

EU AGRICULTURAL OUTLOOK

2023 - 2035



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While all efforts are made to provide sound market and income projections, uncertainties remain.

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NOTE TO THE READER

This report presents **the medium-term outlook for EU agricultural markets and income** until 2035 and alternative scenarios analysing both climate change and the adoption of certain soil management practices.

It is based on a set of **macroeconomic assumptions** deemed most plausible at the time of the analysis. Short-term inflation and GDP projections are based on the latest European Central Bank forecast in the short term, while in the medium term they are based on S&P Global and the European Commission's September forecast. In addition, also oil prices and the USD/EUR exchange rate. Population figures were adjusted in a short-term outlook based on the European Commission's forecast and follow growth rates as presented in the latest OECD-FAO Outlook. The analyses of agricultural markets rely on: (i) data that were available up to the end of September 2023 for agricultural production and trade; and (ii) an agro-economic model used by the European Commission. Macroeconomic forecasts and crop-yield expectations are by nature uncertain. To reflect this, an **uncertainty analysis** around the baseline was carried out.

The **CAP strategic plans** of EU Member States are taken into account in both a direct, quantitative way (decoupled and coupled payments) and an indirect, qualitative way (other policy measures). For other policy actions and possible targets stemming from them, only those in place by the end of September 2023 are taken into account. In a similar vein, only **free-trade agreements** that had been ratified up to end of September 2023 are considered, which includes the duration of a temporary liberalisation of a trade with Ukraine.

Uncertainty about macroeconomic developments and geopolitical and trade relations in the next 12 years remains high. It is therefore important to highlight that this medium-term outlook presents a baseline for future analytical and scenario work by the Commission, and that this baseline makes it possible to test different developments. This baseline may also provide a reference for assessing the impacts of different legislative proposals on agricultural markets and income. In this baseline, and as the nature of econometric modelling suggests, market developments are assumed to move forward relatively smoothly in the medium term. However, they are likely to be much more volatile each year depending in part on unexpected external shocks. Therefore, this outlook report should not be misinterpreted as a forecast. More precisely, these projections correspond to the average trends that agricultural markets are expected to follow if current policies and the macroeconomic environment remain unchanged over the projected period. To provide a more reliable comparison of trends, the report uses average values over a 3-year period. For arable crops, milk, dairy products and meats this means that when referring to 2023 (2013), the mean values for 2021-2023 (2011-2013) are used. For specialised crops, the Olympic averages for 2018-2022 (2008-2012) are used, except for a shorter period for peaches and nectarines.

An external **review of the baseline and the scenarios** was conducted at a hybrid outlook workshop held on 24 October 2023 by the Directorate-General for Agriculture and Rural Development (DG AGRI), which was organised by Franziska Schweiger, and Lucia Balog. At the workshop, valuable input was collected from various actors in the EU food value chain.

This Commission report is a **joint effort between DG AGRI and the Joint Research Centre (JRC)**, with DG AGRI responsible for the content. In DG AGRI, the report and underlying baseline were prepared by Paolo Bolsi, Vincent Cordonnier, Mariama Djiba, Mihaly Himics, Beate Kloiber, Adam Kowalski, Dangiris Nekrasius, Eris Papagiannopoulos, Andrea Porcella Čapkovičová, Carlo Rega, Jean-Marc Trarieux, Benjamin Van Doorslaer and Mauro Vigani. DG AGRI's outlook groups and market units helped to prepare the baseline.

The JRC team that contributed to this publication included, for the outlook and climate change scenario: Christian Elleby, Beatrice Farkas, Ignacio Pérez Domínguez, Simone Pieralli, and for scenarios on soil management practices: Maria Bielza, Franz Weiss, Jordan Hristov, Peter Witzke, Monika Kesting, Renate Koeble, Ana Luisa Barbosa, and Thomas Fellmann. Marcel Adenauer and Hubertus Gay from the OECD, and Sergio René Araujo Enciso from the FAO also provided valuable technical support and expertise.

The text on apples, peaches, nectarines, and tomatoes for selected Member States was prepared by the AGMEMOD consortium, represented by: Ana Gonzalez-Martinez, Roel Jongeneel, Myrna van Leeuwen, David Verhoog and Tomas Garcia Azcarate (an external expert).

We are grateful to the participants in the October 2023 outlook workshop and to many other colleagues for their feedback in the preparation of the report.

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EXECUTIVE SUMMARY

This Medium-term Outlook report has been drawn up considering the main drivers expected to affect the future of EU agriculture until 2035. These drivers include climate change, consumer demand, and the evolving farming sector structure. The report considers how these drivers are likely to affect the EU agriculture, under the most plausible future macroeconomic environment, and assuming that the current policy framework remains unchanged.

Agricultural productivity growth is challenged by pressures from climate change and impacts on key natural resources like water and soil. This would lower yield growth and could lead to a shift of agroclimatic zones towards North, affecting crop cultivation patterns as well. On the other hand, increasing farm sizes have favoured productivity growth. This trend is likely to contribute although at a slower pace than in the recent years.

According to the projected trends, the EU will continue to be a net exporter, and thereby to contribute to global food security. This will be reinforced by the convergence of productivity levels in Member States that joined the EU after 2004 compared to the others, although a gap is due to persist.

Consumer concerns about impacts of their diets are expected to contribute to lower meat consumption (especially of beef and pigmeat). At the same time, the consumption of dairy products is due to stabilise, in line with changing habits (e.g. lower consumption of drinking milk) and expanding novel uses of dairy products (e.g. increasing use of dairy ingredients). On the other hand, consumption of some plant proteins could grow (e.g. pulses) while others (e.g. vegetable oils) could record some decline as consumers are opting for alternatives.

The projected trends also confirm that the CAP remains crucial in supporting farmers to transit to more sustainable agricultural production systems, to become more resilient and more competitive, and to simultaneously fulfil their functions as food producers and stewards of natural resources and the land. By doing so, farmers contribute to the food security of both the EU and world more broadly. In addition to the CAP, the rule-based trade system and innovation (including digitalisation, automation, animal breeding and plant breeding) are other factors that could successfully help EU farmers to adapt to new market conditions, and cope with evolving societal and consumer demands.

While the policy environment is considered stable in this Outlook, macroeconomic conditions are a source of uncertainty. EU countries also face policy challenges linked to funding public expenditure due to interest rate increases by central banks to contain the inflation surge of 2021 and 2022. In this context, the baseline scenario assumes an average annual global economic growth rate of 2.5% by 2035; for the EU will return to 2%

average annual inflation after 2024; an exchange rate of USD 1.09 to the euro until 2025 and of USD 1.12 towards 2035; Brent oil prices of USD 102 per barrel in 2035; and a slower world population growth of 0.8% per year.

The amount of **EU agricultural and forest land** is forecast to remain unchanged between now and 2035, but there will be relative changes in the share of different types of land. Climate and weather-related challenges lead to more volatile competitiveness of the EU on global markets, and do not incentivise any cultivation of new arable land. Within arable crops, land-use shifts from cereals to soya beans and pulses are expected. This is due to expectations of lower demand for cereals for feed, and policy incentives to support an increase of plant proteins. The amount of agricultural land given over to permanent crops is likely to remain unchanged with new and more efficient plantations replacing older ones. Permanent grassland and fodder areas may decline only marginally due to an expected extensification of animal production. More land is set to be left fallow given stronger regulatory requirements.

Yields of **cereals and oilseeds** are forecast to remain stable despite climate change and constraints on the availability and affordability of some agricultural inputs (e.g. plant protection products), thanks to positive developments applicable within a short time, such as precision farming, more crop rotation and improved soil health. This could also be further supported by technological improvements, impacts of which could be rather seen in a longer term. Cereal production is expected to continue to be driven by wheat and maize. Production of pulses and soya beans will also increase in the EU, supported by EU policies favouring protein crops, crop rotation and increasing needs for plant proteins. This is likely to lead to an overall reduction in imports of oilseeds and protein crops.

The demand for **animal feed** in the EU is forecast to decline over the coming years due to reductions in the EU's production of pigmeat, beef and also a decline in the dairy herd. A drop in crop-based feed is also expected due to a shift towards more grass-based (extensive) production systems, and towards more efficient feed conversion ratios (which are likely to be improved via genetics and better-targeted feeding systems).

Levels of EU **oilseed** crushing are forecast to remain stable, but the use of vegetable oils could decline due to a reduction in demand for biofuels, with an expected further shift away from palm oil, at the benefit of rapeseed oil.

Sugar beet production is due to slowly decline, leading to lower sugar production in the EU. EU sugar consumption is also expected to decline between now and 2035 because of consumers shifting to diets with a lower sugar intake, especially

by reducing the high sugar content of food products. Although the EU will continue to be a net importer of sugar, its reliance on imports is likely decline.

Demand for **biofuels** in the EU is also expected to decrease as the decarbonisation of road transport, the use of crop-based feedstock to produce biofuels is limited by a production utilisation cap set in 2020, and the use of advanced biofuels is expected to grow.

Despite significant challenges, the EU dairy sector showed remarkable performance in recent years. EU milk productivity should continue to increase in the coming years, albeit at a slower pace than in the past, with high quality and sustainability standards generating more added value in the sector. EU and national environmental policies already in place are due to lead to a decrease in the size of the dairy herd, so EU milk production could slightly decline by 2035. Despite this, production of some dairy products is still expected to grow (e.g. cheese, whey, skimmed milk powder) albeit at a slower pace than in the past. Butter production is likely to remain stable. These developments are supported both by positive domestic and global demand. On the contrary, there will be a further decline in the production of drinking milk and whole milk powder. EU per capita consumption of dairy products is forecast to remain stable, but lifestyle changes and the health requirements could increase the demand for fortified, functional dairy products and nutrition (e.g. elderly, sportsmen/women, pregnant women). The product portfolio of EU dairy exports will also need to adapt to changing demand in trading partners, favouring dairy products of greater added value. The EU raw milk prices are expected to be well above pre-2022 levels by 2035.

EU beef consumption remains challenged by high price, consumer health and sustainability concerns. This, combined with low profitability, stricter environmental and climate regulatory framework, is expected to lead to further production decline by 2035. Coupled income support and eco-schemes under the new CAP, together with a relatively good price outlook, will help slowing down this trend but will not reverse it. The average slaughter weight will continue its slightly upward trend thanks to better feed and herd management, and a larger share of beef-type animals in the productive herd. Declining EU production may contribute to keep beef prices at a higher level than in the past. Although EU beef meat exports are due to grow slowly between now and 2035, EU exports of live bovine animals are expected to decline gradually due to increased competition and existing concerns about long-distance transport.

Consumption of **pigmeat** is challenged by sustainability and health concerns as well and is therefore projected to decrease between now and 2035. Intensive pigmeat production systems are likely to face further societal criticism. African Swine Fever is assumed to remain in the EU, with no major or uncontrolled outbreaks forecast. EU pigmeat exports - which increased in the previous decade - are expected to decline between now and 2035 due to a recovery in pigmeat production in Asian countries.

Imports are likely to remain low and stable. Pigmeat prices could stay higher than past levels due to increased costs and reduced EU supply.

Among meats, **poultry** could continue benefitting from a relatively healthier image, absence of religious constraints, and a cheaper price. Together with further export opportunities, this would push poultry production upward between now and 2035, albeit at a lower yearly growth rate than seen in the past decade. Due to environmental laws, expansion may only be possible in certain EU regions. In the future, the incidence of *Avian influenza* is expected to extend over the whole year instead of being a seasonal event. It will challenge the sector, especially free-range production systems. EU poultry exports are due to regain momentum, despite the continuing price gap with world prices.

A decline in the EU production of **sheep and goat meat** is expected to continue, following a decline in sheep and goat herds. These declines are expected despite coupled income support and favourable prices, although these prices are likely to increase more slowly that was the case in the past decade. EU per capita consumption should remain relatively stable due to sustained consumption patterns related to migration and cultural traditions.

On **specialised** (**permanent**) **crops**, the area of land given over to **olives for oil** is forecast to remain stable, but climate change will lead volatility in yields and oil quality. These negative impacts could be reduced by both the introduction of more resistant varieties and the changes in production systems (towards more intensive ones), together with research and innovation, could reduce the negative impacts. Diverging consumption trends should persist across the EU, with decreasing consumption patterns in the main producing countries due to higher prices, while consumption is expected to keep increasing in other EU countries due to the growing popularity of the Mediterranean diet, and health awareness campaigns promoting the benefits of olive oil over other fats. As growth in EU consumption of olive oil remain is set to remain relatively stable, the share of EU production accounted for by exports on will grow.

Wine consumption is projected to continue to decline by 2035. Moreover, reduced availability of plant protection products, further irrigation restrictions in some EU countries and volatility due to climate change could reduce both the area and yields of vineyards, leading to large fluctuation and on average lower production volumes. Although uncertainties remain, EU wine exports could grow over the coming years, albeit at a much lower rate than in the recent years, while the level of wine imports to the EU remains low and is expected to decline further.

The production of apples, peaches, nectarines, and tomatoes will also face challenges related to extreme weather events, increasing energy costs, limitations on the use of pesticides, and pest outbreaks. Because of these factors, the EU apple sector could lose competitiveness and reduce its harvested area. At the same time, EU per capita consumption of apples could increase

due to consumer preferences for eating more fruit. EU production of peaches and nectarines is projected to decline between now and 2035, as consumption is also declining due to a higher competition of other fruit. Energy costs are an additional limiting factor for the development of fresh tomato production in some EU countries such as the Netherlands. However, new investments in Spain and Portugal could lead to higher tomato yields and greater areas under processed tomato cultivation. The trade performance of both streams (for fresh consumption and processing) could remain as in the present, with the EU being a strong net importer of fresh tomatoes and a net exporter of processed ones, especially of high value products like peeled and tomato sauces. At the same time, in fresh consumption small-sized varieties continue to be demanded more, reducing overall consumption volumes.

An upward trend of the overall agricultural **production value** is projected between now and 2035. After coming down from the currently high levels, prices of input could continue growing at a slower pace, in line with past trends. This would be mitigated by an adoption of cost-efficient practices and further productivity gains, although lower than observed in the past. Based on the difference between production value and changes in costs, income margins are due to grow in nominal terms. In real terms, their evolution will depend on inflation developments, and the level of competitiveness of the EU compared to global markets which could further impact evolution of prices.

Despite limitations, some further productivity gains could be achieved through mechanization and automation. These, along with the low attractiveness of the sector, the variability of profits is all expected to cause agricultural labour to keep declining.

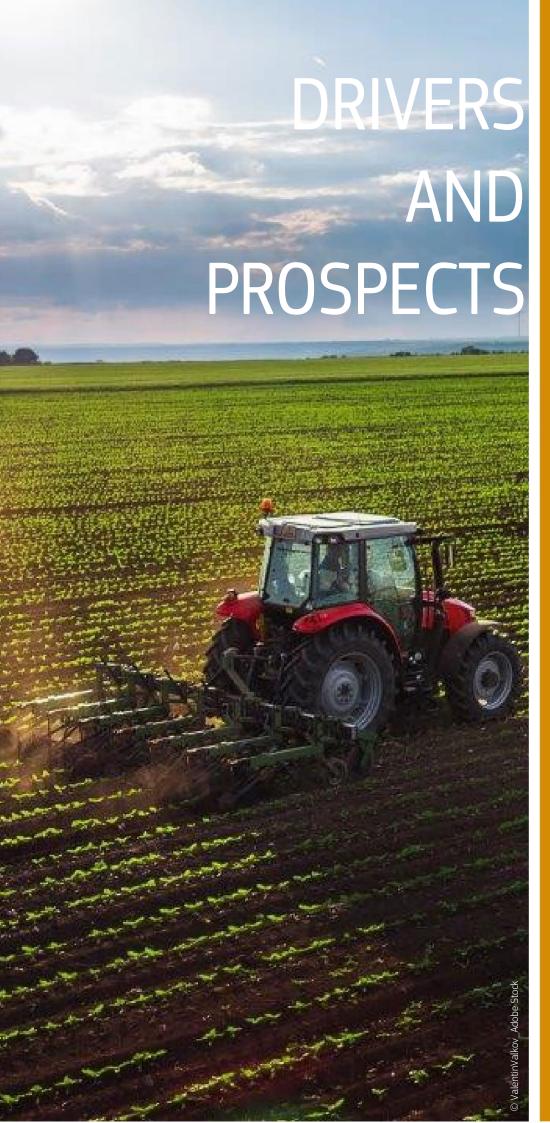
In addition to the Agricultural Outlook, this report also contains **scenario analyses** to investigate two different "what if" future situations: one scenario on the impact of climate change on world agricultural yields, trade, and commodity prices; and another scenario on the environmental and economic impacts of a wider adoption of soil management practices promoting carbon sequestration and reducing soil greenhouse gas (GHG) emissions, namely winter cover crops, tillage management and peatland restoration.

Results from the first scenario analysis reveal that climate change can favour an expansion of harvested area for maize, rice, soya beans and wheat at the expense of others (assuming the current agricultural area would remain stable, with no further area gains due to global warming).

However, yields are to be impacted more negatively and so the area increase would not be sufficient to counterbalance the drop in production, leading to higher prices of these commodities. Due to lower and more expensive feed availability, pigmeat and poultry production would decline. On the other hand, grazing livestock could benefit.

Results from the second scenario analysis show that peatland restoration can effectively contribute to decreasing GHG emissions, N surpluses and NH3 emissions, while soil management practices can help to reduce nutrients leaching to water, soil erosion, and emissions of GHGs and NH3. However, the long-term cost-efficiency of soil management practices with respect to GHG mitigation is not guaranteed as the carbon-sink capacity of soils is finite. The scenario analysis showed moderate negative effects on farm income that are mainly due to higher costs associated with these practices.



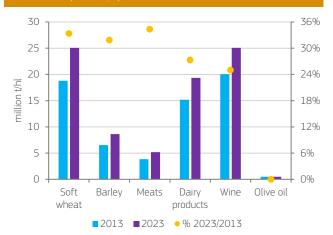


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This chapter gathers elements which drive the EU agricultural outlook, such as climate change; consumption trends; evolving farming structures; the past and current trade performance of EU agricultural products; value creation along the EU food chain; the latest reform of the common agricultural policy; and the macroeconomic environment.

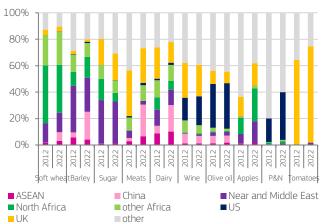
In addition, it presents the main future trends in EU agriculture, by focusing on future supply, changing EU consumer preferences, and EU trade performance, with a link to food security. It also shows key results of the analysis carried out to assess possible developments caused by uncertain conditions.

GRAPH 1.7 Change of EU net exports of selected agricultural commodities (million t/hl)



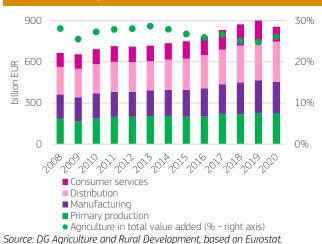
Source: DG Agriculture and Rural Development, based on Eurostat.

GRAPH 1.8 Share of different geographical regions in EU exports for selected agricultural commodities



Source: DG Agriculture and Rural Development, based on Eurostat.

GRAPH 1.9 Gross value added along the EU agri-food chain (billion EUR) and share of agriculture in total value added



The EU continues to increase its net export position

Productivity-driven production growth is helping to satisfy EU consumption needs while simultaneously fostering exports. As a result, the EU has increased its net export position in wheat, barley, wine, and dairy products while it has sustained a positive trade balance for meat products as well as olive oil despite challenges observed in production in recent years. Thanks to this, the EU has strengthened its global position as a trusted provider of food and thus of food security.

At the same time, EU exports are well-diversified across trade partners for many agricultural commodities although some regional concentration of exports can still be observed in some cases. Across geographical regions, Asian markets have been growing their share of EU exports. South-east Asia increased its market share of EU exports of dairy products such as skimmed milk powder (SMP) and whey powder markets while China has significantly boosted its imports from the EU in several products, notably barley, soft wheat, SMP, cheese and pigmeat. On the other hand, countries in the Near East and Middle East, and northern Africa dominate the EU's trade in soft wheat, and these countries are also the destination for around 1/3 of the EU's total sugar exports. For more perishable products, the EU agri-food sector benefits from the geographical proximity of the UK market, which takes most of the EU's exports of fresh peaches, nectarines, and tomatoes (around 73% in 2022). For apples, an equally high share is also taken by the Near East and Middle East and in particular north Africa.

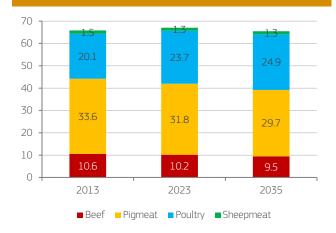
In value terms, EU net agri-food exports more than doubled between 2012 and 2022. The value of exports only grew by 57%, mainly due to an increase in food preparations (27% of the growth).

Added value generated by farmers remains stable

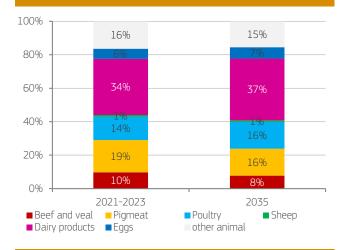
Before the COVID-19 pandemic, the EU food chain generated gross value added of more than EUR 900 billion (2019) which declined to EUR 850 billion in 2020, mainly due to a drop in demand from food services. Excluding this extraordinary year, the value added along the chain grew by 32% between 2010 and 2019, thanks to food services (50% increase in value added), followed by food distribution (34%) and food manufacturing. This reflects increasing consumer demand for convenience products which generate more value for these stages of the food chain. At the same time, consumers' focus on quality and on healthier and more functional food creates an opportunity for EU farmers to add value to their production, for example through quality schemes, organic (or other specialised non-conventional) production systems, or by involvement in short-supply chains, and direct sales to consumer. As a result, the value added for primary producers has also increased in recent years, and it remains stable compared to the overall value added (around 25%). This trend is supported by ongoing efforts of the CAP aiming at a more modern and sustainable EU agriculture, in an even more competitive and challenging environment.

CHANGING DIETS

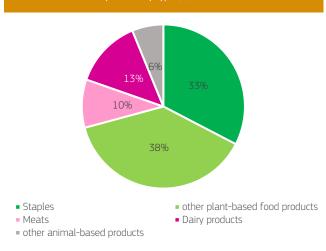
GRAPH 1.20 EU per capita consumption by meat type (kg)



GRAPH 1.21 Animal proteins by type (%)



GRAPH 1.22 Plant proteins by type (%)



Sustained consumption of dairy products while meat consumption continues to decline

Considering the protein composition of an average EU diet, animal products will remain the main protein source (roughly 60%). However, considerations about impact of eating habits and also consumer considerations about quality and other food attributes are likely to lead to some shifts within this protein source. The relatively healthier image of poultry meat, and its cheaper price are expected to support further growth of EU per capita consumption of this type of meat. On the other hand, sustainability and animal welfare concerns will together lead to a lower per capita consumption of beef and pigmeat. In the case of the latter, this is also due to a declining preference for more fatty meats. At the same time, the consumption of sheepmeat could remain stable, being more culturally and tradition-bounded and less price sensitive.

Overall, EU per capita meat consumption could decline by 1.6 kg between now and 2035. Regarding dairy products, an overall stability in per capita consumption is expected. This, even though consumers are changing their eating habits and lifestyles which could contribute to a reduced intake of some more traditional dairy products (such as drinking milk). On the other hand, innovative, functional and fortified products are gaining importance (e.g. yoghurts) and also the use of dairy ingredients. Among all dairy products, cheese could continue showing the most positive prospects through multiple applications and channels (retail, foodservice, processing).

Increasing consumption of pulses and less vegetable oils

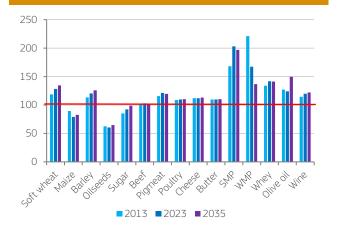
Plant proteins are expected to cover around 40% of the EU protein intake. The major share (more than 67%) will be of cereal origin (e.g. wheat, maize, rice). These products represent staple food products and account for a large share of calories available in the food in the EU. Between now and 2035, these traditional sources of plant protein are expected to lose some shares to other crop products, notably to pulses, fruit and vegetables between now and 2035.

At the same time, there could be some reduction of consumption of vegetable oils, as consumers are likely to opt for alternatives or reduce their consumption of fat overall. For example, olive oil could become more popular especially outside the main EU producing countries thanks to an increasing popularity of Mediterranean diet.

In addition, this Outlook also presents trends in wine consumption. It is expected to decline further while assuming some counterbalancing impact of growing popularity of sparkling wines on the further reduction of red and rose wines.

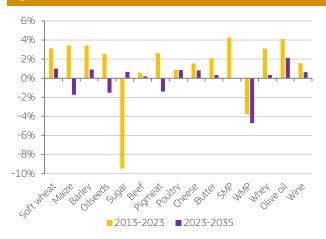
TRADE AND FOOD SECURITY

GRAPH 1.23 EU self-sufficiency rates for selected agricultural commodities

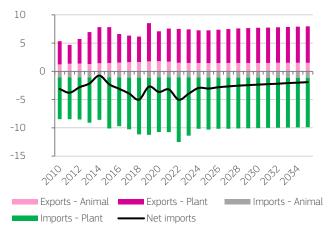


Note: Self-sufficiency rates are calculated as production/consumption. The value above 100 indicates the capacity to export.

GRAPH 1.24 Annual growth rates of EU exports for selected agricultural commodities



GRAPH 1.25 EU agricultural trade balance (1000 t of crude protein)



Note: only commodities modelled by AGLINK-COSIMO are considered.

EU continues to generate production surpluses despite challenges

Despite the likelihood of reduced growth in EU agricultural production in the coming years, the EU will still be able to remain net exporter in several products. This will also be partly due to changing consumption patterns in the EU (e.g. reduced meat consumption). As a result, the capacity to export (expressed through self-sufficiency rates) could be sustained in animal products. And the EU could even further improve its net exports of certain crops, in particular soft wheat, barley, olive oil and wine. By doing so, the EU could sustain its own food supply while simultaneously confirming its importance for global food security.

At the same time, the EU's import needs for oilseeds could be lower in the future, as domestic production is expected to grow slightly, while EU demand for oilseeds, especially for feed use is set to decrease. Over the projection period, the EU could also come closer to self-sufficiency in sugar.

But growth in EU exports could slow

Growth rates for EU exports of agricultural products between now and 2035 are expected to be slower than the average rate between 2013 and 2023. This will mainly be due to increasing self-sufficiency rates in the main import-dependent countries, growing competition for EU products from products produced elsewhere (especially for basic commodities), and growth rates for demand in some key import destinations (e.g. China, other middle-income countries) that will be generally lower than previously observed. On the other hand, these downward pressures could be offset by increasing demand for EU-origin products, in particular because of the EU's quality and safety standards.

In particular, growth rates for exports of soft wheat, barley, beef, and most dairy products could be reduced the most and could even become negative in the case of pigmeat and maize, with China likely to be the strongest driver behind this trend not only for the EU but globally.

The EU is set to increase exports of proteins

Increasing net exports of cereals, and sustained export capacity in animal products will translate into increasing EU's exports of proteins. On the other hand, the high level of protein imports, addressing different needs (food, feed, fuel) which was observed in past years, is assumed to be reduced. This, because of lower demand for feed and biofuel production over the coming years.



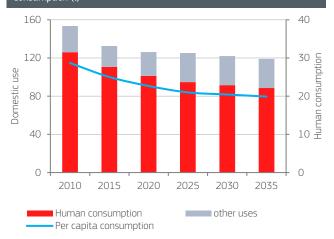
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This chapter looks into the following specialised sectors: olive oil, wine, and selected fruit and vegetables (apples, tomatoes, peaches and nectarines). These sectors are not included in the Aglink-Cosimo model, and projections are based on expert judgement and literature reviews, considering historical trends. Price developments are not explicitly incorporated into the projections.

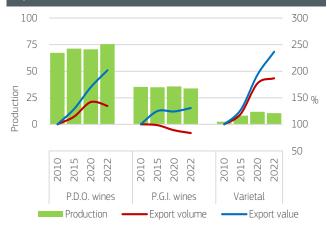
For apples, tomatoes, peaches and nectarines, the two production streams are analysed (for both fresh consumption and processing). The analyses are conducted for selected EU countries using the AGMEMOD model.

WINE

 $\boldsymbol{GRAPH~5.4}~\text{EU}$ wine domestic use (million hl) and human per capita consumption (l)



GRAPH 5.5 EU wine production by categories (million hl) and exports in volume and in value (index 2010=100)



GRAPH 5.6 EU wine trade in volume (million hl) and value (billion EUR)



Source: DG Agriculture and Rural Development, based on Eurostat.

The decline in EU wine consumption continues

EU wine consumption has been declining for some years now, mainly driven by greater health awareness, different preferences for alcohol consumption among younger people, and competition from other beverages. This decline in wine consumption has hit demand for red wines in particular. However, despite this overall trend, there remains some divergence in wine-drinking patterns across the EU countries, linked to culture, tradition, habits, social events, and wine availability. Consumption of wine is projected to decline by around 1% per year between now and 2035, to around 20 l per capita consumption (2.4 l less than the annual average in 2018-2022). This forecast assumes that steeper declines in demand for some types of will be offset by growing demand for alcohol-free wines, wines with a lower alcohol content, whites, rosés and sparkling wines, and general adaptation of the sectors to new demand patterns. This decline in wine consumption will lead to an overall reduction in domestic use by 2035 as 'other uses' could stay relatively stable at 30 000 hl (e.g. distillation or transformation into processed products). However, this trend could be seen as rather optimistic and there could be a higher risk of larger decrease in the future.

EU wine production is set to fall in line with falling consumption trends

Domestic use of wine remains the single largest outlet for the EU wine sector (around 82% of EU wine was used in the EU in 2018-2022). Therefore, the declining consumption trend is likely to lead to a decline in EU wine production (by 0.6% per year to 145 million hl by 2035). Although the EU wine sector has been struggling with difficult - or even extreme - weather phenomena for several years, it continues to adapt to these challenges. However, planned reductions in pesticide use and plans for further irrigation restrictions in some EU countries could reduce both yields and the land area devoted to wine production.

Uncertain development of EU wine exports

In recent years, EU wine exports have grown to record levels. At the same time, demand in some traditional EU export markets has been reaching saturation levels. Therefore, the growth rate of EU wine exports could be rather limited in the coming years (growing only 0.3% per year between now and 2035). The slowdown in exported volumes could be attributed to increasing competition in entry and middle-level (low and middle-priced) wines, and a change in consumption patterns in the main EU export markets. However, the EU could continue to benefit from exports of PDO/PGI premium quality wines and sparkling wines, which could support growth in the value of EU wine exports. The reduced domestic use of the wine in the EU will also translate into lower imports (-2% per year between now and 2035).



/8

This chapter presents figures of macroeconomic and income outlook, balances of key EU agricultural markets and results of uncertainty analysis. In addition, it includes a list of references used in the report. For comparison reasons, simple averages are used for 2023 (2021-2023) in most balances.

In the case of specialised crops, Olympic averages are used instead for the period 2018-2022 to take into account stronger inter-annual variations in production.

TABLE 8.32 EU olive oil market balance (1 000 t)

													Annual gr	owth (%)
	avg 2018-2022	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2012-2022	2022-2035
Production	2 078	2 043	2 059	2 076	2 092	2 109	2 126	2 144	2 162	2 180	2 199	2 218	-0.2%	0.5%
of which ES+PT	1 484	1 539	1 557	1 575	1 594	1 613	1 632	1 651	1 671	1 692	1 712	1 734	-0.2%	0.5%
of which IT+EL	565	505	503	501	499	497	495	493	491	488	486	484	-0.2%	0.5%
Imports	165	265	245	233	235	238	244	249	254	258	262	265	-0.2%	0.5%
Exports	778	800	820	840	860	880	900	920	940	960	980	1 000	-0.2%	0.5%
Consumption	1 461	1 473	1 470	1 468	1 467	1 468	1 470	1 473	1 476	1 478	1 481	1 483	-0.2%	0.5%
of which ES-IT-EL-PT	1 123	1 115	1 095	1 077	1 058	1 041	1 026	1 011	996	980	965	950	-0.2%	0.5%
of which other EU	158	166	168	171	173	175	178	181	183	186	189	192	-0.2%	0.5%
per capita ES-IT-EL-PT (kg)	8.8	8.7	8.6	8.5	8.4	8.3	8.2	8.1	8.0	7.9	7.8	7.7	-0.2%	0.5%
per capita other EU (kg)	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.6	1.6	1.7	-0.2%	0.5%
Ending stocks	655	285	300	300	300	300	300	300	300	300	300	300	-0.2%	0.5%

^{*}Difference and annual growth based on 5-year trimmed average for 2012 and 2022 Note: the olive oil marketing year is October/September

TABLE 8.33 EU wine market balance (1 000 hl)

													Annual gr	owth (%)
	avg 2018-2022	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2012-2022	2022-2035
Area (million ha)	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	-0.4%	-0.4%
Yield (hl/ha)	49.0	48.0	47.9	47.9	47.8	47.8	47.7	47.7	47.6	47.6	47.5	47.5	0.5%	-0.2%
Production	156.4	150	150	149	149	148	148	147	147	146	146	145	-0.1%	-0.6%
of which 5 main producer MS	141.8	137	137	136	136	135	135	134	134	133	133	133	0.1%	-0.5%
other EU MS	14.6	13	13	13	13	13	13	13	13	13	13	13	-1.6%	-1.1%
Imports	7.3	6	6	6	6	6	6	6	6	6	6	6	-0.7%	-2.0%
Exports	30.9	31	31	31	31	31	32	32	32	32	32	32	1.6%	0.3%
Domestic use	128.5	125	125	124	123	123	122	121	121	120	120	119	-1.2%	-0.6%
Human consumption	100.0	95	94	93	93	92	92	91	90	90	89	89	-1.7%	-0.9%
per capita consumption (l)	22.3	21.0	20.9	20.8	20.7	20.5	20.4	20.3	20.2	20.1	20.0	19.9	<i>-1.9%</i>	-0.9%
Other uses	27.7	30	31	31	30	30	30	30	30	30	30	30	0.8%	0.7%
Ending stocks	169.6	173	173	173	173	173	173	173	173	173	173	173	0.6%	0.2%

^{*}Difference and annual growth based on 5-year trimmed average for 2012 and 2022 Note: only vinified production is included; the wine marketing year is August/July

TABLE 8.36 EU peaches and nectarines balance (1 000 t fresh equivalent)

													Annual gr	rowth (%)
	avg 2018-2022	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2016-2022	2022-2035
Production (total)	3 521	3 344	3 320	3 297	3 274	3 251	3 228	3 206	3 183	3 161	3 139	3 117	-2.0%	-0.9%
Area (1000 ha) (fresh)	174	168	167	166	166	165	164	163	162	161	161	160	-2.9%	-0.7%
Yield (t/ha) (fresh)	16	16	16	16	16	16	16	16	16	16	16	16	0.2%	-0.1%
Production (fresh)	2 867	2 725	2 706	2 687	2 668	2 650	2 631	2 613	2 595	2 576	2 558	2 541	-2.2%	-0.9%
Imports (fresh)	36	38	39	40	41	43	44	45	47	48	49	51	7.1%	2.8%
Exports (fresh)	181	139	138	136	135	134	133	132	131	129	128	126	-12.5%	-2.8%
Apparent consumption (fresh)	2 725	2 624	2 607	2 591	2 574	2 558	2 542	2 526	2 511	2 495	2 480	2 466	-1.2%	-0.8%
per capita (kg)	6.1	5.8	5.8	5.8	5.8	5.7	5.7	<i>5.7</i>	5.6	5.6	5.6	5.6	-1.3%	-0.7%
Area (million ha) (for processing)	28	27	27	27	27	27	26	26	26	26	26	26	2.5%	-0.7%
Yield (t/ha) (for processing)	23	23	23	23	23	23	23	23	22	22	22	22	-4.5%	-0.2%
Production (for processing)	653	618	614	610	605	601	597	593	589	585	581	576	-2.0%	-1.0%
Imports (processed)	12	12	12	12	12	12	12	12	12	12	12	12	-4.5%	0.0%
Exports (processedt)	176	178	179	180	181	182	183	184	185	185	186	187	0.1%	0.5%
Apparent consumption (processed)	487	452	447	442	437	431	426	421	416	411	406	401	-2.7%	-1.5%
per capita (kg)	1.1	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	-2.8%	-1.4%

^{*}Difference and annual growth based on 5-year trimmed averages for 2016 and 2022.

TABLE 8.37 EU self-sufficiency rate (%)

CDOD CECTORS		EU												
CROP SECTORS	avg 2021-23	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035		
Arable crops														
Overall Cereals	107	109	109	109	110	110	110	110	111	111	111	111		
Wheat	124	125	126	127	127	127	128	128	128	129	129	130		
Coarse grains	95	97	97	97	97	98	98	98	98	98	98	98		
Common wheat	128	129	130	131	132	132	132	133	133	134	134	135		
Durum wheat	80	80	80	80	80	80	80	80	80	80	80	80		
Barley	120	120	120	121	122	123	123	124	124	125	125	126		
Maize	79	82	83	83	83	83	83	83	83	83	83	83		
Other cereals	98	101	101	101	101	101	102	102	102	102	102	102		
Rice	41	40	40	40	40	40	40	40	40	40	40	40		
Oilseed	61	64	65	65	65	65	65	65	65	65	65	65		
Oilseed meal	63	62	62	62	63	63	63	63	64	64	64	65		
Oilseed oil	98	94	94	94	94	94	94	94	94	94	94	94		
Vegetable oil	70	69	71	71	72	73	74	74	75	75	75	76		
Sugar	92	97	96	96	96	97	97	97	98	98	98	99		
Isoglucose	113	106	106	105	105	104	104	104	103	103	103	103		
Biofuels	91	93	92	92	92	92	92	92	91	92	94	96		

Note: Figures for arable crops, olive oil, wine, apples and oranges refer to marketing years (200X means 200X/200X+1).

ANIMAL SECTORS		EU											
ANIMAL SECTORS	avg 2021-23	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	
Dairy products													
Fresh dairy products	103	102	102	102	102	102	102	103	103	103	103	103	
Cheese	112	113	112	113	113	113	113	113	113	113	113	113	
Butter	110	109	110	110	110	110	110	110	110	110	110	110	
SMP	203	192	194	194	194	195	195	196	196	196	197	197	
WMP	167	163	159	156	154	151	149	147	144	142	139	137	
Whey	142	142	142	141	141	142	142	142	142	142	142	142	
Meat													
Beef and veal	106	105	105	105	105	105	105	105	105	105	105	105	
Pigmeat	121	119	119	119	119	119	119	119	120	120	120	120	
Poultry	110	109	109	109	109	109	109	110	110	110	110	110	
Sheep and goat	92	89	90	90	90	90	90	90	90	90	90	90	

REFERENCES

COWI, Ecologic Institute, IEEP, 'Annexes to Technical Guidance Handbook - setting up and implementing result-based carbon farming mechanisms in the EU'. Report to the European Commission, DG Climate Action on Contract No. CLIMA/C.3/ETU/2018/007. COWI, Kongens Lyngby, 2021.

Daryanto, S., Wang, L., Jacinthe, P.A., 'Impacts of no-tillage management on nitrate loss from com, soybean and wheat cultivation: A meta-analysis,' Sci Rep, Vol. 7, 12117, 2017, https://doi.org/10.1038/s41598-017-12383-7.

Food, E. I. T. 'Plant-based for the Future. Insights on European consumer and expert opinions. White Paper. A qualitative study funded by EIT Food and conducted by the University of Hohenheim. 12 Feb. 2021. pp: 1-13, 2021https://www.eitfood.eu/media/documents/Uni-Hohenheim-Whitepaper-16zu9.pdf

Eory, V., MacLeod, M., Topp, C.F.E., Rees, R.M., Webb, J., McVittie, A., Wall, E., Borthwick, F., Watson, C., Waterhouse, A., Wiltshire, J., Bell, H., Moran, D., Dewhurst, R., 'Review and update the UK agriculture marginal abatement cost curves to assess the greenhouse gas abatement for the 5th carbon budget and to 2050'. Final report submitted for the project contract "Provision of services to review and update the UK agriculture MACC and to assess abatement potential for the 5th carbon budget period and to 2050', Edinburgh, 2015.

Eurocommerce, McKinsey & Company, 'Living with and responding to uncertainty – State of Grocery Retail 2023: Europe', 2023 https://www.eurocommerce.eu/living-with-and-responding-to-uncertainty-the-state-of-grocery-retail-2023/

Fellmann, T., Perez-Dominguez, I., Witzke, P., Weiss, F., Hristov, J., Barreiro-Hurle, J., Leip, A., Himics, M., 'Greenhouse gas mitigation technologies in agriculture: Regional circumstances and interactions determine cost-effectiveness,' Journal of Cleaner Production, Vol. 317, No. 1, 2021, https://doi.org/10.1016/j.jclepro.2021.128406

Huang, Y., Ren, W., Wang, L., Hui, D., Grove, J. H., Yang, X., Tao, B., Goff, B., 'Greenhouse gas emissions and crop yield in no-tillage systems: A meta-analysis,' Agriculture, Ecosystems & Environment, Vol. 268, 2018, https://doi.org/10.1016/j.agee.2018.09.002

IPCC, 'Summary for Policymakers,' Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, IPCC, Geneva, Switzerland, 2023, pp. 1-34, https://doi.org/10.59327/IPCC/AR6-9789291691647

Lugato, E., Bampa, F., Panagos, P., Montanarella, L., Jones, A., 'Potential carbon sequestration of European arable soils estimated by modelling a comprehensive set of management practices,' Global Change Biology, Vol. 20, 2015, https://doi.org/10.1111/qcb.12551

Maes, J., et al., 'Mapping and Assessment of Ecosystems and their Services: An EU ecosystem assessment,' EUR 30161 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-17833-0, doi:10.2760/757183, JRC120383.

Ortiz-Bobea, A., Ault, T.R., Carrillo, C.M. et al., 'Anthropogenic climate change has slowed global agricultural productivity growth,' Nat. Clim. Chang., Vol. 11, 2021, pp. 306–312, https://doi.org/10.1038/s41558-021-01000-1.

Panagos, P., Borrelli, P., Meusburger, K., Alewell, C., Lugato, E., Montanarella, L., 'Estimating the soil erosion cover-management factor at the European scale,' Land Use Policy, Vol. 48, 2015, https://doi.org/10.1016/j.landusepol.2015.05.021

Pérez Domínguez, I., Fellmann, T., Witzke, P., Weiss, F., Hristov, J., Himics, M., BarreiroHurle, J., Gómez Barbero, M., Leip, A., 'Economic assessment of GHG mitigation policy options for EU agriculture: A closer look at mitigation options and regional mitigation costs (EcAMPA 3),' EUR 30164 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-17854-5, doi:10.2760/4668, JRC120355.

Pieralli, S., Chatzopoulos, T., Elleby, C., Perez Dominguez, I., 'Documentation of the European Commission's EU module of the Aglink-Cosimo model: 2021 version,' EUR 31246 EN, Publications Office of the European Union, Luxembourg, 2022.

ProVeg, 'What consumers want: a survey on European consumer attitudes towards plant-based foods, with a focus on flexitarians', European Union's Horizon 2020 research and innovation programme, No 862957, 2021, https://smartproteinprojecteu/consumer-attitudes-plant-based-food-report/

Soane, B.D., Ball, B.C., Arviddson, J., Basch, G., Moreno, F., Roger-Estrade, J., 'No-till in northern, western and south-western Europe: A review of problems and opportunities for crop production and the environment,' Soil and Tillage Research, Vol. 118, 2012, https://doi.org/10.1016/jstill.2011.10.015

Statista, 'Share of young adults who are vegetarian or vegan in selected European countries in 2022', In Statista, 2022, Retrieved November 08, 2023, from https://www.statista.com/forecasts/768475/vegetarianism-and-veganism-among-voung-adults-in-selected-european-countries



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