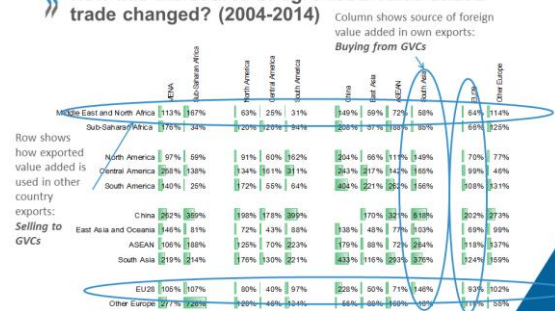
GVCs are of rising importance globally

- Products not produced where they are consumed and increasingly in 'parts'

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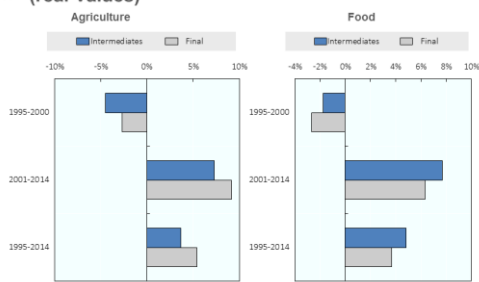
How has the source of agro-food value added trade changed? (2004-2014)



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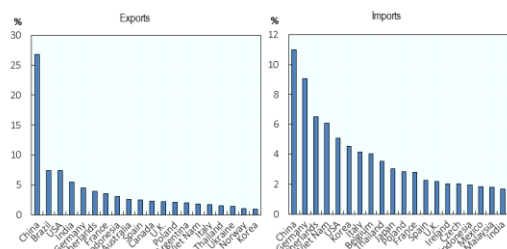
Global trade shows strong growth in intermediates (real values)



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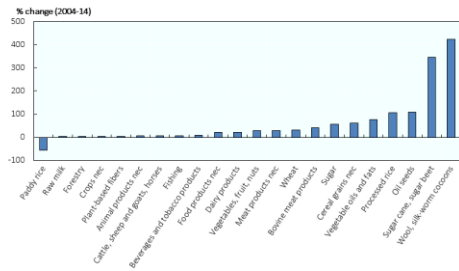


Which countries have been most important in this growth? (2004-2014)



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Which sectors have experienced value added export growth? (real)



Contact us

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Key messages

- **Strong growth in trade in value added over past 10 years**
 - But linkages are not even
 - China play a large role in trade in value added in agro-food – critical to agro-food GVCs
- **A number of countries with strong agro-food value added growth are not the same as those with strong gross trade growth**
 - Much greater in developed regions
- **Going forward, further development of GVCs (and trade in value added) likely more influenced by policy**
 - Crossing borders and compounding effects
 - Negative influences of distorting domestic support
 - More reliant on other sectors (services in particular) for growth

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Session 11: International Challenges

No presentations

Annex 4. Previous workshop proceedings

Proceedings of previous workshops are available from the JRC Science Hub website (<https://ec.europa.eu/jrc/en>):

Bartova, L., M'barek, R. (eds) (2008). Commodity Modelling in an Enlarged Europe. November 2006 Workshop Proceedings. AGMEMOD Report V. JRC Scientific and Technical Reports, European Commission, EUR 22940 EN/5. <http://ftp.jrc.es/EURdoc/JRC42096.pdf>

Bartova, L., Gay, S.H., M'barek, R. (eds) (2008). Commodity Market Development in Europe - Outlook. November 2007 Workshop Proceedings. JRC Technical Notes, European Commission, EUR 23377EN. <http://ftp.jrc.es/EURdoc/JRC44305.pdf>

Fellmann, T., M'barek, R., Gay, S.H. (2009). Commodity Market Development in Europe - Outlook. November 2008 Workshop Proceedings. JRC Technical Notes, European Commission, JRC 51276. <http://dx.doi.org/10.2791/47044>

Fellmann, T., Van Doorslaer, B., M'barek, R., Gay, S.H. (2010). Commodity Market Development in Europe - Outlook. November 2009 Workshop Proceedings. JRC Technical Notes, European Commission, JRC 60425. <http://dx.doi.org/10.2791/60616>

Fellmann, T., M'barek, R., Gay, S.H. (2011). Commodity Market Development in Europe - Outlook. October 2010 Workshop Proceedings. JRC Scientific and Technical Reports, European Commission, JRC 65170. <http://dx.doi.org/10.2791/70290>

Fellmann, T., Hélaine, S. (2011). Commodity Market Development in Europe - Outlook. October 2011 Workshop Proceedings. JRC Scientific and Technical Reports, European Commission, JRC 67918. <http://dx.doi.org/10.2791/38411>

Fellmann, T., Hélaine, S. (2012). Commodity Market Development in Europe - Outlook. October 2012 Workshop Proceedings. JRC Scientific and Policy Reports, European Commission, JRC 76028. <http://dx.doi.org/10.2791/38411>

Fellmann, T., Santini, F. (2014). Commodity Market Development in Europe - Outlook. October 2013 Workshop Proceedings. JRC Scientific and Policy Reports, European Commission, JRC 85607. <http://dx.doi.org/10.2791/78384>

Şuta, C-M., Araujo Enciso, S.R., Pérez Domínguez, I., Fellmann, T., Santini, F. (2014). Commodity Market Development in Europe - Outlook Workshop 2014. Proceedings. JRC Scientific and Policy Reports, European Commission, JRC 92558. <http://dx.doi.org/10.2791/669705>

Ronzon, T., Santini, F., Araujo Enciso, S.R., Fellmann, T., Pérez Domínguez, I. (2015). Medium-term outlook for the EU agricultural commodity market - Proceedings of the October 2015 workshop. JRC Scientific and Policy Reports, European Commission, JRC 98329. <http://dx.doi.org/10.2791/478085>

Chatzopoulos, T., Fellmann, T., Jensen, H. (2016): EU commodity market development: Medium-term agricultural outlook. Proceedings of the October 2016 workshop. JRC Conference and Workshop Reports, European Commission, JRC104101, <http://dx.doi.org/10.2791/157002>

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