



Climate change and resource availability challenges for EU agriculture



EXECUTIVE SUMMARY

Agriculture and Reral Development

December 2016

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This report presents the medium-term outlook for the major EU agricultural commodity markets and agricultural income up until 2026, based on a set of macroeconomic assumptions.

In a general environment of lower energy and commodity prices, EU cereals prices are expected to range between 160 EUR/t and 170 EUR/t on average. Steadily growing world demand and affordable feed prices should favour the livestock sector. Therefore, despite the difficulties currently faced in the milk market, there could be opportunities for the EU dairy sector to expand, including in response to increasing demand within the EU. After a strong recovery in 2014 and 2015, EU meat consumption per capita is expected to decline slightly, except for poultry whose market share could marginally increase. A small increase in pigmeat production will be driven by export demand, while beef production is expected to moderately decrease. Finally, recent trends of stagnant consumption and growing value for specialised crops are expected to continue.

Arable crops

In the cereal outlook, a further concentration towards the main commodity crops like common wheat, maize and barley is expected, at the expense of other cereals. EU cereal demand could increase by 6 % by 2026, mainly due to dynamic feed use, mainly maize. Export prospects remain positive for common wheat and, to a lesser extent, barley. The stock-to-use ratio is expected to stabilise at fairly low levels, while cereal prices, above their long-term average, are expected to remain lower than their recent peaks, between 160 EUR/t and 170 EUR/t by 2026.

For oilseeds, the gradual shift from rapeseeds towards soybeans is becoming more apparent, with the area devoted to the cultivation of rapeseed decreasing and soybean imports increasing. This trend, which marks a reversal from the last decade, is expected to continue over the outlook period, as feed use will become the predominant driver in the oilseed complex, given the stagnation in biofuels demand due to policy uncertainty.

Driven by a favourable policy environment, protein crops recently experienced a strong revival. Over the outlook period, downwards pressure on feed prices could lead to a halt in the growth of protein crop cultivation area, but some yield improvements will lead to a moderate increase in protein crop production.

With more, poultry meat, dairy production and pigmeat expected over the outlook period, total compound feed use could rise further by 2.9 % to reach 270 million t, up from around 263 million t today. Feed compound prices should remain below the high levels of recent years, thus contributing to an increase in animal production. The intensification of livestock production in the Member States that joined after 2004 could trigger a shift towards more protein-rich feed.

Down from a global oversupply, the sugar market entered a period in which consumption exceeds production, thus leading to strong price increases in the world market prices. In this new global market environment, the expiry of sugar and isoglucose quotas in 2017 could have a significant impact on the EU sweetener market. Despite lower domestic prices, EU production is expected to initially increase significantly, with the EU sugar output expected to be 6% above the current production level by 2026. The increase will be concentrated in the most costeffective regions, driven by a sustained sugar beet vield increase. In the domestic market, EU sugar will have to compete with isoglucose, which is expected to become an important sweetener in regions with a deficit in sugar production. By the end of the outlook period, the EU should be a net exporter of white sugar to nearby markets.

The increase in EU biofuel demand and production is expected to pick up again towards 2020 to reach a 6.5% proportion of biofuels in total transport energy by 2020 (as calculated under the Renewable Energy Directive - RED). However, most of this increase will come from non-agricultural feedstock and imports rather than domestic feedstock, with the exception of maize used to produce ethanol. However, developments beyond 2020 are hard to anticipate as they will take place in a new, yet undecided policy environment. In this outlook, the biggest driver post-2020 is the strong reduction in overall petrol and diesel use following new energy efficiency legislation.

Milk and dairy products

World dairy markets have been in turmoil during the last two years, as the introduction of the Russian import ban and the sharp decrease in Chinese purchases coincided with unprecedented increases in world production. During the next decade, global and EU production growth is expected to be more moderate, driven by a sustained increase in world demand, albeit at a slower pace than in the past decade. Further short-term disequilibria between global supply and demand cannot be excluded and could contribute to price volatility, as observed in the EU since 2007.

After more than 30 years in a production quota environment, market fundamentals will the main drivers of EU supply developments. This required, and still requires, an adjustment from farmers and other market operators. Environmental constraints will also play a major role in the future, limiting production development in certain areas of Europe (and elsewhere). Therefore, the rise in EU milk production in the next decade is expected to be moderate (+1.3 million t of milk per year on average) and lower than in recent years.

Still, the EU is expected to become the world's top exporter of dairy products by 2026, just ahead of New Zealand. However, despite the expected strong increase in exports, by 2026 more than 85 % of EU milk and dairy products will be consumed within the

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EU. The decrease in fresh milk consumption is expected to continue, but the use of cheese and butter by households and for processing is expected to increase further, which, together with expected population growth, would support consumption.

Meat

World population and income growth are expected to support higher global meat demand and contribute to higher EU meat exports. World meat consumption is expected to increase by 13.5%, or 42.6 million tonnes, between 2016 and 2026. This is less than in the previous decade, but still almost equivalent to a year's total meat production in the EU.

Thanks to the economic recovery and slightly lower prices, overall meat consumption *per capita* in the EU recovered by an unexpected 1.9 kg in 2015. The increase is expected to continue at a slower pace in 2016, to reach 68.4 kg/ca (retail weight). By the end of the outlook period, *per capita* consumption is expected to remain stable, with poultry taking small proportions of market share from other meats. Still, 90 % of total EU meat production will go to EU consumers.

EU beef production continues to be driven mainly by dairy herd developments. After the increase in 2015 and 2016, it is expected to return to its long-term decreasing trend, albeit at a slower rate than in the past, and to reach 7.5 million tonnes by 2026. After decreases over several years, the production of sheep and goat meat is expected to stabilise at current levels thanks to improved profitability and demand that remains steady despite higher prices.

Following a strong recovery in 2014 and 2015, pigmeat production is now expected to expand only marginally (by less than 1.3 % by 2026 compared to its 2016 high levels). In the context of only limited increase in domestic consumption, pigmeat exports are expected to grow steadily, supported by sustained world demand and low feed prices. Price competition from the USA and Brazil is expected to be strong, however.

EU poultry meat production should expand by around 5% over the outlook period. Driven by promising growth in world import demand, EU exports are expected to reach 1.7 million t by 2026 (+15%). However, prices will be under pressure and will stay below the levels seen in 2011-2015 as a result of increased competition in the world market.

Other sectors

This report includes a first attempt to cover the outlook for the markets of several specialised crops, such as fruit and vegetables (apples and tomatoes), olive oil and wine. These sectors represent a significant proportion of EU agriculture's value added, exports and employment. Each of these sectors has its specificities. However, some common drivers can be identified, among them a relative decline or stagnation of *per capita* consumption at EU level. Each sector adapts to these trends in a different way, but there are two important common elements.

Firstly, trade, both extra-EU and within the EU from producing to non-producing areas, is crucial to these sectors, for which the EU often has an offensive position in trade negotiations. Secondly, consumption may decrease in overall quantities, but it does not decrease in value, as more higher value-added products are supplied and consumed.

Agricultural income

Real agricultural income per annual work unit (AWU) is expected to increase slightly (+2%) over the outlook period due to lower total income in the sector and further structural change, including a continuing reduction of the labour force. Total agricultural income is expected to decline considerably in real terms over the outlook period (-14%), mainly due to fairly low agricultural prices and increasing costs.

Environmental aspects

This report also tries to translate the market outlook into environmental indicators related to emissions (greenhouse gas (GHG) and air pollutants) and nutrient surplus. For emissions, the evolution of livestock sectors is a key element: the majority of GHG emissions in agriculture stem directly or indirectly from animal production. With a projected decrease in total number of livestock in the EU, total emissions are expected to decrease in the next decade, by 1% compared to 2008 for GHG and by 7% for ammonia emissions. The dairy and beef sector for GHG emissions and the pigmeat sector for ammonia are the ones most concerned by such issues. At the regional level, some regions with a high density of livestock (occasionally still increasing) seem to accumulate environmental concerns, and potentially face a change in the specialisation trends that characterised them in the past decade.

Main assumptions

The present outlook assumes a continuation of current agricultural and trade policies, normal agronomic and climatic conditions, and no market disruption. These assumptions imply relatively smooth market developments because they correspond to the average trend agricultural markets are expected to follow if policies remain unchanged; in reality markets tend to be much more volatile.

The medium-term outlook reflects current agricultural and trade policies, including future changes already agreed upon. Account was taken of common agricultural policy (CAP) implementation options, but the level of aggregation of the model does not allow for all details to be modelled. However, preliminary results from the greening review after one year confirm the main assumption that greening has a limited effect on overall production developments, although it leads to significant changes at farm level.

Only free-trade agreements that are already in place or are about to enter into force are taken into account. This means that the recent agreements with Canada, the Southern African Development Community (SADC) and the update of the agreement

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with the Ukraine are included, but not other trade agreements that have been negotiated but not signed. The import ban on agricultural products and foodstuffs formally imposed by Russia until August 2017 is taken into account and assumed to be lifted by the end of 2017.

Macroeconomic assumptions include a continued low oil price level in the short term, albeit with a moderate increase over the outlook period to reach USD 94 per barrel by 2026, a lower level than assumed in previous outlooks. The current situation of competitive euro is likely to continue in the short term. Then, the exchange rate is assumed to appreciate moderately over the medium term and reach USD 1.22/EUR by 2026. Economic growth in the EU is expected to remain lower than previously thought, at around 1.6 % to 1.8 % until 2026. The economic growth path will be more dynamic in the EU-N13, at a growth rate of over 3 % per year. The economic outlook takes into account actual changes in macroeconomic conditions following the UK vote of June 2016, in terms of economic growth rate and exchange rate. However, since little is known so far about when and under which conditions the UK would

leave the EU, a European Union of 28 Member States, i.e. including the UK, is covered throughout the projection period.

Uncertainty analysis and caveats

This outlook for EU agricultural markets and income is based on a specific set of assumptions regarding the future economic, market and policy environment. The baseline assumes normal weather conditions, steady yield trends, and no market disruptions (e.g. from animal disease outbreaks, food safety issues, etc.).

An uncertainty analysis accompanying the baseline quantifies some of the upside and downside risks and provides background on possible variation in the results. In particular, it takes account of the macroeconomic environment yield variability for the main crops, and selected scenarios: a change in the Chinese maize policy, the removal of the first generation biofuel policy in the EU, and the potential impact of climate mitigation policies on EU agriculture.

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