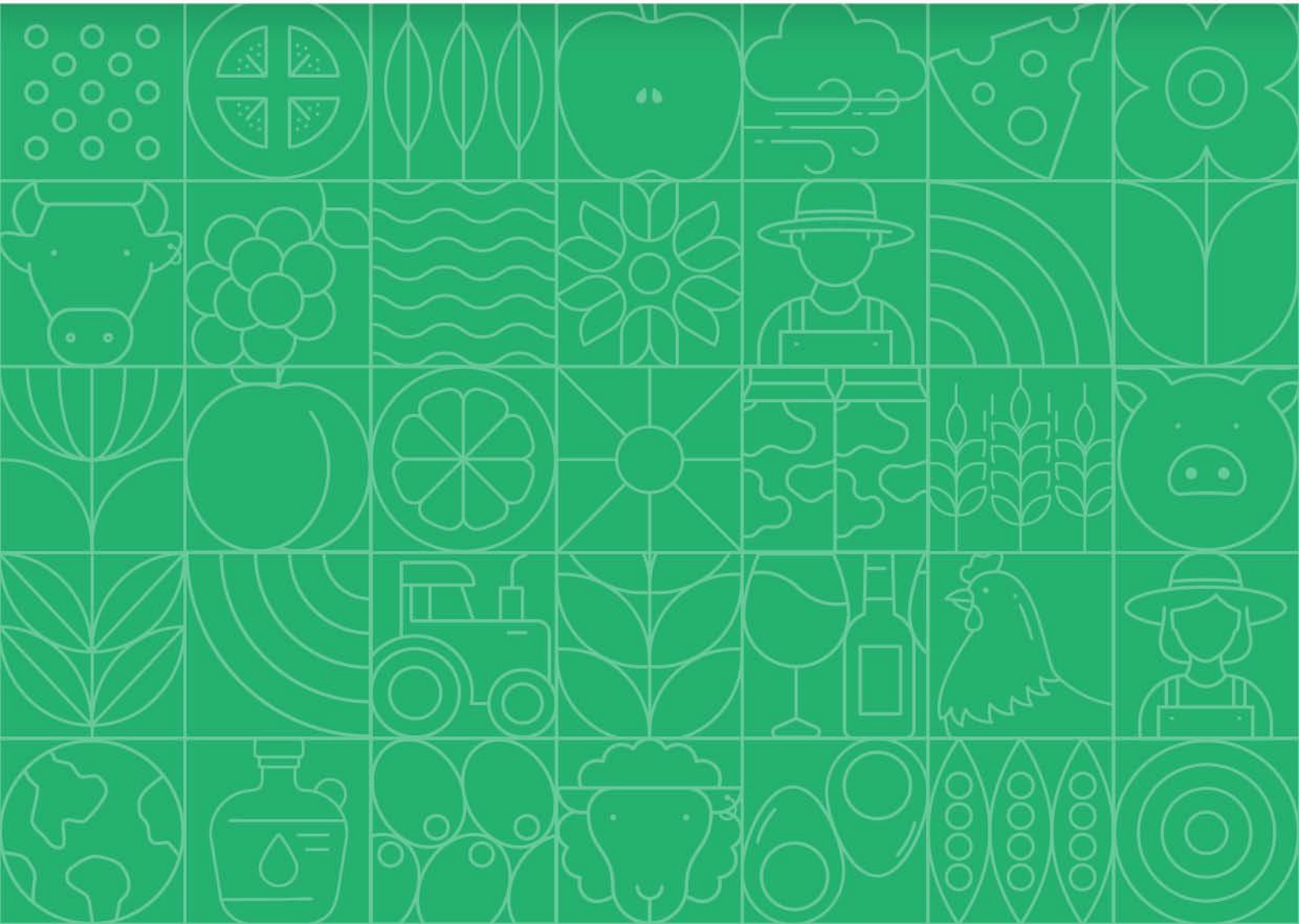
European Commission

Agriculture and rural development

EU AGRICULTURAL **OUTLOOK**

2025-2035



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

The contents of this publication do not necessarily reflect the position or opinion of the European Commission.

Contact: DG Agriculture and Rural Development, Analysis and Outlook Unit

Email: agri-outlook@ec.europa.eu

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FOREWORD BY

Elisabeth Werner

Director-General

I hope you will enjoy and make good use of the 2025 edition of the EU Agricultural Outlook, now with a new format in terms of style and content. For the first time, we complement our medium-term market projections and environmental indicators with an assessment of economic effects at farm level.

In a period of volatile markets and high uncertainties it is essential to look into the future and understand the longer-term prospects for the EU agrifood sector.

The outlook projects slow productivity growth amidst challenges from climate change and higher input costs, while EU agriculture moves towards more sustainable production systems. The EU is set to maintain its self-sufficiency while boosting trade in high-value commodities. Structural changes in farming are expected to continue, with labour productivity growth being the primary driver of overall productivity gains and income growth. All this justifies strong EU policies to support agriculture's competitiveness and food security.

These projections provide insights for all stakeholders in the EU agri-food chain, serving as a baseline to steer further policy responses to emerging challenges and opportunities, towards an attractive, competitive, resilient and sustainable agricultural sector.

Enjoy the read!

NOTE TO THE READER

This report presents **the medium-term outlook for EU agricultural markets and income** until 2035. It is complemented by: (i) a partial assessment of selected environmental indicators; and, for the first time, (ii) a selection of economic and environmental performance indicators for different farm types. The outlook is based on a set of **macroeconomic assumptions** deemed most plausible at the time of the analysis, using the latest short-term forecasts available in September 2025 from the AMECO database and European Central Bank. For the medium-term macroeconomic forecasts, the EU Agricultural Outlook relies on projections from S&P Global and the OECD-FAO Agricultural Outlook 2025-2034. The **agricultural market projections** rely on: (i) the OECD-FAO Agricultural Outlook 2025-2034 for the global market environment; (ii) data available up to the end of September 2025 for agricultural production and trade; (iii) additional market intelligence available at the end of October 2025; and (iv) the AGLINK-COSIMO agro-economic model used by the European Commission to run the baseline simulation. Since the various assumptions for the baseline are subject to uncertainties, the report includes an **uncertainty analysis** around the baseline, based on stochastic simulations on macroeconomic variables and crop-yield expectations.

The EU Agricultural Outlook projections assume a continuation of the existing policy environment, reflecting the situation at the end of September 2025, including the **CAP strategic plans**, which are reflected in either a direct, quantitative way (decoupled and coupled payments) or an indirect, qualitative way (other policy measures). As such, the proposals for the EU's 2028-2034 multi-annual financial framework and related policy proposals are not reflected in the projections. Similarly, the projections only incorporate **trade agreements** that had been ratified up to the end of October 2025. The outlook projections reflect the revision of the deep and comprehensive free trade agreements with Ukraine and Moldova, but the preliminary agreement on tariffs and trade between the EU and the US from August 2025 and the MERCOSUR agreement are not included.

As a result of the underlying modelling approach, market developments are projected to follow a relatively smooth path over the medium term. More precisely, the baseline projections correspond to the average trends that agricultural markets are expected to follow under the various assumptions and model parameters. To provide a more reliable comparison of trends, the report uses **average values over a three-year period**. For arable crops, milk, dairy products and meats, this means that when referring to 2025 (or 2015), the mean values for 2023-2025 (or 2013-2015) are used. For specialised crops, Olympic averages for 2021-2025 (or 2011-2015) are used.

The **EU Agricultural Outlook should not be interpreted as a forecast, but as a baseline for future analytical and scenario work** by the Commission, which may be used as a basis to test various policy considerations and alternative market developments, such as a reference for assessing the impacts of future legislative proposals and/or trade negotiations on agricultural markets and income.

ACKNOWLEDGEMENT

This Commission report is **a joint collaborative work between the Directorate-General for Agriculture and Rural Development (DG AGRI) and the Joint Research Centre (JRC)**. In DG AGRI, the report content and underlying baseline were prepared by Paolo Bolsi, Mihály Himics, Sabrina Kogler. Beate Kloiber, Dangiris Nekrašius, Andrea Porcella Čapkovičová, Balázs Bence Tóth, Léon van de Pol, and Mauro Vigani. DG AGRI outlook groups, market units and policy units helped to develop the baseline and/or contributed to the drafting of the report, and we are grateful for their input and constructive comments.

An external **review of the draft outlook, its environmental aspects, and implications on the economic and environmental performance of EU farms** was conducted at a hybrid outlook workshop held on 22-23 October 2025 by DG AGRI, organised by Sabrina Kogler, Anna Piwowar and Lucia Balog. The workshop provided valuable feedback from various representatives and experts across the EU food value chain, and we are grateful for their participation and input.

The JRC team that contributed to this publication include for the outlook modelling and stochastic analysis: Spire Arsov, Christian Elleby, Beatrice Farkas, Ignacio Pérez Domínguez and Simone Pieralli. For environmental aspects, the JRC team comprised Maria Bielza and Franz Weiss, as well as Caetano Beber and Thomas Fellmann. Contributions on EU food security indicators were made by Bartlomiej Rokicki, Robert M'barek and Emanuele Ferrari. The new addition on selected economic and environmental performance indicators is a result of the joint effort between JRC colleagues Dolores Rey Vicario, Dimitrios Kremmydas, Ibirénoyé Sodjahin, Victor Martinez García, Pascal Tillie, and Edoardo Baldoni (DG AGRI). Finally, the input for biofuel projections was provided by a JRC team using the POTEnCIA model, comprising Frederik Neuwahl, Mate Rozsai, and Raffaele Salvucci.

In the preparation of this edition of the outlook report, further advancements were made on data management and visual analysis of results. In JRC, this work was supervised by Arnaldo Caivano, and developed jointly by Estefanía Vazquez Torres, Saulius Tamosiunas, Javier Castro and Celso Gorrín. Patricia Gurria and Hugo Gonzalez Hermoso were instrumental for updates provided in Sankey diagrams. In DG AGRI, further developments were made in the Agri-food dataportal to visualize balance sheets of the EU Agricultural Outlook, notably by the Unit dealing with Digital Solutions and its Agriview and Infrastructure team.

The outlook on apples, peaches and nectarines, oranges, tomatoes, olive oil and table olives for selected EU countries was prepared by the AGMEMOD consortium, represented by Ana Gonzalez-Martinez, Roel Jongeneel, and David Verhoog.

Marcel Adenauer from the OECD, and Sergio René Araujo Enciso from the FAO also provided valuable technical support and expertise.

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EXECUTIVE SUMMARY

The EU Agricultural Outlook report presents the prospects for EU agriculture until 2035, considering the expected developments of main drivers of supply and demand, including the macroeconomic environment, climate, agricultural inputs, global trade, and consumer demand, while assuming a stable and unchanged policy framework.

According to the outlook, EU agriculture is expected to sustain its high level of productivity, despite challenges including climate change and the availability and affordability of inputs. The EU is projected to maintain its high level of self-sufficiency and enhance its trade performance in several commodities, especially in the ones of high-value added, in the wake of an increased intensification of global competition regarding the export of basic commodities. EU agri-food trade is expected to remain an important contributor to global food security. An aging EU population is expected to keep the protein intake slightly higher compared to its current level, with a growing preference for dairy products, fish and poultry.

Structural changes in the EU farming sector are expected to continue shaping the economic and environmental performance of the sector. Labour productivity growth is expected to be the main driver of EU productivity. The value of EU agricultural output is projected to grow steadily contributing to an increase in real agricultural income per worker over the outlook. Overall farm economic viability will remain closely tied to farm economic size, as on average larger farms are depicted to experience better income prospects than smaller ones. The overall environmental impact of EU farms is expected to improve, with a reduction in both greenhouse gas emissions and nitrogen surplus.

Compared to the 2024 edition, this 2025 report presents updated market projections based on: (i) the 2025-2034 OECD-FAO Agricultural Outlook; (ii) the 2025 Summer Short-Term Outlook for EU agricultural markets; (iii) market data available at the end of September 2025; and (iv) additional market intelligence available at the end of October 2025. The projections rely on the most recent macroeconomic outlook and assume a continuation of the current policy environment, including the Common Agricultural Policy. As such, the proposals for the EU's 2028-2034 multi-annual financial framework and related policy proposals are not reflected in the outlook. And while our market projections reflect the current dynamics of international trade agreements, including updated deals with Ukraine and Moldova, the Mercosur trade agreement is not included in the projections.

While the short term is characterised by a high degree of uncertainty from geopolitical, trade and climate events that impact markets, the outlook assumes a stable medium-term macroeconomic environment. with real GDP growth in the EU expected to stabilise around 1.4% and EU inflation at around 2%. The Euro is assumed to converge back to 1.13 USD by 2035, in line with the previous edition of the EU Agricultural Outlook, while the expected pathway of Brent crude oil prices has been significantly revised downwards to be in the region of 84 USD per barrel in nominal terms. These will impact the development of input markets, in particular the affordability of fertilizers.

Global population growth is projected to subside, with variations across world regions, impacting prospects for food demand that are also shaped by evolving consumption trends, in particular rising demand for animal products. This shift is driving investments in livestock globally and boosting global production and trade. However, this trend is raising concerns about rising greenhouse gas emissions at the global level.

While the general policy, macro-economic and climate environment is considered stable, leading to steady projections over the outlook, these drivers are important sources of uncertainty and volatility. To understand their possible implications, the report provides an assessment of uncertainties, depicting how volatility in energy prices, GDP, inflation, and exchange rates can impact production costs, consumer purchasing power, and trade competitiveness.

In addition to the usual reporting on the baseline setting, market outlook for various sectors and their implications on EU agricultural income and environmental performance, this EU Agricultural Outlook report includes, for the very first time, an assessment of the economic and environmental implications of the market outlook for different farm types, as well as an analysis of the outlook on EU self-sufficiency and productivity, competitiveness and global and EU food security.

EU **agricultural productivity growth** is expected to slow over the outlook due to the combined effect of adverse weather, continued sustainable transformation of the sector and technological advancements. EU agricultural production is expected to address domestic food demand, with feed use decreasing due to a declining number of animals and improved feed efficiency, and biofuel use constrained by regulatory limits.

The EU is projected to keep its **self-sufficiency** in cereals, meat, and dairy, with growing net exports of certain fruits and olive oils. An expected increase of self-sufficiency in traditional EU export destinations contributes to a slow-down of global agri-food trade and **intensified competition for exporting basic commodities**,

challenging the EU's market shares in products such as beef, pigmeat, and soft wheat. On the other hand, our projections depict a shift towards EU exports of high value added products like cheese, whey powders and olive oil. While EU exports of sugar and beef are expected to decline, we project improvements for the EU's net trade in cereals (net exports are set to increase) and oilseeds (net imports are set to decline).

Overall trade flows contribute to **EU food security**, providing crucial inputs (like fertilisers and feed) and diverse dietary options, while exports offer value to farmers and the whole EU agri-food chain and support global food security. EU exports show firm levels of market and product concentration, with some increases in the EU's presence on certain markets. The share of household spending on food is projected to further decline with rising incomes, and the overall calorie intake is projected to rise slightly.

Structural changes in EU agriculture are expected to continue over the outlook, including a reduction of unsalaried family labour and increase in the number of salaried workers, but an overall reduction in total labour. As a consequence, labour productivity is set to remain a key driver of **total factor productivity growth**. Land productivity is expected to grow at a slower pace over the outlook, while capital productivity is expected to stay flat, altogether leading to a modest increase in total factor productivity of EU agriculture.

The value of EU **agricultural output** is projected to grow steadily over the outlook, driven by cereals and dairy, along with fruits, vegetables, and other specialised crops. Input costs, notably fertilisers, energy and feed are expected to stay at elevated levels. Overall, **agricultural income** is set to increase in nominal terms, and in real terms per annual work unit. When accounting for inflation without the aforementioned decline in labour, the outlook for real agricultural income shows a decrease, and a larger one for small farms, with overall farm **economic viability** remaining closely linked with farm economic size. The proportion of farms considered most viable is anticipated to decline across the EU. On the other hand, dairy and other grazing livestock farms are projected to see an increase in gross income.

The overall **environmental impact** of EU farms is expected to improve, with a reduction in greenhouse gas emissions driven by dynamics in animal production; and a reduction in nitrogen surplus due to both shifts towards less input-intensive crops and lower feed demand. No major implications are expected for **crop diversity** at regional level, but the Shannon diversity index, which measures both the variety of crops and their distribution, projects a slight overall decline over the outlook. Although there are projections for a small shift in crop types, the overall change in diversity during this period is set to be driven more by how crops are distributed than by the introduction of new crops. EU overall **pesticide use** is projected to decrease by 2035, driven by both lower pesticide-use intensity (kg/ha), and a reduction in the total area dedicated to crops (mainly cereals and other arable crops).

Overall **land use** is not expected to change much, but agricultural area is expected to slightly decline due to competition from urban areas, transport, and renewable energy. Land for pasture and permanent crop is projected to decrease due to declining ruminant numbers, land conversion, and climate impacts. Forest areas are expected to grow modestly, supported by EU afforestation, tree planting programmes, and a result of ongoing abandonment of grassland areas. Arable land is expected to decline slightly, with a decline in land for cereals due to competition with other crops and lower affordability of fertilisers, while oilseeds and pulses areas benefit from higher demand.

Despite the aforementioned decrease in area, EU **cereal production** is expected to increase marginally, driven by improved wheat yields due to technological advances, and demand-driven growth for oats. EU exports are expected to remain competitive, and food use is anticipated to increase slightly.

Oilseed and pulse yields (including yields for soya beans, sunflower seeds, and rapeseed) are expected to grow marginally over the outlook, supported by sustainable technologies and practices. Cultivated areas are also expected to increase, resulting in higher production of oilseeds and pulses, in particular pulses, soya beans, and sunflower seeds, while the production of rapeseed is projected to remain stable due to declining biofuel demand. While the EU remains a net importer of oilseeds and pulses, imports are expected to decline by 2035. EU **oilseed crushing** volumes and the production of **oilseed oils** are expected to remain stable, with rapeseed declining due to reduced biofuel demand but slight increases in soya bean crushing. Palm oil usage is expected to further decline, reflecting its declining use in biofuels.

EU demand for **animal feed** is projected to decrease due to reduced production of pigmeat, beef and veal, as well as slower (though positive) growth in milk yield, along with improved feed efficiency through better genetics and feeding systems. The feed use of cereals and oilseed meals, particularly wheat and barley, sunflower and soya meals are set to decline.

The **sugar sector** is facing structural changes with sugar beet production gradually adjusting to the market situation and weather and pathogen-related pressures. Sugar consumption shows a moderate downward trend consistent with changing consumer preferences and broader demographic trends.

EU demand for **biofuels** is expected to increase in the short term but contract between 2028 and 2035. The short-term increase will be addressed through a shift towards advanced feedstocks such as waste oils. Rapeseed oil will remain the main crop-based biodiesel feedstock, while palm oil usage is being phased-out due to sustainability concerns. For bioethanol, maize will be the primary crop-based feedstock.

The outlook for the **EU dairy sector** depicts a slight increase in the supply of milk solids, due to improvements in feeding practices, technology, and genetic developments. Despite a declining dairy cow herd, milk production is expected to remain stable, underpinned by growing milk yields and solids content. Cheese and whey output are supported by strong domestic and global demand. A marginal increase is projected for the production of butter and skimmed milk powder, whereas whole milk powder production is projected to decline amid competitive pressures and reduced demand. The rising consumer preference for protein-rich, low-fat, low-sugar, and fortified dairy products could further shape production trends. EU dairy exports are expected to remain stable in volume terms, but a shift towards higher value-added goods could boost export values.

EU **meat consumption** is projected to decline marginally, due to a consumer shift from red to white meat driven by convenience, prices, and rising concerns about sustainability and health.

EU **beef** production is projected to decline further, driven by herd reduction, some stricter national regulatory frameworks, and issues with generational renewal. Although support from the CAP and a favourable price outlook may slow the decline, production is expected to fall significantly by 2035. EU per capita beef consumption is expected to decrease due to reduced availability and higher prices. While global demand for beef is rising, particularly in regions like China and the Middle East, EU meat exports are constrained by limited supply and competitive pressures, while live animal exports could also decline due to welfare concerns and an emphasis on intra-EU trade.

A decline in the EU production of **sheep and goat meat** is projected to continue gradually over the outlook, primarily due to decreasing herd sizes. EU consumption is expected to remain unchanged, influenced by tradition and cultural factors, which, together with limited supply, could maintain high prices and lead to a growth in EU imports. Live animal exports could decrease, mainly due to animal welfare concerns. EU meat exports are expected to stabilise, supported by demand from regions in the Middle East and North Africa, though uncertainties about export destinations persist and quantities remain volatile.

Following the recent increase in EU **pigmeat** production the outlook depicts a decline until 2035, driven by tighter animal welfare and environmental regulations, and diminishing export opportunities, especially due to declining demand in China. Production capacities in China and Viet Nam continue to recover in this period, leading to lower import demand. As a result, EU pigmeat exports are projected to drop.

EU **poultry** production is expected to increase, driven by growing EU and global demand, as poultry is viewed as a more convenient, healthy and affordable option, albeit production growth could be slower than in the last decade as the sector is adjusting to more sustainable production systems. Imports are expected to grow to meet EU demand. Global import demand for poultry is supporting the growth in EU exports, but the EU's export share is expected to remain stable, as competition intensifies.

EU **egg** production is expected to continue to grow, albeit at a slower pace than in the previous 10 years. Advances in automation, digitalisation, and genetics could support productivity in the EU. EU per capita egg consumption could rise steadily, driven by affordability, health consciousness, and population ageing, as well as sustained demand from the egg processing industry. EU imports are expected to grow, while export opportunities may increase in the long term, driven by demand in neighbouring countries and the export of albumin.

The EU **olive oil** sector is expected to recover from previous production lows. Consumption trends show a decline in traditional EU producing countries, although interest is rising elsewhere due to the popularity of the Mediterranean diet. In terms of trade, EU olive oil exports are set to remain strong. EU production of **table olives** is expected to decline due to increased competition from non-EU producers. EU consumption of table olives is projected to further increase, benefitting from rising global interest in Mediterranean cuisine and health trends, supporting steady demand and trade opportunities for the EU.

EU **wine consumption** is expected to continue its downward trend, driven by changing consumer habits and national policies, as several EU countries promote policies to support a moderate alcohol consumption for health-related reasons. Major export markets begin to mirror these consumption trends, but demand from emerging consumer markets could offer some export opportunities even though their current shares remain too limited to significantly help to stabilise the EU exports. EU wine production is expected to reflect these trends, and decline, notably through the reduction of land area devoted to vineyards. Overall, EU wine imports are projected to decline, reflecting changes in domestic consumption patterns.

EU **apple** production is expected to grow slightly due to yield improvements and despite a declining land area devoted to apples, with fresh apple consumption decreasing as preferences shift. EU **peach and nectarine** production is set to decline due to reduced land area dedicated to production, although effort in yield improvement might mitigate this decline. Overall EU consumption of peaches and nectarines is projected to slightly decrease in the coming decade, and while the EU remains a net exporter, imports of processed peaches and nectarines may rise amidst growing international competition. EU **tomato** production will face mixed trends with: (i) declines in fresh consumption in some regions; (ii) expansion in processing driven by investments and policy support; (iii) growing demand for fresh tomatoes due to snacking popularity; (iv) growth in consumption of processed tomatoes due to trends in convenience eating; and (v) greater imports and exports amid global competitive pressures. EU **orange** production is set to face reductions in both yields and land area devoted to production. Consumption of fresh oranges is projected to decline, while demand for processed oranges may rise slightly, increasing the EU's reliance on imports.

ABBREVIATIONS

AMECO	Annual macro-economic database of the European Commission's Directorate General for Economic and Financial Affairs
ASF	African swine fever
AWU	Annual Work Unit
CAP	common agricultural policy
C	carbon
CH	Switzerland
COP	Cereals, oilseeds, protein crops
COVID-19	Coronavirus disease 2019
CSPs	CAP Strategic Plans
CV	coefficient of variation
DG	Directorate General
DG AGRI	DG for Agriculture and Rural Development
EC	European Commission
ECB	European Central Bank
EU	European Union (of 27 Member States since 1st of February 2020)
EU-13	Aggregate of countries that entered the EU after the 2004 accession: Bulgaria, Cyprus, Croatia, Czechia, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia
EU-14	Aggregate of countries that entered the EU before the 2004 accession: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden
EUR	euro
FAO	Food and Agriculture Organization of the United Nations
FAOSTAT	FAO Corporate Statistical Database
FDP	fresh dairy products
FTA	free trade agreement
GDP	gross domestic product
GHG	greenhouse gas
GM	genetically modified
HPAI	Highly pathogenic avian influenza
JRC	Joint Research Centre
MTO	medium-term outlook
MS	Member State
OECD	Organisation for Economic Cooperation and Development
OPEC+	Organization of the Petroleum Exporting Countries (including other 10 oil producing countries that are not OPEC members)
RED	Renewable Energy Directive
SMP	skimmed milk powder
UAA	utilised agricultural area
UK	United Kingdom
US	United States of America
USD	US dollar
UN	United Nations
WMP	whole milk powder

bbl	barrel
c.w.e.	carcass weight equivalent
CO2 eq.	carbon dioxide equivalent
eq.	equivalent
g	gram
ha	hectare
hl	hectolitre
kg	kilograms
km2	square kilometre
l	litre
pp	percentage point
t	tonne
w.s.e.	white sugar equivalent

1. BASELINE SETTING

This chapter gathers elements that present the macroeconomic, policy and trade environment of the EU Agricultural Outlook.

It examines the evolution of the macroeconomic environment over the next 10 years, projecting modest economic growth across regions such as China, India, the US, and the EU. The global and the EU inflation is expected to stabilise during this period due to trends in energy prices and currency fluctuations. Slower global population growth is anticipated, affecting future food demand.

An overview of global trade policies reveals shifts in the market driven by growing demand for animal products, impacting international trade and emissions. Trade dynamics remain uncertain due to geopolitical tensions and environmental factors. The assumptions used in this EU Agricultural Outlook also underscore the EU's commitment to sustainable growth with environmental and climate policies in place, and together with further changes in the markets for inputs, in particular fertilizers.

MACROECONOMIC ENVIRONMENT

GLOBAL AND EU ECONOMIC GROWTH TO DECELERATE DUE TO UNCERTAINTIES

Various geopolitical events have helped to fuel uncertainty in the macroeconomic environment in both the short and medium term in recent years, and especially months. The additional element of economic instability that affected 2025 has been the resurgence of trade policy measures applied by the US.

This EU Agricultural Outlook is based on assumptions regarding the macroeconomic environment between now and 2035 that appear most plausible from available forecasts and intelligence. These are based on a set of external sources, reflecting to the extent possible the EU ones (e.g. DG ECFIN, AMECO database, European Central Bank).

In this edition, it is assumed that global annual economic growth will converge to 2.2% by 2035 (with growth of 3.1% in China, 5 % in India and 1.8% in the US). EU real annual GDP is projected to grow in the short term to 1.5% in 2025 and projected to be 1.4% by 2035. Macroeconomic shocks tend to have an impact mainly in the short term.

INFLATION MOVING TOWARDS A STABLE PATH

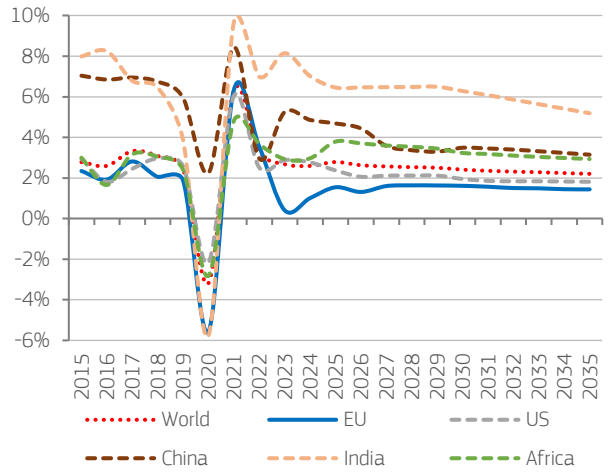
Even with all the geopolitical uncertainties upsetting the course in 2025, EU headline inflation is expected to stay close to 2% for the remainder of the current year and projected to grow at the same annual rate by 2035, following a similar pattern as in the previous edition of this EU Agricultural Outlook.

The price of energy is projected to play a major role in the normalisation of inflation in the short-term (until 2026), not only because of lower oil prices, but also due to the depreciation of the USD against the euro.

US DOLLAR DEPRECIATION TO PERSIST ONLY IN THE SHORT TERM

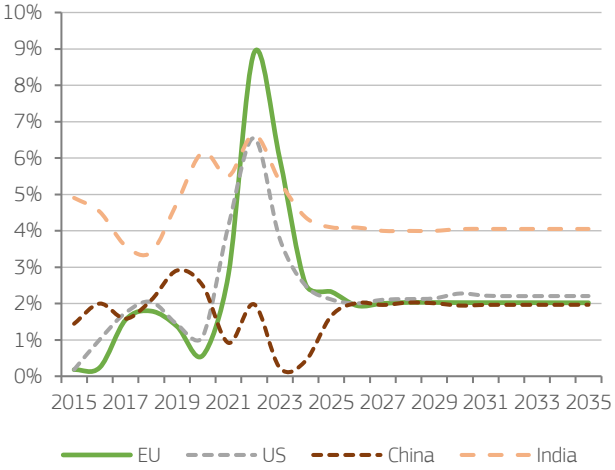
Exchange rates are important variables to account for, as they directly impact the EU's trade competitiveness. In 2025, trade policy uncertainty affected the value of the USD, despite some small gains observed in the early summer. This depreciation is not only due to the introduction of tariffs, and the consequent uncertainty over trade retaliations, but also due to macroeconomic expectations. It is assumed that the EUR will appreciate against the USD only in the short term (until 2026) to 1.16 USD per EUR, and converge back to 1.13 USD by 2035 in line with the previous edition of the EU Agricultural Outlook.

GRAPH 1.1 Annual growth in real GDP



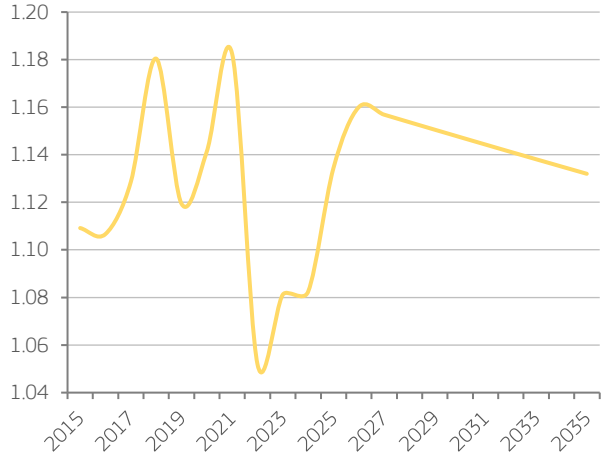
Source: DG Agriculture and Rural Development, based on AMECO and European Central Bank until 2026, OECD-FAO and S&P Global afterwards, as well as for non-EU countries.

GRAPH 1.2 Annual growth in consumer prices



Source: DG Agriculture and Rural Development, based on AMECO and European Central Bank until 2026, OECD-FAO and S&P Global afterwards, as well as for non-EU countries and regions.

GRAPH 1.3 Exchange-rate-value of the euro in USD

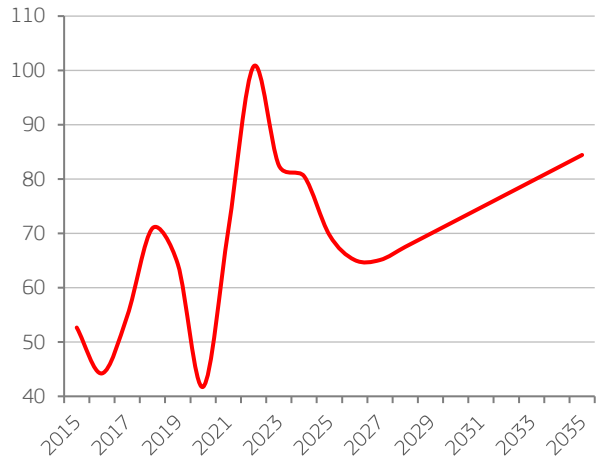


Source: DG Agriculture and Rural Development, based on OECD-FAO and European Central Bank until 2026. Afterwards, it is based on expert judgment.

LOWER OIL PRICE ESTIMATES DUE TO WEAK GLOBAL DEMAND AND INCREASED SUPPLY

Compared with last year's EU Agricultural Outlook, the projected pathway of Brent crude oil prices has been significantly revised downwards and projected to be in the region of 84 USD per barrel in nominal terms in the medium term. This change in energy price assumptions compared with last year's Outlook is driven by the current situation in energy markets, as oil prices in 2025 dropped significantly compared to the year before due to both: (i) lower global demand from the change in the trade environment; and (ii) the decision by the OPEC+ countries to increase oil supply. Despite these factors, and in line with the price volatility observed in the past, this downward price trend is not expected to last until 2035, but oil prices are one of the many variables affecting energy prices and therefore the competitiveness of EU agriculture against other international partners.

GRAPH 1.4 Nominal Brent crude oil price (USD/barrel)



Source: DG Agriculture and Rural Development, based on European Central Bank (until 2026) and expert judgement.

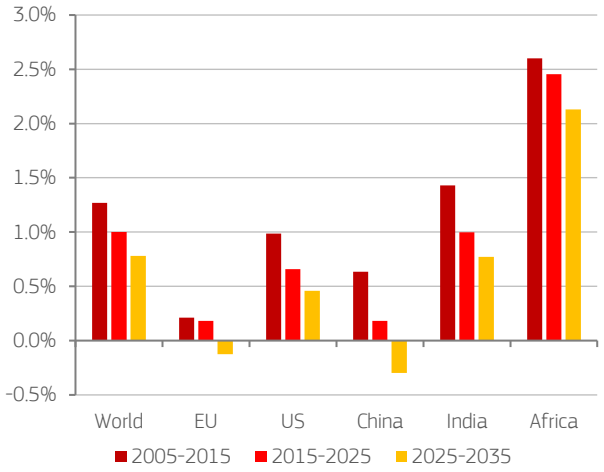
WORLD POPULATION SET TO GROW AT A SLOWER RATE

In line with the previous editions of the EU Agricultural Outlook, global population growth is projected to increase at a slower rate than over the last decade. The world's population, based on projections used for the OECD-FAO Agricultural Outlook 2025-2034, is set to increase annually by 0.8 % between now and 2035 and will therefore remain a key driver of global food demand.

The population of the African continent could grow the most rapidly during this period (+2.1% per year by 2035), while population growth prospects could be more limited in other world regions and growth is even expected to go into reverse in more developed countries. The population of China is projected to decline at an annual average rate of 0.3% in the coming decade, while the population of India is expected to continue to grow making it the most populous country in the world at almost 1.57 billion people by 2035.

EU population is projected to decrease at an annual rate of 0.1% in the coming decade, in line with the assumptions of the previous EU Agricultural Outlook, based on low birth rates, ageing population and low net migration from outside the EU.

GRAPH 1.5 Annual growth of world population



Source: DG Agriculture and Rural Development, based on Eurostat, AMECO, OECD-FAO Outlook.

TRADE ENVIRONMENT

TRADE POLICIES

Despite challenges in the international trade environment, the EU remains the leading agri-food exporter and among the world's largest agri-food importers. Regarding international trade negotiations and agreements, the future trade environment underlying this EU Agricultural Outlook includes the revised deep and comprehensive free trade agreements with Ukraine and Moldova. On the other hand, the trade agreements with Mexico, the MERCOSUR countries and Indonesia; and the joint statement between the US and the EU on their trade relations from August 2025, are not included in the projections.

The trade environment for the non-EU countries is based on the assumptions of the OECD-FAO Agricultural Outlook. Therefore, non-EU trade deals that took effect after the end of 2024 are not included (this means that several recent deals struck by the US are not included, for example those with China, the UK, Brazil or India).

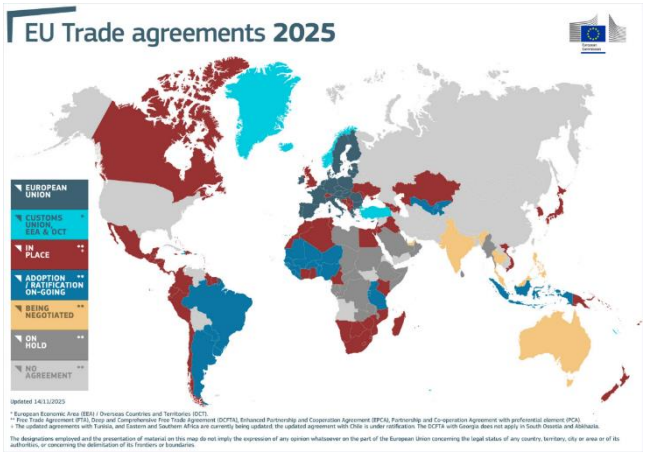
INCREASING DEMAND FOR ANIMAL PRODUCTS IS SET TO TRANSFORM GLOBAL TRADE AND PRODUCTION...

Consumption trends drive global trade flows and emerging trade agreements. As consumer incomes gradually increase in low- and middle-income countries, a shift is expected towards higher protein intake in diets, driven mainly by increasing intake of animal proteins and fish. However, the intake of these nutrient-rich food items is expected to remain low in low-income countries. Growing global demand for animal-sourced calories is expected to drive global investments in livestock and aquaculture. It is also expected to increase production in these areas and boost international trade in animal products. A likely side-effect of this trend is an increase in global agricultural GHG emissions in the next decade. In general, agricultural commodity prices are expected to decline in real terms in the medium term, although this projected decline hinges on sustained investment in productivity improvements.

... BUT CHANGES IN THE GLOBAL AGRI-FOOD TRADE REMAIN SUBJECT TO UNCERTAINTY

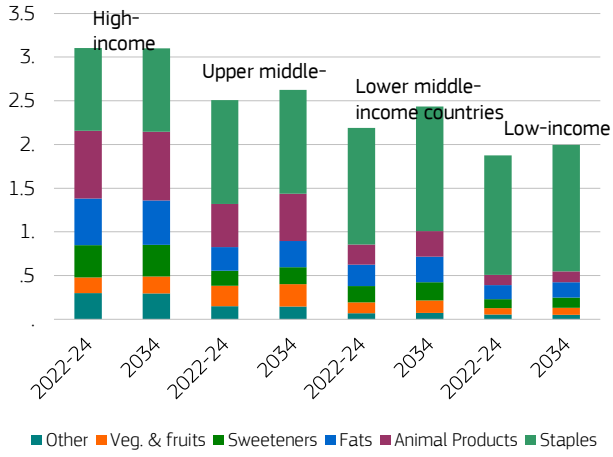
The evolution of the trade environment is subject to various uncertainties, including environmental, social, geopolitical, and economic uncertainties. Geopolitical tensions, with more global impacts, could trigger not only short-term disruptions in agri-food, inputs, and financial markets, but they could also trigger structural changes in key markets, as happened to liquified natural gas (LNG) markets after Russia's full-scale invasion of Ukraine. Climate change and animal disease outbreaks also have the potential to impact trade flows. For example, countries aiming to reduce sanitary and phytosanitary (SPS) risks can impose trade restrictions on their trading partners that have negative economic impacts. On the other hand, the agri-food trade plays an important role in stabilising agri-food markets and supporting global food security.

GRAPH 1.6 State of play of EU trade agreements



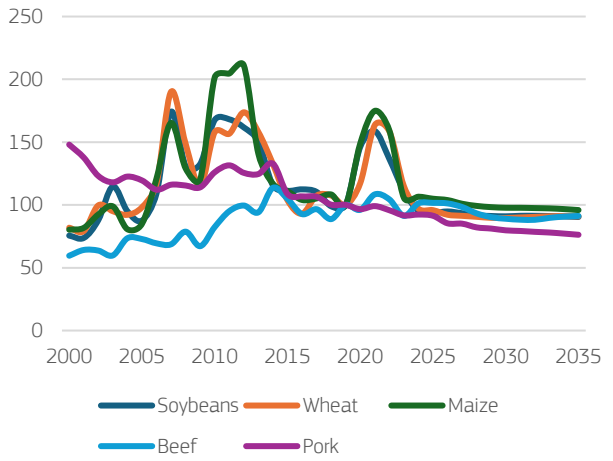
Source: European Commission

GRAPH 1.7 Contribution of food groups to total daily per capita caloric food intake (kcal/capita)



Source: OECD-FAO Outlook.

GRAPH 1.8 World commodity prices of selected agricultural commodities in real term (2019=100)



POLICY ENVIRONMENT

In the preparation of this EU Agricultural Outlook, the current EU policy environment is assumed to last until 2035. This makes it possible to prepare projections under the known policy environment. It also allows to use them to conduct scenario analyses and impact assessments.

THE CAP IN THE OUTLOOK

The EU's common agricultural policy (CAP) has been the main enabling framework supporting EU farmers since 1962. The current CAP for 2023-2027 supports farmers through: (i) direct payments; (ii) market measures to deal with difficult market situations; and (iii) co-funded rural development measures to address the specific needs and challenges of rural areas. The CAP: (i) supports farmers' incomes; (ii) improves agricultural productivity ensuring a stable supply of affordable food; (iii) helps to tackle climate change and ensure the sustainable management of natural resources; and (iv) strengthens the socio-economic fabric of rural areas. The current CAP is included in the Outlook's model in two ways. Coupled and decoupled payments per hectare/head are implemented directly in the model. The payments corresponding to the last year of implementation of the current CAP (2027), are assumed to continue until 2035 (not adjusted for inflation). Other CAP measures are considered indirectly through assumptions based on literature and expert judgements.

AGRICULTURAL POLICY ENVIRONMENT AFTER 2027

The July 2025 proposals on the multiannual financial framework (MFF) for the period 2028-2034, and on the CAP policy framework are still at very early stages so they are not included in this report. However, the Commission's 'Vision for Agriculture and Food' presented in February 2025, is reflected through emphasising sustainability objectives across different markets. This report provides a partial overview of outlook implications on some of the Vision's key objectives in the sections on: (i) farm income and agricultural labour; (ii) competitiveness and food security; (iii) EU self-sufficiency and productivity; and (iv) environmental aspects.

ENVIRONMENTAL AND CLIMATE POLICIES

Besides the CAP, EU agriculture is influenced by strategies to protect the environment and minimise risks to the climate, human health and biodiversity while seeking sustainable economic growth. These strategies are underpinned by regulations which are at different stages of development or implementation. Because these regulations are at different stages of development, their use in this EU Agricultural Outlook depends on the level of progress each of these regulations have made. Environmental policies are not explicitly taken into account in the model used to develop the EU Agricultural Outlook. The following four environmental/climate policies are considered in particular in this EU Agricultural Outlook.

The Nitrates Directive lays down codes of good agricultural practices to reduce water pollution caused by nitrates, potentially limiting the use of nitrogenous fertilisers. Ireland and the Netherlands have derogations until the end of 2025. *This EU Agricultural Outlook assumes the continuation of the derogations given that they were in place at the moment of the cut-off date of September 2025.*

The Bioeconomy strategy supports innovation for circular and sustainable production. It has been driving forest expansion by promoting the sustainable supply of biomass. *No assumptions of greater forest growth due to this strategy are included in this EU Agricultural Outlook because the competition for land use constrains additional growth of forest land.*

The Nature Restoration Law sets targets to restore degraded ecosystems, thus promoting carbon storage and preventing natural disasters. It entered into force in 2024, but its implementation is expected only around mid-2026, after EU countries adopt their national restoration plans. For this reason, no assumptions about the effects of the Nature Restoration Law *are included in this EU Agricultural Outlook.*

The Regulation on Deforestation-free Products guarantees that products marketed in the EU are not produced on agricultural land that has recently expanded into forest area. The Regulation can influence the import price of these products. *This EU Agricultural Outlook considers this regulation by assuming an increase in soya bean prices compared to the previous edition.*

NEW MARKET DEVELOPMENTS

In a departure from previous Outlooks, this EU Agricultural Outlook includes new regulations influencing fertiliser markets. In May 2025, a regulation to increase customs duties on nitrogen fertilisers imported directly or indirectly from the Russian Federation (Russia) or the Republic of Belarus has been adopted. The adoption of the tariffs will take place gradually and reach approximately 100% ad valorem equivalent in 2028. Moreover, the definitive regime of the EU's Carbon Border Adjustment Mechanism (CBAM), which aims to avoid carbon leakage and promote decarbonisation in non-EU countries, will enter into force in 2026 in a phased approach. The CBAM will ensure a level playing field for the EU industry that will receive in parallel less ETS free allocations. The impact of both policy developments already started to take effect, modifying the current international trade patterns and prices of nitrogen fertilisers prices. *This EU Agricultural Outlook assumes an increase in nitrogen fertiliser prices due to these developments, compared to the previous edition.*

Temporary tariffs are currently applied by China on imports of EU pigmeat. *In this EU Agricultural Outlook, only the short-term impacts of these tariffs are reflected. Without further clarity on Chinese tariffs on other products (e.g. dairy), the effects of these other tariffs are not included.*

2. OUTLOOK IN A NUTSHELL

This 'outlook in a nutshell' presents the implications of our market projections on i) self-sufficiency and productivity, ii) EU competitiveness and global food security, and iii) EU food security.

Agricultural productivity growth in the EU is expected to slow over the outlook due to the combined effect of adverse weather, continued sustainable transformation of the sector and technological improvements, leading to lower productivity gains for cereal and oilseed crops, but more favourable trends for milk and poultry production. Food use will remain stable, but demand for feed is projected to decline and fuel use is constrained by regulatory limits. The EU is expected to remain self-sufficient in essential crops, meat and dairy products.

The EU is expected to face increasing competition on the world stage, notably for basic commodities, challenging the EU market share, but the EU is expected to remain competitive in high value-added products.

The EU is expected to remain food secure over the outlook, with an overall declining household spending on food and increase in caloric intake. However, the outlook also highlights potential challenges from rising income inequality and an increase in overweight and obesity rates.

SELF-SUFFICIENCY AND PRODUCTIVITY

PRODUCTIVITY GROWTH SLOWING DOWN

Productivity (expressed in yields) is expected to continue growing in the EU between now and 2035, although at a lower rate than from 2015 to 2025. For example, it is projected that cereal yields could continue to grow at the current rate (0.1% per year), while oilseed yields could remain relatively stable and milk yields could grow by 1.2% per year (compared to 2% from 2015 to 2025). This is based on assumptions of more frequent adverse weather and assumed trends in sustainability factors (e.g. reduced use of inputs and an expansion of extensive production), combined with technological developments and ongoing structural changes (e.g. growing size of farms, production moving to more favourable and productive areas). This could result in further productivity gains for milk, poultry and oilseeds and a stable production of cereals, while the production of selected fruits, sugar, beef, pigmeat and sheep and goat meat is expected to decline. Production is also affected by EU policies (e.g. support for protein crops), consumer demand (projected to grow for dairy and olive oil but to fall for pigmeat and wine), and EU export competitiveness (declining for pigmeat, for example).

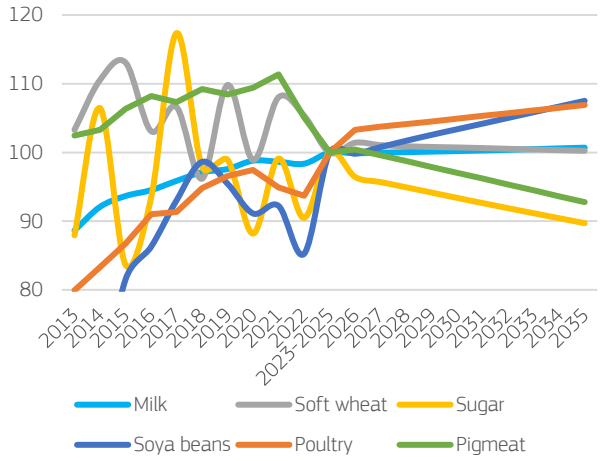
FOOD USE REMAINS FIRM AS FEED USE CONTRACTS

EU agricultural production mainly serves to satisfy domestic food demand but also has other uses. For example, cereals and oilseeds are used for food and feed but also for bioenergy and industrial purposes. While feed is projected to remain the main use, it could decline due to reduced pigmeat and beef production combined with improved feed efficiency. Food use is set to remain relatively stable while biofuel use is determined by a cap set in 2020 and incentives to promote biofuels (RED III). EU consumption of dairy products is expected to remain high, with a shift towards fortified dairy products, while EU meat consumption is projected to decline marginally, with demand shifting from red meat (e.g. beef and pigmeat) to white meat (poultry). The consumption of apples and oranges are projected to increase due to increased demand for processed products, while the consumption of peaches and nectarines is expected to decline slightly. The ongoing structural decline in EU wine consumption is expected to continue in the period leading up to 2035.

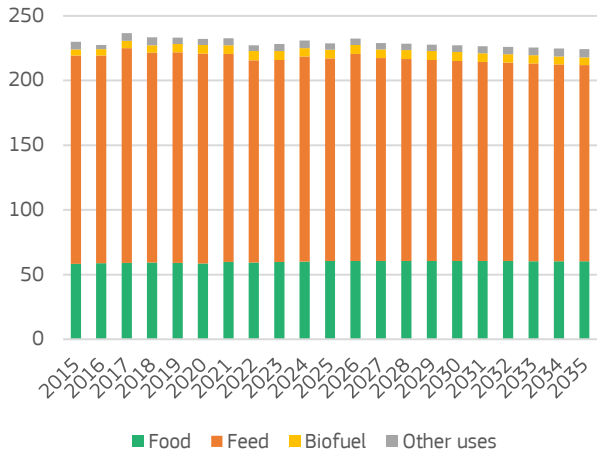
THE EU REMAINS SELF-SUFFICIENT

The EU is projected to remain self-sufficient in cereals (especially for food purposes), meat and dairy products in 2035 thanks to varied climate and growing conditions able to largely satisfy EU and global needs. With regard to oilseeds and pulses, the EU is projected to remain a net importer, but imports could decline thanks to increasing domestic production, especially of soya beans, pulses and sunflower oil. Furthermore, the EU is projected to continue to produce surpluses for apples, peaches and nectarines, as well as olive oils due to production increases and consumption which remains stable.

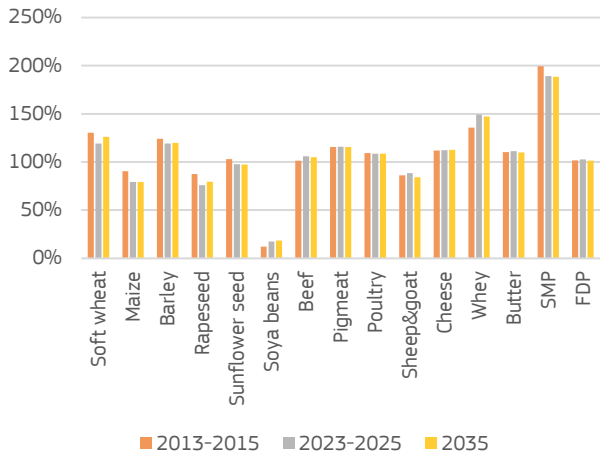
GRAPH 2.1 EU production of selected products (2023-2025=100)



GRAPH 2.2 EU cereal consumption (million t)



GRAPH 2.3 Self-sufficiency rates



COMPETITIVENESS AND GLOBAL FOOD SECURITY

SLOWDOWN IN GLOBAL TRADE FLOWS

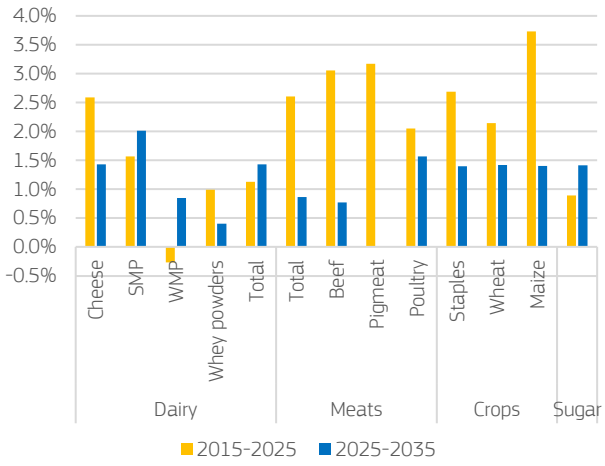
The OECD-FAO outlook report predicts that technological advancements, and corresponding efficiency gains in agricultural production globally, could lead to increasing self-sufficiency rates in many of the EU's traditional export markets. Some key export destinations (such as China) could see lower income and population growth than in the past, which in turn is expected to lead to reduced growth in global agricultural trade. At the same time, there is a shift towards animal proteins which could create new opportunities. However, competition in basic commodity export markets is intensifying along with moves towards more regionalised trade agreements. In this global context, this outlook report projects that the EU could lose market shares for several products (e.g. beef, pigmeat, skimmed milk powder, whole milk powder and wheat), gain market shares for e.g. whey powder and olive oil and remain stable in the market for poultry. While the EU is expected to face tough competition in the market for basic commodities, there is a potential for growth in certain up-market products that are only partially covered by this report (e.g. certain categories of cheese, olive oil and wine).

THE EU IS FACING MULTIPLE TRADE-RELATED CHALLENGES

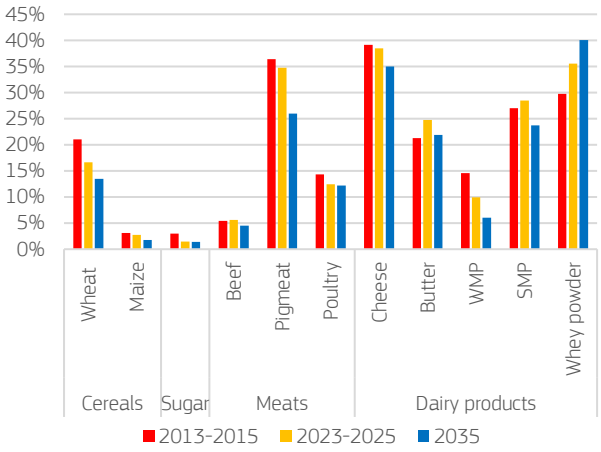
In 2035, EU net trade is projected to improve for cereals and specific oilseeds. Net exports are expected to grow by 0.9% per year for wheat as stable yields compensate for reduced cultivation areas, and by 0.3% per year for barley thanks to stable demand. Conversely, maize imports are expected to see a slight annual increase of 0.2% due to growing global availability. The EU's reliance on imports of oilseed and pulses is expected to decline, with a 5.9% drop in oilseed imports and a 18.8% drop in pulse imports compared to 2023-2025. This is due to a combination of lower demand for feed, linked to declining meat production, and increasing domestic supply. Conversely, the EU is losing market shares to competitors in the sugar and beef markets. Sugar exports are projected to fall to just 1 million t by 2035 due to declining domestic production and consumers increasingly opting for products with a lower sugar content. The EU beef market faces tougher competition, with EU exports projected to decline by 0.8% per year between now and 2035 due to tight supply. Similarly, pigmeat exports are expected to decrease by 1% per year as competition increases and demand from key markets such as China weakens.

Cheese remains the EU's flagship export product, with exports projected to increase by 0.7% year in the period up to 2035 thanks to favourable global consumption trends. However, increasing global competition, especially in lower-value cheeses, could slow growth. While domestic demand for butter is expected to remain stable, the EU could struggle to remain competitive in the export market, with exports projected to decline by 0.6% per year. Demand for EU whey products is also expected to remain strong, with production projected to increase by 0.8% and exports by 0.5% per year, supported by rising global consumption.

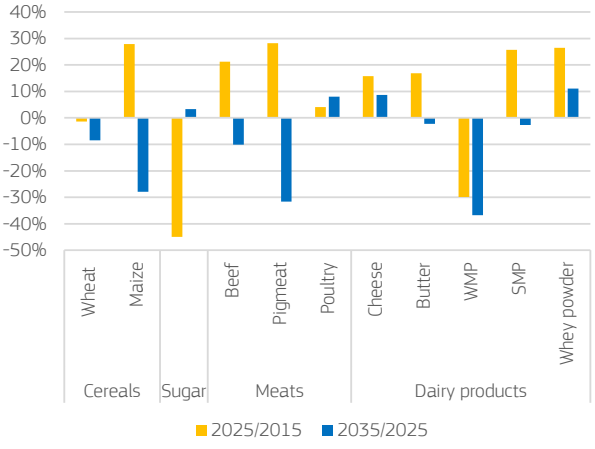
GRAPH 2.4 Annual growth rate in global agricultural imports



GRAPH 2.5 EU shares of global exports in selected agricultural products



GRAPH 2.6 EU export volume change in selected agricultural products



EU FOOD SECURITY

MORE CONCENTRATED PRODUCT TRADE FLOWS...

Trade flows remain essential to EU food security. Trade provides products and inputs (such as feed) for which local growing conditions are unfavourable. Many traded goods contribute to a diversified diet among Europeans. At the same time, EU exports contribute to global food security while boosting EU farmers' income. In both cases, diversification is vital to keep EU food systems resilient. To measure this, product and market concentration indices are used. The indices for both product exports and product imports indicate a moderate concentration level, expected to increase slightly between 2025 and 2035 (to 0.349 and 0.345, respectively). This is mainly due to higher export and import shares for processed food products (+1.7 pp and +1.6 pp, respectively) and, to a lesser extent, for products such as 'other cattle meat' or 'bovine cattle'. 'Dairy' and 'other meat products' (e.g. pigmeat) are projected to see the highest relative decrease in their share of trade (0.3 pp in each case).

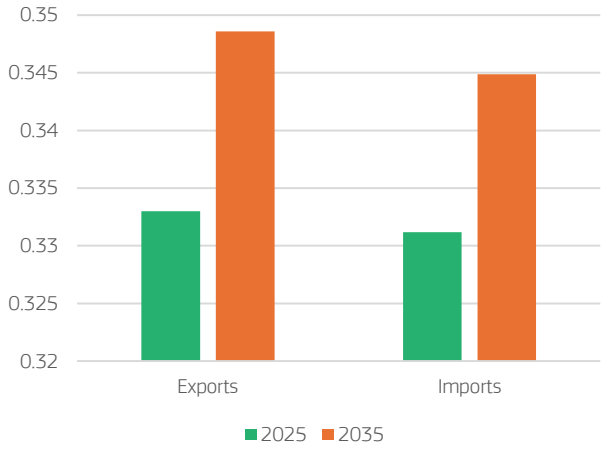
... BUT STABLE GEOGRAPHICAL CONCENTRATION

The market concentration index for exports is expected to remain stable for most products, except for significant projected changes for paddy rice (down from 0.742 to 0.613), wheat (up from 0.598 to 0.661) and bovine cattle (up from 0.327 to 0.376). Wheat is a staple in EU agricultural exports, with increased concentration due to exports to Africa increasing in volume, replacing exports to Asia/Oceania. Exports of fruit, pigmeat and dairy products are projected to decline only slightly, with trade flows remaining highly concentrated. Regarding imports, a notable decline is expected for bovine meat (from 0.458 to 0.329), processed rice (from 0.748 to 0.703) and sugar beet (from 0.391 to 0.347). More diversified sourcing could reduce the market concentration in bovine meat. A minor drop is also expected for oilseeds and sugar.

HOUSEHOLD SPENDING ON FOOD DECLINES

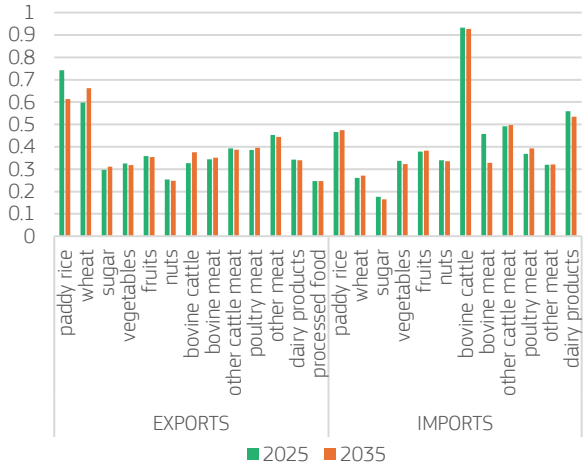
Households are projected to spend a decreasing proportion of their income on food (down nearly 2 pp to 20.3% in 2035), suggesting that food, including catering and restaurants, could become more affordable. This reflects post-COVID-19 developments and ongoing trends over the past two decades in countries that joined the EU in and after 2004, somewhat dented by high food inflation in the past few years. People in Eastern EU countries have historically spent relatively more on food due to lower incomes, impacting their purchasing power, but by 2035 spending shares are expected to have converged, with Bulgaria, Estonia, Latvia, Lithuania and Romania likely to see the biggest drop due to rising per capita income and changing spending preferences. By 2035, Poland, Slovakia and Slovenia could have lower food expenditure shares than many pre-2004 EU countries as income levels rise.

GRAPH 2.7 Product concentration index of EU trade flows



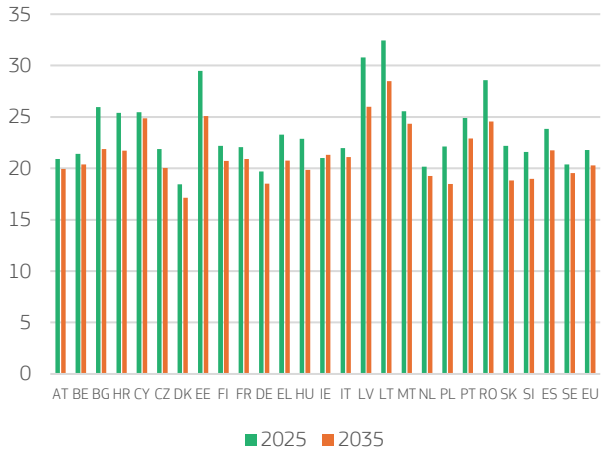
Note: This and the following graphs illustrate the normalised Herfindahl-Hirschmann index. This graph measures the degree of concentration of products exported and imported. The index ranges from 0 to 1; a high value indicates that a large proportion of trade relies on a small number of products.
Source: MAGNET simulation.

GRAPH 2.8 Market concentration index- exports



Source: MAGNET simulation.

GRAPH 2.9 Food expenditure as a % of household budget



Source: MAGNET simulation.

INCOME INEQUALITY CONTINUES TO GROW

The Palma inequality ratio for the EU is projected to rise from currently 1.11 to 1.15 in 2035, indicating increased income inequality between the top 10% and the bottom 40% (a value above 1 means the income of the top 10% is higher than that of the bottom 40%). In the past (2006-2015) the ratio increased in most EU countries, while Bulgaria (+0.36), Portugal (+0.35) and Spain (+0.35) are expected to see the highest absolute increase in the future. Spain could see the greatest relative rise in inequality (+25.5%), indicating faster income growth for the richest 10%. By 2035, Cyprus, France, Greece, Italy, Latvia, Lithuania and Romania are projected to exceed a value of 1, indicating growing inequality, while Estonia, Poland and Croatia could see a decrease. Countries with a significant Palma ratio increase tend to have high per capita income growth.

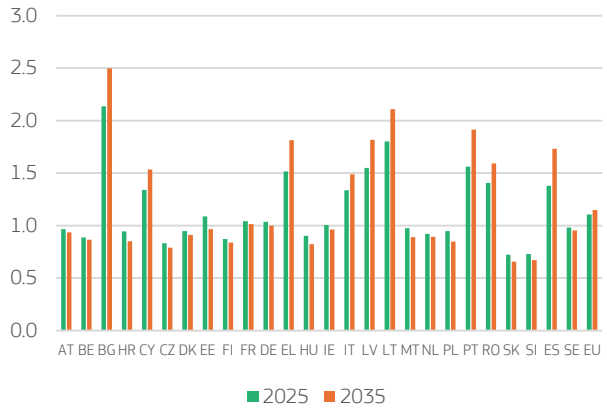
INCREASED CONSUMPTION OF ANIMAL PROTEINS

The current dominance of animal protein in EU food availability (63%) is not expected to change by 2035. Overall, the availability of proteins could increase slightly in line with the growing protein needs of an ageing population. However, there could be a shift between various protein sources, with dairy products likely to see the largest relative increase to offset a lower intake of meat (except poultry), followed by eggs and fish. While pulses are expected to grow the most, they could continue to contribute relatively little to the overall protein intake. In terms of calory intake, staple food and other plant-based products (including sugar) continue to account for the major share at 68%. The calory intake, already high in the EU compared to other parts of the world, is projected to grow slightly (by around 2%), which could further increase the risk of overweight and obesity.

OVERWEIGHT AND OBESITY ARE ON THE RISE

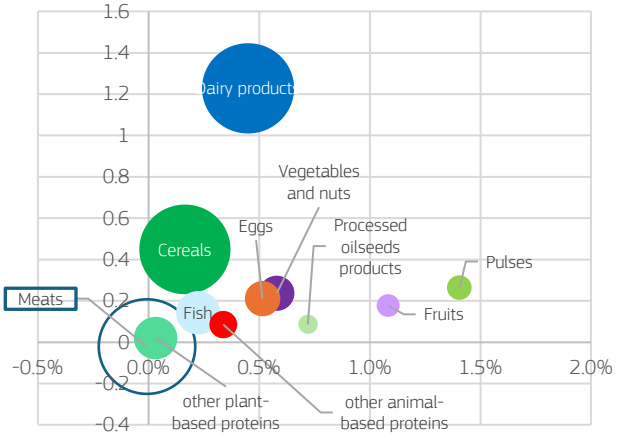
The calory intake is linked to the body mass index (BMI). The average EU BMI is already above the recommended range (18.9-24.5), similar to other high-income regions (e.g. OECD members) and is expected to reach 25.9 by 2035. Apart from an ageing population, a rising BMI is linked to increased income and availability of cheap, calorie-rich foods (known as the nutrition transition). Most EU countries are expected to see fast BMI growth. In Bulgaria and Hungary, this is due to growth in per capita food consumption, while the increase in Czechia and Italy is down to calorie-rich diets. By 2035 Malta is expected to have the highest BMI at 27.6, and Italy the lowest at 24.9. The proportion of the population within the recommended BMI range could fall from 40.3% to 39.8%, as the share of overweight and obese people rises by 0.2 pp and 0.5 pp, respectively. This trend could challenge health systems, since a higher BMI increases the risks of cancer and cardiovascular disease. Bulgaria (+1.8 pp) and Italy (+1.5 pp) are expected to see the largest rise in overweight and obesity rates, while only Slovenia (-0.3 pp) and Latvia (-0.1 pp) are projected to see a decrease. This could be reverted by increasing consumption of fruit and vegetables.

GRAPH 2.10 Palma ratio by EU countries



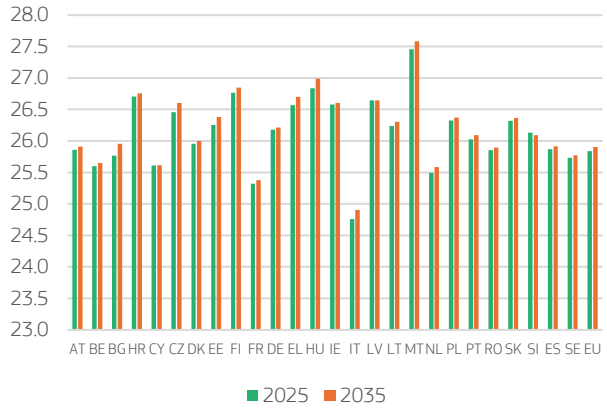
Note: Unlike other inequality indices (e.g. Gini), the Palma ratio addresses over-sensitivity to changes in the middle of the distribution and insensitivity to changes at the top and bottom, and therefore more accurately reflects the economic impact of income inequality on society.
Source: MAGNET simulation.

GRAPH 2.11 Changes in protein in EU food availability by groups of product



Note: The size of the bubbles represents absolute protein food availability per capita per day in 2035, the X axis shows the annual growth rate between 2025 and 2035, and the Y axis the absolute change in calories over the same period.
Source: EU Agricultural Outlook 2025 (AGLNK-COSIMO simulation).

GRAPH 2.12 BMI average by EU countries



Source: MAGNET simulation.

3. ARABLE CROPS

This chapter provides an outlook for arable crops, presenting trends in production, consumption and trade for: (i) cereals (common wheat, durum wheat, barley, maize, rye, oats and other cereals); (ii) oilseeds and protein crops (rapeseed, sunflower seeds, soya beans and pulses); and (iii) several processed products (sugar, vegetable oils, protein meals, biodiesel and ethanol). The chapter also includes an outlook for land use developments across different types of agricultural land and forest.

Agricultural and forest land in the EU is projected to decline slightly by 2035, maintaining overall stability compared to the 2023-2025 average. Despite this overall stability, various factors such as extreme weather, water scarcity, and policy changes could lead to shifts within specific land uses, including declines in the land area dedicated to grassland, cereals and permanent crops. Volatility in both the affordability and availability of inputs affecting the competitiveness of EU arable crops- and the lower demand for feed and biofuels- disincentivise an extension of arable areas.

Yields projections consider the growing impact of climate change and constraints on the use of agricultural inputs (which act to reduce yields) and yield-enhancing factors (such as precision farming).

The use of arable crops and their products for food is being driven by the expected consumer demand for healthier diets and more plant proteins. Animal feed remains the main use of these crops but a reduction in demand for animal proteins is also leading to lower demand for arable crops for animal feed. The progressive substitution of crop-based biofuels with advanced biofuels is expected to lead to reduced demand for oilseed oils, especially rapeseed oil. Trade in arable crops is set to follow production and use patterns, with the EU set to maintain its competitiveness as a net global wheat exporter, while reducing imports of oilseeds.

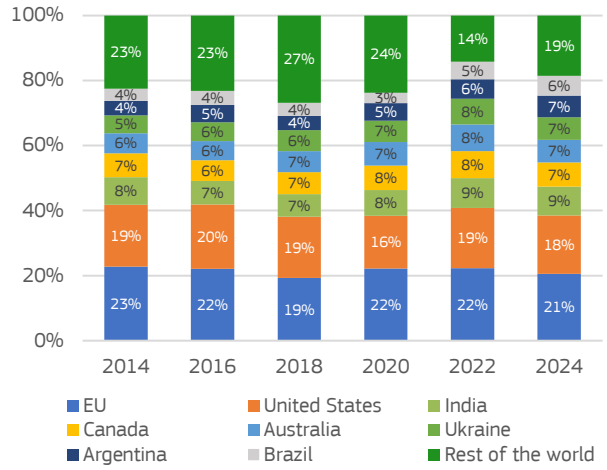
DRIVERS AND TRENDS: CEREALS, OILSEEDS

GLOBAL CEREAL PRODUCTION TO REBOUND

The main producers active in global cereal markets are the EU, the Black Sea region, the US, and Canada. After an unfavourable crop marketing year in 2024/2025, global production is expected to reach a new peak in 2025/26, linked to improved growing conditions boosting yields of wheat and barley in the EU, the Black Sea region, Argentina, and the US. As a result, global availability of cereals is expected to increase, with Russia, the EU and Canada set to lead in exports. These ample supplies, and attractive prices, could bring also consumption and stocks to new peaks.

Beyond the short term, future EU cereal production is expected to be even more closely linked to: (i) the availability and affordability of inputs; (ii) weather volatility; and (iii) climate volatility. In particular, the price of fertilisers will continue to be driven by energy prices, new tariffs imposed on nitrogen fertilisers from Russia and Belarus from 2025, and the enforcement of the CBAM from 2026.

GRAPH 3.1 Share of main cereal exporters on global exports

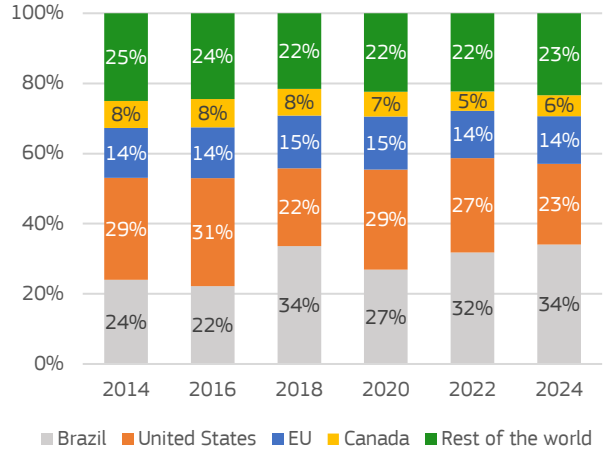


Source: UN COMTRADE.

INCREASES IN LAND AREA DEDICATED TO OILSEEDS WILL DRIVE PRODUCTION

Unlike its position in cereals, the EU accounts for a smaller share of global oilseed production, ranking third in the world after Brazil and the US. In 2025/2026, global soya bean production is expected to be below historic averages due to a reduced harvest in North America. However, rapeseed production could grow, supported by yield recovery in the EU, Canada, and Russia. Global sunflower seed production is also expected to rise that year, thanks to increasing planted area. Between now and 2035, the availability and affordability of inputs could be an important production driver for oilseeds just as it is expected to be for cereals. The constrained availability of traditional plant protection products is expected to be eased by the development of new plant protection products, such as bio-pesticides.

GRAPH 3.2 Share of main oilseed exporters on global exports

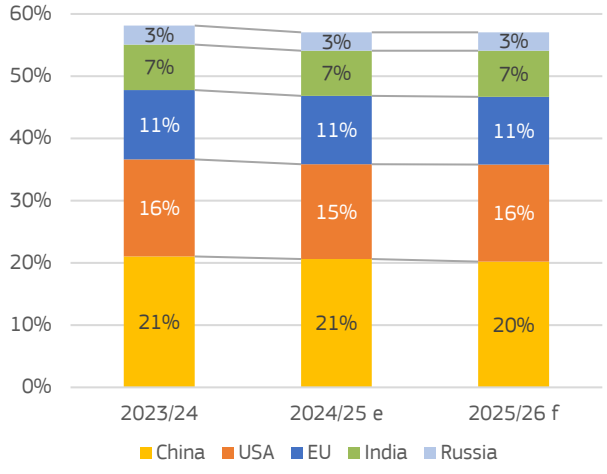


Source: UN COMTRADE.

HIGHLY CONCENTRATED DEMAND FOR GRAINS

In 2023-2025, global grain consumption will be concentrated in China, the US, the EU, India and Russia. Large volumes of wheat are consumed in China, India, and the EU, mainly for food purposes. For maize, the main users are the US, China, Brazil and the EU, mostly for animal feed and biofuels. In 2025/2026, global oilseed consumption is projected to increase, boosted by all uses. Soya bean exports to Asia and Africa are also expected to increase in 2025/2026, as are sunflower seed exports to East Asia, while rapeseed exports to the EU and China are expected to decline due to declining demand as domestic production improves and demand for oilseeds from the biofuels sector declines. Between now and 2035, EU feed use is expected to decline, as livestock production volumes fall and feeding practices change, with extensive production systems requiring smaller feed volumes than intensive ones.

GRAPH 3.3 Global grains consumption (million t)



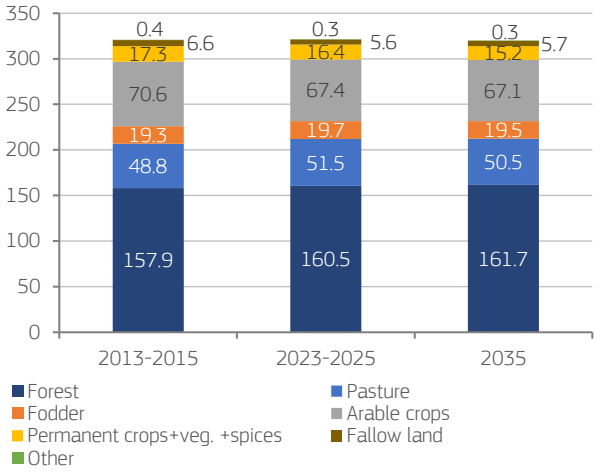
Source: International Grains Council.

LAND USE

ARABLE LAND USE DECLINING MARGINALLY

Competition between different land uses (such as for urban areas, transport, and renewable energy) impacts the amount of land that can be allocated to agriculture and forest. Nevertheless, the overall amount of agricultural and forest land in the EU is projected to decline only marginally. However, this overall stability hides significant variation between different types of land use. Land use is subject to conflicting trends. On the one hand, any extension of land area dedicated to arable crops is being disincentivised by: (i) potential impacts of more frequent extreme weather events, water scarcity; (ii) volatility in the affordability and availability of inputs affecting the competitiveness of EU arable crops; and (iii) forecasts for lower demand for feed and biofuels. On the other hand, greater demand for certain arable crops could incentivise area expansion more positively, resulting in only a slight decline in arable area of -0.4% in 2035 compared with 2023-2025 overall.

GRAPH 3.4 EU agricultural and forest area (million ha)

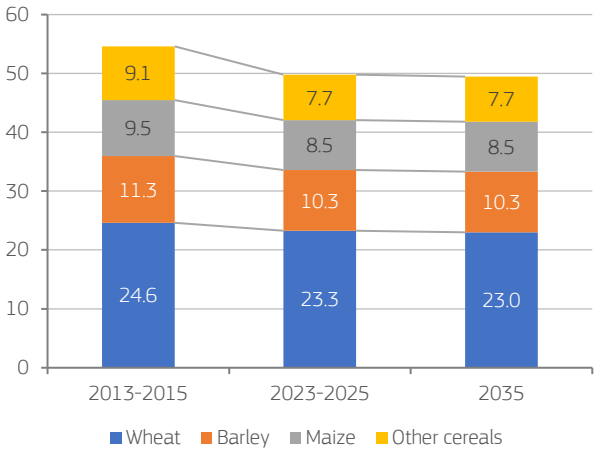


Note: Arable crops include cereals, oilseed, pulses and sugar beet. other agricult land includes among others cotton and groundnut.

PASTURE, FODDER AND PERMANENT CROPS AREAS TO DECREASE

Pasture and fodder areas are expected to decline, affected by decreasing ruminant numbers, making these areas more vulnerable to land abandonment, especially in mountainous regions and southern and Eastern European countries. In more productive areas, these former pasture and fodder areas could be converted to cropland. The amount of land left fallow is projected to remain stable in the next decade, given the limited profitability of arable crop farming with low grain prices and high input costs. The area dedicated to permanent crops, vegetables and spices is projected to decrease between now and 2035 (down 7.2% compared with 2023-2025), affected by climate-change-related impacts and fewer workers available to cultivate the areas. Forest land is expected to increase marginally (+0.8 % compared with 2023-2025) due to grassland abandonment and different EU strategies supporting afforestation, reforestation and tree planting. However, land-use competition with both urban areas and areas for food production are limiting further forest expansion.

GRAPH 3.5 EU cereal area (million ha)

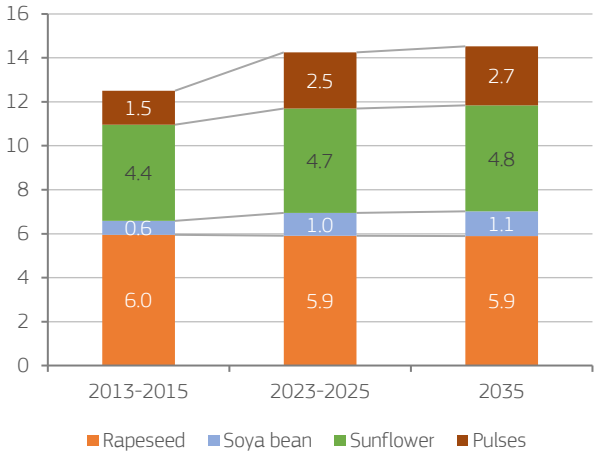


Note: Other cereals include rye, triticale, oats, sorghum and other cereals

OILSEEDS AND PULSES AREAS TO INCREASE

The land area dedicated to cereals is projected to slightly decline to 49.5 million ha in 2035 (-0.6% compared with 2023-2025) due to competition with other crops and higher prices for fertilisers. The decline in arable crops is projected to be driven by wheat and rye, while maize and barley areas could remain relatively stable. The land area dedicated to cultivating oats is set to increase due to higher demand. The land area dedicated to oilseeds and pulses is also expected to increase (up 2% by 2035 compared with 2023-2025) driven by growing demand, the environmental benefits of oilseeds and pulses, lower production costs, the relative drought resistance of sunflowers, and policy incentives to support the production of pulses and soya beans. The area dedicated to rapeseed is expected to remain stable over the coming decade, as its expansion is likely to be limited by low demand for biofuels and a lack of available plant protection products.

GRAPH 3.6 EU oilseeds and pulses area (million ha)



CEREALS

WHEAT YIELDS HAVE THE POTENTIAL TO INCREASE

By 2035, yields of barley and maize are projected to remain stable compared with 2023-2025, while total wheat yields could return to higher 2013-2015 levels, with growth of 0.1% per year. Any negative effects on yields in the coming years are likely to come from: (i) increasingly frequent extreme weather events; (ii) the expansion of land area cultivated with lower yielding practices (e.g. organic farming); and (iii) negative impacts due to the affordability and availability of inputs. Nitrogen fertiliser prices could be affected by the CBAM and new tariffs on Russia and Belarus, potentially constraining their use. On the other hand, these effects could be counterbalanced by positive innovation developments that boost yields such as mitigation technologies and sustainable practices, supported by policy. Positive future yield developments could also come from continuously decreasing yield gaps between eastern and western EU countries, albeit this shrinking yield gap between east and west is likely to have less impact than it did in the past. Improvements in wheat yields are also likely to be driven by both the importance of this crop for the EU and the efforts made to improve wheat varieties to assist in recovery from the low-yielding crop seasons in 2023-2025.

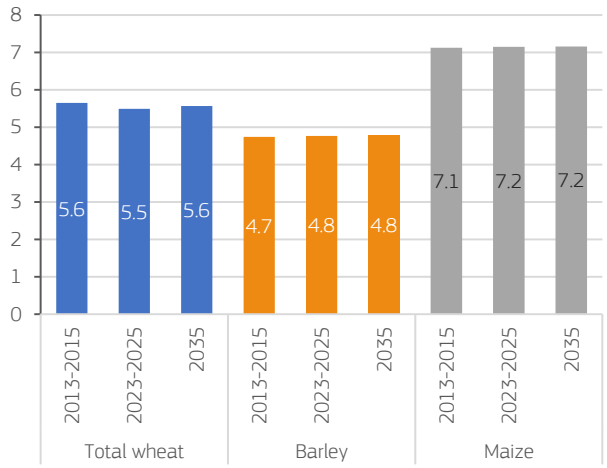
LIMITED GROWTH IN OVERALL CEREAL PRODUCTION WITH GROWTH EXPECTED IN MINOR CEREALS

By 2035, overall EU cereal production is projected to be 267.7 million t (0.6% above 2023-2025 annual production). Production of wheat is projected to remain stable, after picking up from the reduction in production in 2023-2025, with yield improvements compensating for a reduction in land area dedicated to wheat cultivation. Both soft and durum wheat production are projected to increase by 0.3% above their 2023-2025 level in 2035, at 120.6 million t and 7.5 million t, respectively, still well below 2013-2015 levels. Both maize and barley production are projected to remain stable at 60.8 million t and 49.2 million t, respectively. Apart from these major cereals, production of other, minor cereals, is projected to grow more strongly, rising by 0.3% per year by 2035, driven by oats. Oat production is expected to be 7.5% above 2023-2025 levels in 2035 because of growing demand, especially for food products.

STABLE FOOD USE AND COMPETITIVE EU EXPORTS

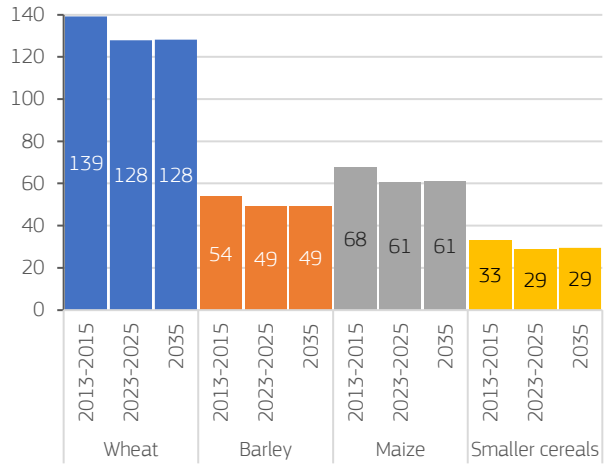
EU food use of cereals is expected to increase marginally to 57.1 million t by 2035 (0.2% above 2023-2025), driven by food consumption of oats (4.1% above 2023-2025). Net trade of cereals is expected to remain relatively unchanged between now and 2035. However, net trade of soft wheat and barley could continue growing, by 0.9% and 0.3% per year over the coming decade, respectively. Soft wheat imports are projected to decline between now and 2035 (-3.3% per year) due to greater domestic production in the EU, while maize imports could slightly increase (0.2% per year) as global availability improves. On cereals prices, between now and 2035 these are projected to increase at about 1.7% per year, influenced by higher fertiliser prices.

GRAPH 3.7 Cereal yields in the EU (t/ha)



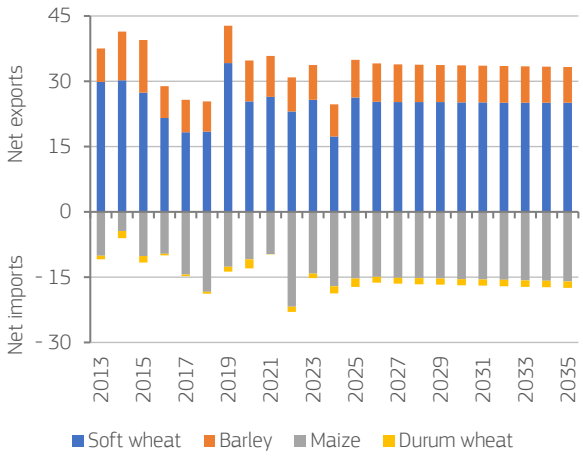
Note: Total wheat includes soft wheat and durum wheat.

GRAPH 3.8 EU cereal production (million t)



Note: Minor cereals include rye, triticale, oats, sorghum and other cereals

GRAPH 3.9 EU net trade of cereals (million t)

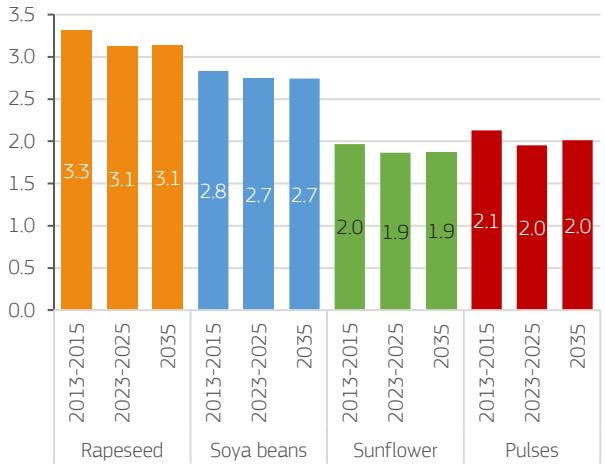


OILSEEDS AND PROTEIN CROPS

STABLE YIELDS DESPITE UNPREDICTABLE WEATHER AND FEWER INPUTS

Yields of sunflower and pulses are projected to increase only marginally between now and 2035 (up 0.1%, and 3.0% respectively compared to especially low yields in 2023-2025), while yields of soya beans and rapeseed are set to remain stable. Like with cereals, the possible negative effects on yields from unpredictable weather events, more frequent extreme weather events, the expansion of low-yielding areas, and lower availability of plant protection products (particularly for rapeseed), could be still offset by positive effects from technology adoption, biopesticides and sustainable practices, which are supported by EU policies. Some new technological improvements will also be made available by 2035, including through innovation in active substances for plant protection.

GRAPH 3.10 EU oilseeds and pulses yields (t/ha)

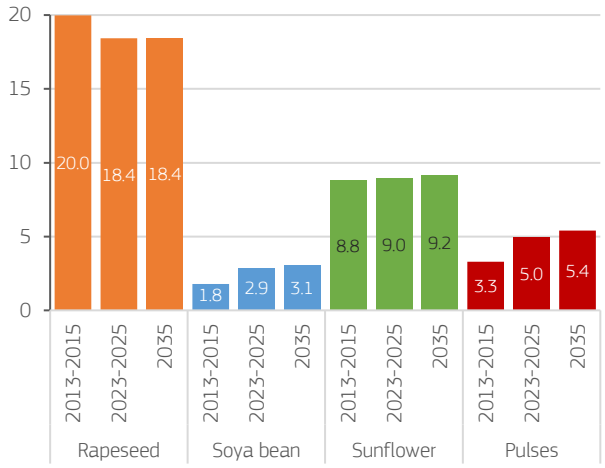


PULSES, SUNFLOWER SEEDS AND SOYA BEANS ON THE RISE

Production of oilseeds and pulses is projected to increase to 36.1 million t by 2035 (+2.5% compared with 2023-2025). This production growth is expected to be driven by an increase in cultivated areas, supported by both: (i) EU policies for pulses and soya beans; and (ii) increasing food demand for plant-based proteins. This could be especially positive in boosting demand for pulses.

As a result, production of pulses in the EU is projected to increase the most of any oilseed or protein crop between now and 2035 (0.8% per year), followed by soya beans (0.7%) and sunflower seed (0.2%). Rapeseed production is set to remain stable at about 18.4 million t, driven by a declining demand for biofuels and reduced availability of plant protection products.

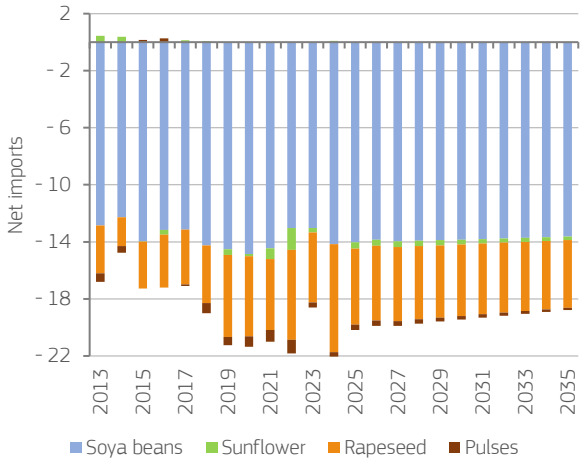
GRAPH 3.11 EU oilseeds and pulses production (million t)



IMPORTS OF OILSEEDS AND PULSES SET TO DECLINE

By 2035, the use of oilseeds in the EU is expected to decline (-1.5% compared with 2023-2025), due to declining biofuel demand for rapeseed (-4.5% compared to 2023-2025). By contrast, use of sunflower seeds is projected to increase driven by food demand (2.7% compared to 2023-2025), while the use of soya beans is expected to increase only marginally (0.6 % compared to 2023-2025). Food use of pulses in the EU is projected to increase by 13% compared with 2023-2025, although feed will remain the main use for pulses. On trade, the EU is set to remain a net importer of oilseeds and pulses between now and 2035, although imports could be lower due to increased domestic production. By 2035, net imports of oilseeds are projected to have declined by 5.9% compared with 2023-2025, while annual imports of pulses are projected to decline considerably, down 2.1% per year. Oilseed prices are set to grow more slowly between now and 2035 than they did in the period 2015-2025, with soya bean prices projected to increase the most by 2035 (1.6% per year growth over the coming decade).

GRAPH 3.12 EU net trade of oilseeds and pulses (million t)



VEGETABLE OILS

LOWER CRUSHING RATES DUE TO LOWER FEED AND BIOFUEL DEMAND

When crushing oilseeds, two products are obtained: oil meals (plant proteins mostly used for animal consumption) and vegetable oils (which can be used for food, biofuel, other industrial uses or feed). Between now and 2035, EU oilseed crushing volumes are projected to remain rather stable, decreasing marginally by -0.2% per year over this period to 44.8 million t. Within the oilseeds category, crushing of rapeseed is projected to decline the most, falling 5.1% between 2023-2025 and 2035 to 22.3 million t. It is assumed that this decline will mostly be due to lower demand for biofuel. This decline is likely to be partially compensated for by an increase in soya bean crushing where volumes will increase by 14.5 million t over the period (+0.9% compared to 2023-2025). Crushing volumes for sunflower seeds is projected to remain rather stable over the period at 7.9 million t, due to stable food demand.

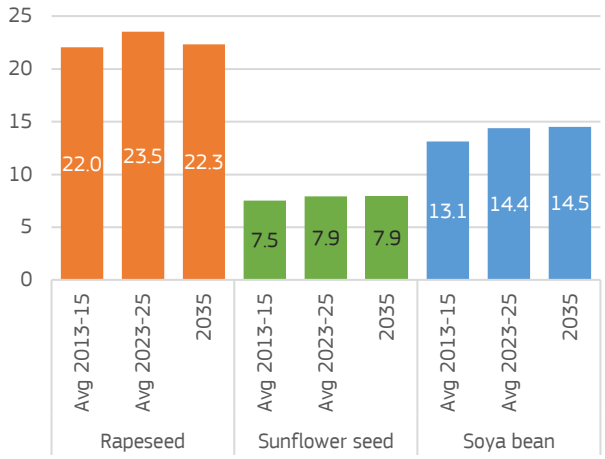
STABLE PRODUCTION OF OILSEED OILS

Projections for the volume of oilseed oils produced in the EU follow the projections for relative stability in crushing trends. By 2035, 16.5 billion l of oilseed oils are projected to be produced every year (a decline of -1.2% compared with 2023-2025). Production of soya bean oil is set to increase to 3.2 billion l over this period (+5.0% compared with 2023-2025), while production of sunflower oil is set to remain stable at 3.7 billion l. In relation to trade, the EU is projected to remain a net importer of sunflower oil, but the trade balance is expected to improve with an increase in domestic production and volumes of imports declining by 4.8 % in 2035 compared with 2023-2025. The volumes of imported soya bean and rapeseed oils are projected to remain relatively small by 2035 (0.6 and 0.2 billion l, respectively). Therefore, the supply of soya bean and rapeseed oils could remain fulfilled mainly by the domestic crushing of EU and imported seeds.

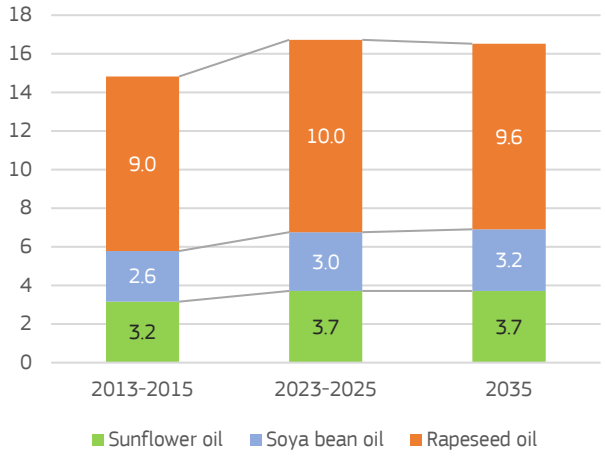
STABLE FOOD USE AND DECLINING USE FOR BIOFUELS

The total use of sunflower, rapeseed and soya bean oils in the EU is projected to decline by -1.6% between 2023-2025 and 2035 to 17 million t. This decline is driven by projections for lower demand for biofuels (-3.4% compared with 2023-2025), driven by rapeseed use (down -11.2% between 2023-2025 and 2035). However, it is not likely to be only decline. For example, the use of oilseed oils for food (which accounts for about 50% of all uses) is projected to remain relatively stable, increasing only marginally to 8.3 billion l in 2035 (+0.3% compared to 2023-2025), as alternative sources of fats are likely to either be more expensive (e.g. butter) or still remain at a low scale despite improvements (e.g. olive oil). The use of palm oil is set to further decline to 2.2 billion l by 2035 (-53.3% compared with 2023-2025). This is set to be driven by a decline of 87.6% in biofuel use, which is the main use of palm oil in the EU.

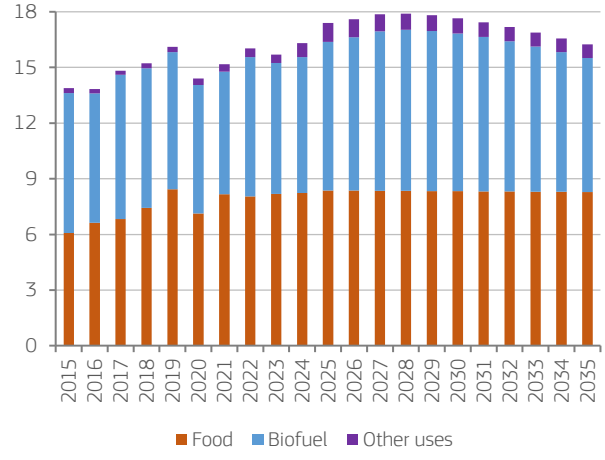
GRAPH 3.13 EU oilseed crushing (million t)



GRAPH 3.14 EU oilseed oil production (billion l)



GRAPH 3.15 EU oilseed oil uses (billion l)



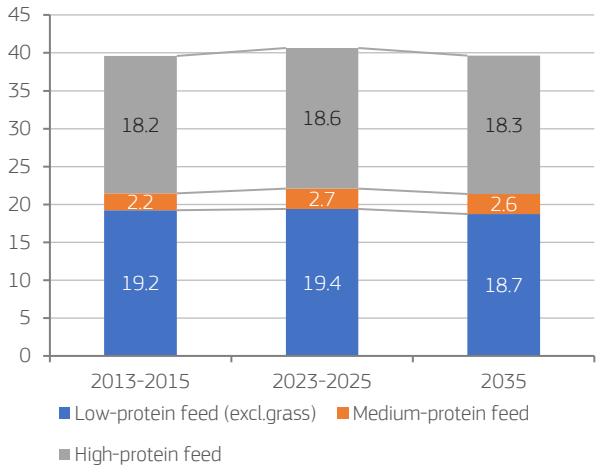
FEED

HIGHER FEED EFFICIENCY AND LOWER PRODUCTION SET TO REDUCE FEED DEMAND

Overall EU demand for animal feed is projected to fall by 2.5% by 2035 compared with 2023-2025 (measured in million t of protein equivalent). This reduction is projected to be mainly driven by a decline in the production of pigmeat, beef and veal, and slower growth in milk yields. However, these declines are projected to be partly offset by growth in poultry and egg production.

A drop in feed demand is also a natural result of ongoing efforts to improve feed efficiency, especially for cows and pigs via both: (i) improvements in animal genetics; and (ii) more efficient and better-targeted feeding systems. By contrast, feed demand for poultry fattening could grow not only due to expanding production volumes, but also due to increased consumer demand for slow-growing chickens.

GRAPH 3.16 EU total feed use (million t of protein equivalent)



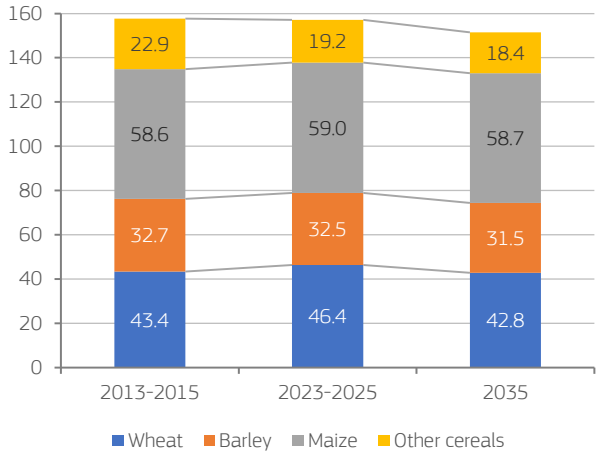
Note: Figures do not contain grass.

USE OF CEREALS AND LOW-PROTEIN FEED SET TO DECLINE THE MOST

Among the different categories of feed, the use of cereals in EU animal feed is projected to fall to 151.4 million t in 2035 (- 3.6% compared with 2023-2025). The reduction is set to be driven by a decline in feed use of wheat, barley and other cereals (-7.7%, - 3.0% and -4.2% respectively, compared with 2023-2025). In comparison, the use of maize for feed could decline by only 0.5%.

The use of feed falling into the low-protein category (with less than 15% protein content) is set to have declined by 3.4% in 2035 compared with 2023-2025, driven by declining use of cereal feed, which accounts for 95% of this category (the remaining part is dried beet pulp and molasses). The medium-protein-feed category is composed by 42% dried distillers grains, 34% pulses, 18% corn gluten feed and 6% whey powder, and is set to decline by 1.7% in 2035, compared with 2023-2025.

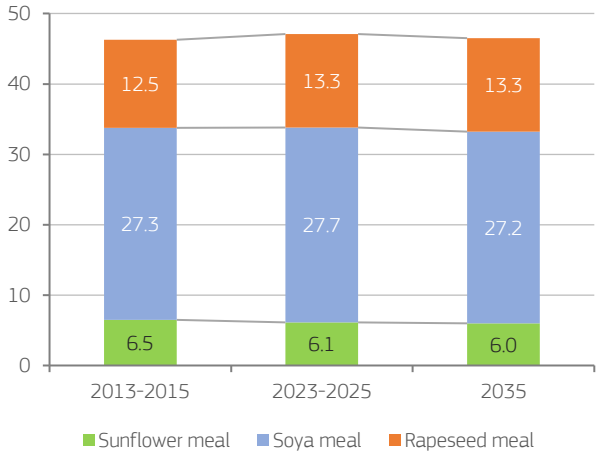
GRAPH 3.17 EU total cereal use in feed (million t)



...WHILE FEED USE OF OILMEALS EXPECTED TO DECLINE THE LEAST

The use of oilseed meals in the EU is projected to decrease less than other feeding categories, to 46.5 million t by 2035 (-1.2% compared with 2023-2025). This reduction is driven by sunflower and soya meal (-2.1% and -1.6% compared with 2023-2025, respectively), while the use of rapeseed meal could decline only marginally (-0.1% compared with 2022-2024). The category of high-protein feed is composed by 98% of protein meals and is set to decline by 1.6% in 2035, compared with 2023-2025. In relation to prices, the EU average feed prices are assumed to increase by 11.8% in 2035, relative to 2023-2025. This is driven by EU soya meal prices that are projected to increase by 14.2% in 2035 compared with 2023-2025.

GRAPH 3.18 EU feed use of oilseed meals (million t)



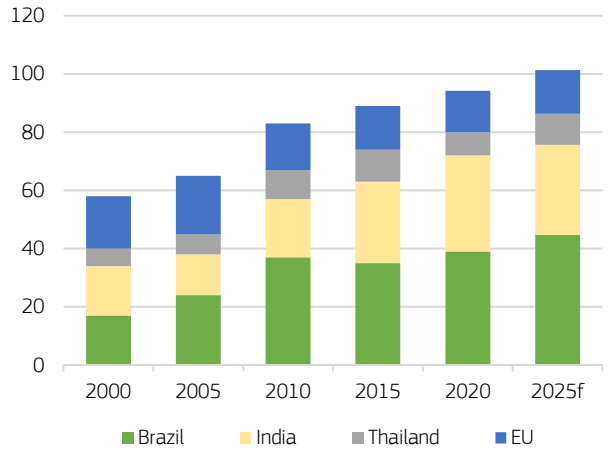
DRIVERS AND TRENDS: SUGAR, BIOFUELS

EU SUGAR MARKET FACES STRONG COMPETITION

The world sugar market is witnessing shifts driven by both geopolitical and economic factors. The European Union remains a significant player in this market, but it is facing stiff competition from countries like Brazil, India, and Thailand. These countries have managed to secure and expand their share of the global sugar market through strategic advantages such as lower production costs, favourable climatic conditions, and well-established export logistics.

Moreover, these other countries are aggressively gaining a foothold in new markets by tapping into changing consumer preferences and trade agreements. In addition, innovations in sustainable sugarcane processing and biofuel production make these countries more competitive. Unlike sugar growers in these countries, EU sugar growers face mounting challenges, including reduced availability of plant protection products, increases in fertiliser costs and increased impacts from variability in the weather.

GRAPH 3.19 Sugar production by main producers (million t)



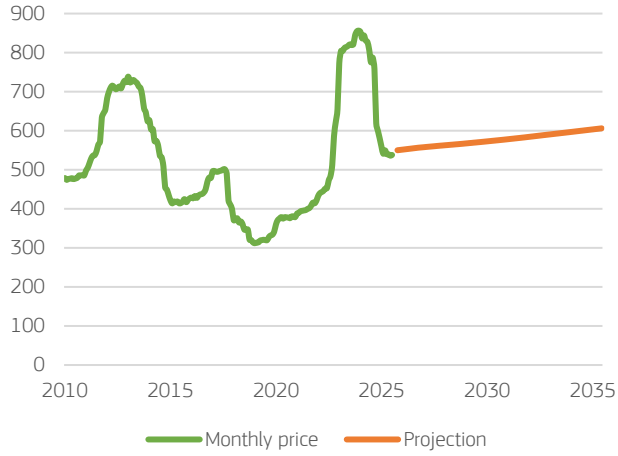
Source: USDA.

PRICE VOLATILITY ADDS ADITITONAL STRAIN TO AN INDUSTRY ALREADY UNDER PRESSURE

Sugar prices have seen increased volatility over the last few years, driven primarily by input costs, the unstable geopolitical situation, and changes in sugar and ethanol policies in key world markets. Prices for EU white sugar rose to a record high at the beginning of the 2022/2023 season and then fell sharply in the following two years, putting significant pressure on the industry.

Industry consolidation is a key factor in increasing the competitiveness of the EU sugar sector. On sustainability, new genomic techniques and new beet varieties would help. Production of organic sugar in the EU is not expected to increase significantly from its current 1% share due to stagnant demand, higher production costs and competition with imports from countries like Colombia, Mexico or Brazil.

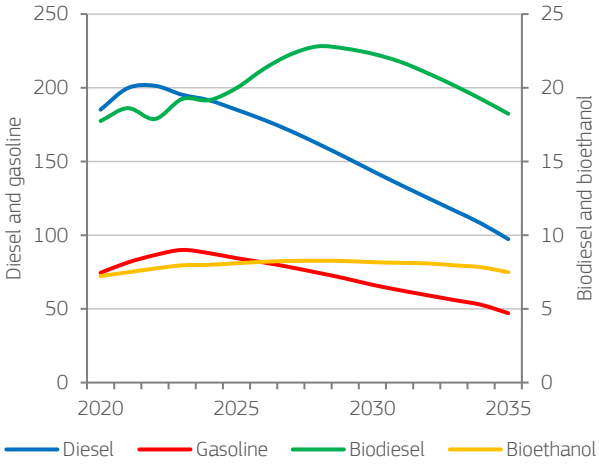
GRAPH 3.20 EU white sugar price (EUR/t)



FUEL DEMAND FOR ROAD TRANSPORT REVISED UPWARDS, BOOSTING BIOFUEL DEMAND

A key driver of demand for crop-based biofuels is the likely future demand for gasoline and diesel in road transport, where the use of biofuel blending is now mandated by law. For this EU Agricultural Outlook report, the assumptions for gasoline and diesel consumption are taken from the national energy and climate plans' scenario under the JRC's POTEnCIA model. This represents a 'current policies' scenario and takes the latest 'Fit for 55' legislation into account, including the latest update of the Renewable Energy Directive (RED III) and the CO_2 reduction targets for new cars, vans and trucks. In addition, projections for gasoline and diesel consumption this year include updated assumptions on sales and lifespans of vehicles with internal combustion engines, resulting in projections for higher future demand for liquid fuels, including biofuels.

GRAPH 3.21 EU consumption of fossil fuels and biofuels (billion l)



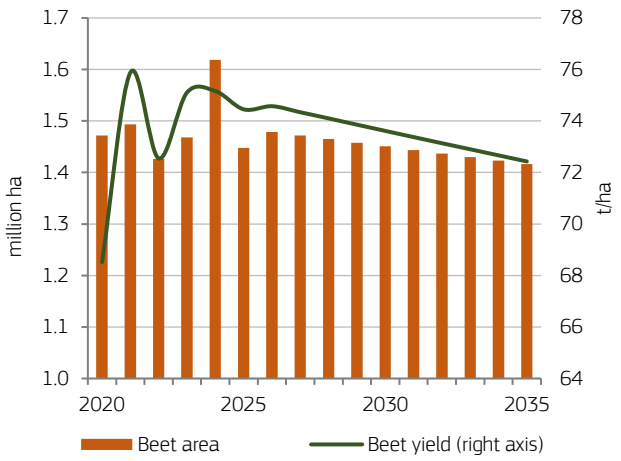
SUGAR

AREA AND YIELD DEVELOPMENTS REMAIN NEGATIVE

Driven by declining producer prices, the land area in the EU dedicated to sugar beet cultivation could decline by -10% in 2025/2026 compared to the previous season to 1.45 million ha. As sugar prices are expected to remain relatively stable over the coming decade, and competition for land use by other crops is expected to intensify, the land area dedicated to sugar beet could decrease further, possibly to 1.42 million ha by 2035.

Yield growth is also expected to turn negative. Sugar beet yields could be subject to more frequent extreme weather events and the changing dynamics of plant pathogens, supporting this declining trend. Therefore, the average EU sugar beet yield is expected to slowly decline from around 75 t/ha in 2023 and 2024 to 72.4 t/ha by 2035. This, together with the declining area, would equate to a decline in sugar beet production of -1.1% per year between now and 2035.

GRAPH 3.22 EU sugar beet area (million ha) and beet yield (t/ha)

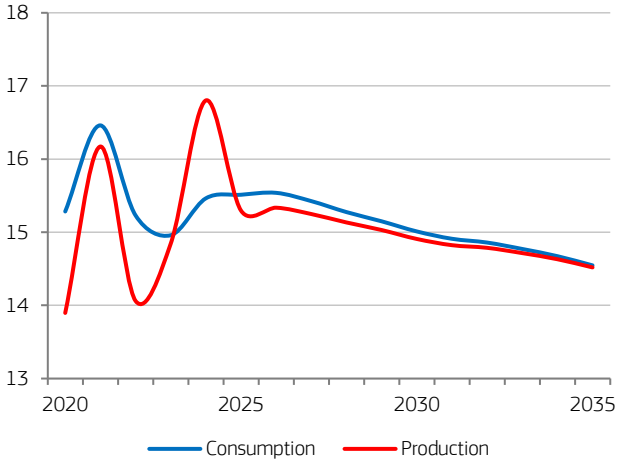


CONSUMPTION CHALLENGED BY CHANGING PREFERENCES

Declining EU sugar production reflects the pattern seen in EU sugar consumption, which has also been falling for many years now. This decline in sugar consumption is driven by health concerns, policies aimed to discourage excessive sugar consumption, and the greater availability of low-sugar or sugar-free alternatives. As a result, consumers are becoming more conscious of their diets and reducing their intake of high-sugar products.

The ongoing decrease in per capita sugar consumption is set to be further accelerated by forecasts for an overall decline in the EU population. As a result, it is expected that overall sugar consumption in the EU could decrease by -0.5% per year in the coming decade, reaching 14.5 million t by 2035.

GRAPH 3.23 EU sugar production and consumption (million t)



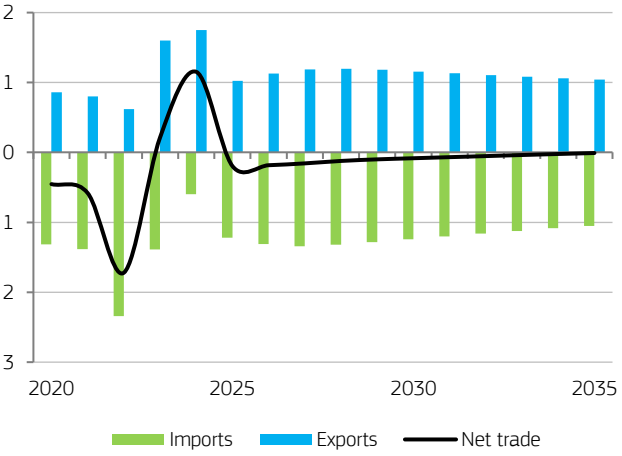
SUGAR TRADE SET TO REMAIN LARGELY BALANCED

Because EU sugar consumption could decline slightly faster than production, both consumption and production are projected to be largely in balance in 2035. Similarly, net trade of sugar is also projected to be negative in 2026 or 2027 (implying a net import position of the EU, i.e. the EU will import more sugar than it export) but could approach balance by 2035.

EU sugar exports consist primarily of white sugar. These exports have been resilient in recent years and could continue to benefit from their positioning in established markets. Nevertheless, with the expected decline in EU production, exports could also decline and fall to 1 million t by 2035. Note that sugar exported in processed products is not counted towards this total as such use is considered part of EU consumption.

Sugar imports are also expected to slowly decline towards just over 1 million t by 2035, as demand in the EU is expected to decrease.

GRAPH 3.24 EU sugar trade (million t)



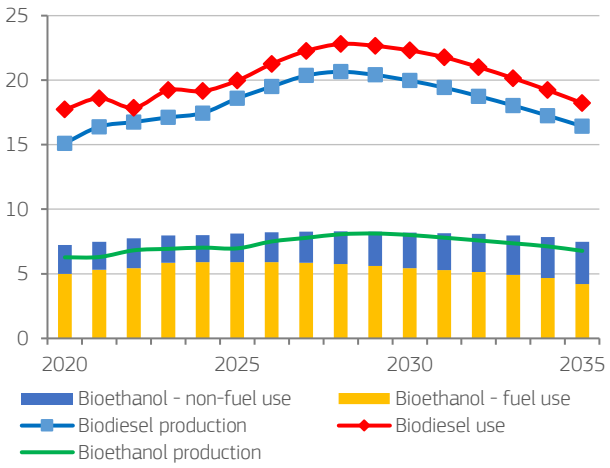
BIOFUELS

BIOFUEL PRODUCTION AND USE SET TO BE BELOW CURRENT LEVELS BY 2035

EU demand for biofuels is directly linked to both demand for road transport fuel, and mandates for fuel-blending rates (i.e. EU rules on the percentage of biofuel that must be added to road transport fuel). The use of crop-based feedstock for biofuels is limited by a cap based on 2020 value with a 1% margin, with a maximum limit of 7% of the transport sector's final energy consumption. At the same time, the use of advanced biofuels is being incentivised by increasing mandates laid down in RED III and double counting.

Growth in both fuel use and blending rates is expected to initially increase demand for biodiesel to 22.8 billion l from now until 2028, after which biodiesel use is expected to start declining and reach 18.2 billion l by 2035. Use of bioethanol is also expected to peak at 8.3 billion l in 2028, before falling to 7.5 billion l by 2035.

GRAPH 3.25 EU production and use of biofuels (billion l)

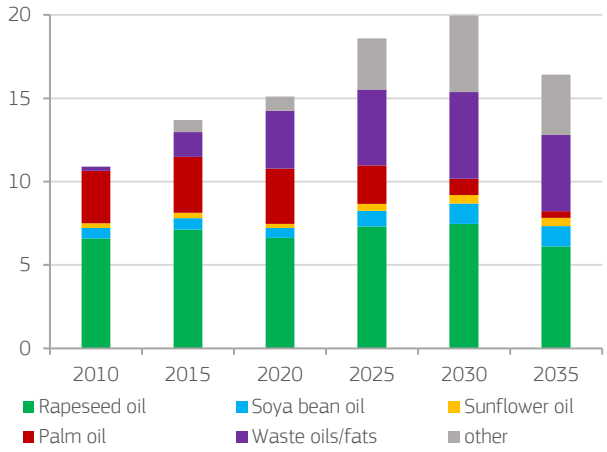


WASTE OILS AND ADVANCED FEEDSTOCKS TO ACCOUNT FOR 50% OF BIODIESEL FEEDSTOCK

Following changes in demand, EU biodiesel production volume is expected to remain below use levels by 2035, peaking at 20.7 billion l in 2028 and then declining to 16.4 billion l by 2035. Net imports of around 2 billion l could be maintained throughout the period from 2025 to 2035 to meet domestic demand within the EU.

As regards the feedstock for biodiesel production, waste oils and other advanced feedstocks are projected to gain in share from 39% in 2023-2025 to 50% by 2035. Crop-based feedstock is likely to remain dominated by rapeseed oil, which is expected to see a small reduction in share from 39% in 2023-2025 to 37% in 2035. However, the share of palm oil in biodiesel is expected to fall from 15% in 2023-2025 to just 2% in 2035, as this feedstock is being phased out due to sustainability concerns.

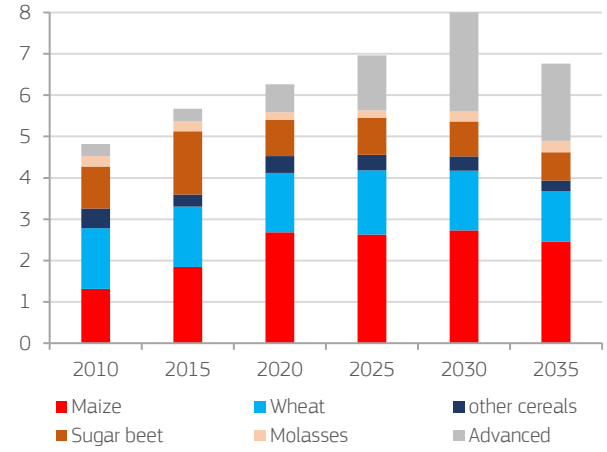
GRAPH 3.26 Use of EU biodiesel feedstock (billion l)



CEREALS REMAIN DOMINANT BIOETHANOL FEEDSTOCK

On EU bioethanol production, volumes are expected to peak at 8.1 billion l in 2029, before falling to 6.8 billion l in 2035. Production is projected to decrease due to both lower overall gasoline demand and less demand for blending, although demand for bioethanol for non-fuel uses is expected continue growing in the coming decade. Maize could remain the principal feedstock for bioethanol production, even though its share is expected to fall from 38% of bioethanol feedstock in 2023-2025 to 36% in 2035, while the share of wheat is expected to decline from 22% of bioethanol feedstock to 18%. The total share of crop-based (cereals, sugar beet and molasses) in feedstock is expected to fall from 81% in 2023-2025 to 72% by 2035, while the share of advanced feedstock is projected to increase from 19% in 2023-2025 to 28% in 2035.

GRAPH 3.27 Use of EU ethanol feedstock (billion l)



4. MILK AND DAIRY PRODUCTS

This chapter presents projections for EU raw milk and dairy commodity markets over the coming decade and reviews the relevant drivers in these markets. This Agricultural Outlook report draws up a path of increased productivity and sustainability for the EU dairy sector. Dairy markets are to become more segmented worldwide, which could increase value added in both domestic and global sales of EU dairy commodities.

Although robust demand and the growing availability of EU milk solids present favourable market prospects, this agricultural outlook report also reflects on the possible challenges that dairy farmers could face, including increasing competition on global dairy markets and increasing uncertainty due to: (i) geopolitical tensions; (ii) disruptions to input markets; or (iii) climate change. To cope with these challenges, a continued gradual shift is projected towards higher value-added dairy products in the EU export portfolio, while the price of raw milk in the EU is likely to remain relatively high in the period from 2025 to 2035, supported by strong demand for both milk fats and protein-enriched products.

DRIVERS AND TRENDS

FAVOURABLE ECONOMIC ENVIRONMENT

Profit margins for EU dairy farmers were relatively high on average in 2024-2025, due to high and stable raw milk prices and stabilising input costs. In the second half of 2025, commodity prices for butter, skimmed milk powder and whole milk powder started to fall sharply, signalling a likely downward correction for raw milk prices in the coming months.

Between now and 2035, however, changes in supply and demand are set to be favourable, which supports the case for increasing price projections in nominal terms for most dairy commodities, and therefore also for raw milk. Despite increasing consumer prices, EU demand for dairy commodities has proven resilient in recent years, and easing inflation could further support EU consumers. Input costs have stabilised in recent months, including in energy markets, and this could further ease the pressure on the gross margins of EU dairy farmers.

GROWING GLOBAL DAIRY COMPETITION

Global demand for dairy commodities is set to increase significantly in the coming decade. Food security considerations are likely to lead to increasing domestic production capacities in countries that previously relied heavily on dairy imports (e.g. China). At the same time, emerging markets in South-East Asia, the Middle East and north Africa are increasingly driving growth in global dairy consumption.

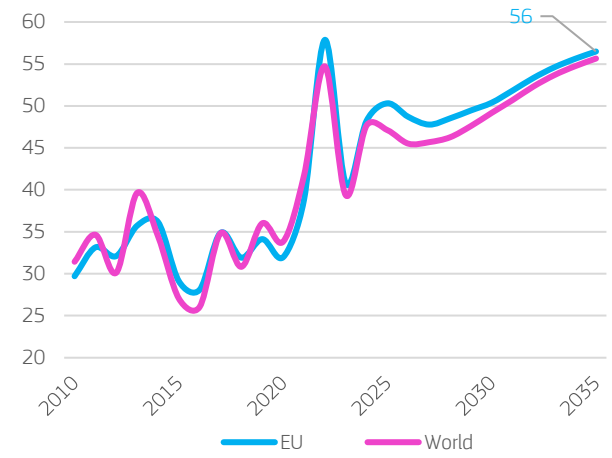
India and Pakistan continue to be powerhouses for global milk production, but both countries are characterised by limited expected flows of imports and exports. On the other hand, the traditional dairy exporters (such as the EU and New Zealand) have lower growth potential in the next decade. EU dairy exports are likely to remain stable in volume terms in this period, with a potential to increase only in value. This stability, combined with growth in the global dairy trade, could translate into decreasing EU market shares. At the same time, the US could increase its global market share significantly (by up to +4 pp between now and 2035), while New Zealand could become the world's largest dairy exporter by 2035.

INCREASING UNCERTAINTIES JEOPARDISE GROWTH PROSPECTS

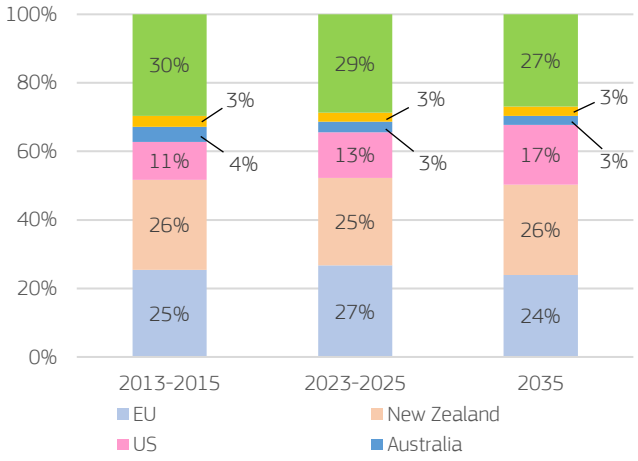
The future path of input costs (such as feed) is subject to significant uncertainty in the next decade. This EU Agricultural Outlook report assumes that technology, feed and genetic improvements could counterbalance the negative impacts of climate change on feed quality and feed availability in the next decade.

The stabilisation of energy and fertiliser markets is also subject to uncertainty due to geopolitical tensions and local conflicts. Recent outbreaks of animal diseases (e.g. bluetongue, foot and mouth disease, and lumpy skin disease) are projected to only have short-term and local impacts on productivity, while public animal-health authorities are expected to curb the spread of diseases effectively, causing minimal market distortions.

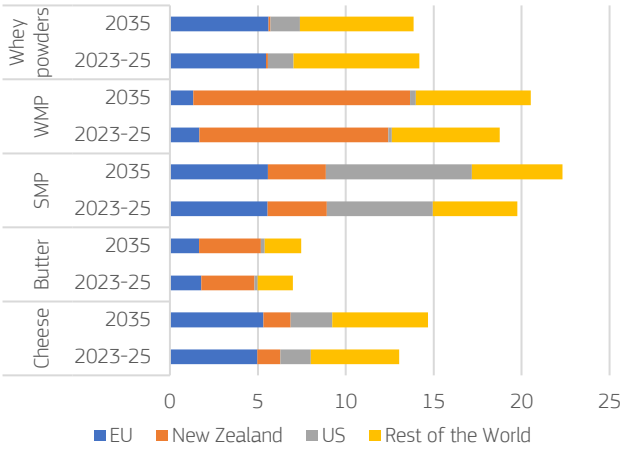
GRAPH 4.1 Raw milk price (EUR/100 kg)



GRAPH 4.2 Export shares of main dairy commodity exporter countries (shares in milk equivalent volumes)



GRAPH 4.3 Export of selected dairy commodities by main exporter countries (million t of milk equivalent)



MILK

INCREASING PRODUCTIVITY SET TO SUPPORT A STABLE MILK SUPPLY

Increasing productivity has successfully counterbalanced the continuously declining size of the EU dairy cow herd in the last decade, leading to increased milk production (+0.8% per year). EU milk yields are expected to further increase over the coming decade, mainly due to advances in feeding technologies and genetic improvements. Nevertheless, EU raw milk production is projected to only slightly increase between now and 2035 (+0.1% per year), as marginal productivity gains become relatively more expensive, leading to a slow-down in the increase of milk yields (yields are only projected to grow by +1.2% between 2025 and 2035).

Substantial regional differences have shaped EU milk production. In some eastern EU countries (e.g. Poland), productivity has increased remarkably (there was a 46% increase in milk yields between 2014 and 2024). In other countries, a structural decline in the cow herd limited milk production (for example, cow's milk collection in France decreased by 4.5% between 2014 and 2024). In the coming years, regional differences are expected to remain significant, but the gradual catching-up of milk yields in some countries could slow down.

ENVIRONMENTAL BENEFITS FROM INCREASED PRODUCTIVITY

The livestock sector is expected to contribute more to achieving environmental objectives in the coming years. The sector can comply with higher environmental standards by adopting appropriate farming practices and technology.

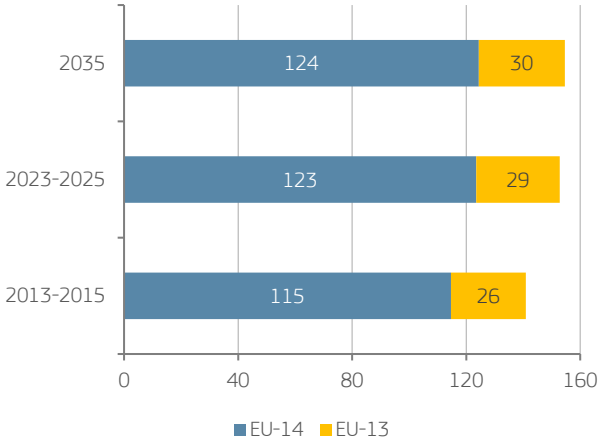
Stricter national environmental policies to reduce excessive nitrogen emissions (e.g. in Ireland or the Netherlands) or greenhouse gas emissions (e.g. in Denmark) have already been announced or even partially implemented. Such policies may further limit the size of the livestock herd in some areas and could lead to a further contraction of the EU dairy herd (by an estimated -2 million heads in total between 2025 and 2035).

PRODUCTIVITY GAINS BOOSTED BY INCREASING MILK-SOLIDS CONTENT

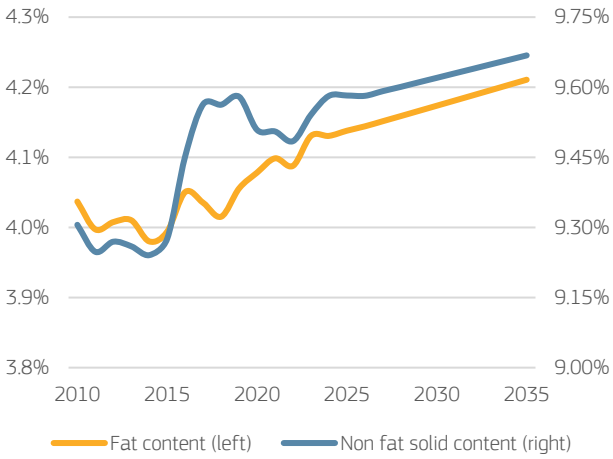
Slight growth is expected in the availability of milk solids for processing in the coming decades due to both increasing milk yields and projections for a significant increase in milk solids content. These projections are mainly due to expected advances in feeding strategies, feed supplements and genetic improvements, mostly driven by strong EU and global demand for: (i) milk fat; (ii) protein enriched products; and (iii) new product lines covering the special dietary needs of an ageing population in the context of changing consumer preferences. The fat and non-fat solid content of raw milk could further increase by +0.2% and +0.1% each year between 2025 and 2035, respectively, following the +0.3% per year increase each year between 2015 and 2025.

GRAPH 4.4 Developments in EU milk production, yield and dairy cows' numbers (%)

GRAPH 4.5 Milk production in EU-14 and EU-13 countries, in selected years (million t)



GRAPH 4.6 Milk solids content in EU raw milk (%)



CONTINOUS GROWTH IN GLOBAL MILK PRODUCTION

Global demand for dairy commodities continues to increase, driven by economic growth, demographic trends and a shift towards greater animal protein intake in the diets of developing countries. To meet this growing demand, global milk production in the coming decade is expected to increase at a similar rate as in the last decade (+2% per year), while growth in global dairy imports is also expected to accelerate (from +1% to +1.3% in the coming decade). Driven partly by food security considerations, some larger dairy-importer countries (e.g. China) are set to increase their self-sufficiency by investing in production capacity. At the same time, the growth rate of milk production in India and Pakistan will continue to be high, driven by both population growth and policy support. The additional production capacity in Africa and Asia will be mostly absorbed in regional markets, leaving room for a further increase in the global dairy trade.

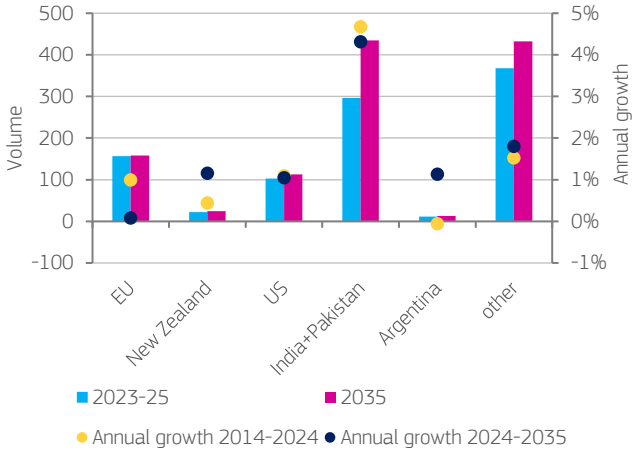
EU EXPORTS REMAIN STABLE

In parallel with efforts to increase the production of milk and dairy commodities in some Asian countries, demand is also increasing in South-East Asia, the Middle East and in parts of Africa. These drivers are reshaping global markets and forcing traditional exporting countries to adjust their export portfolio, with an impact on export shares. New Zealand is set to become the largest dairy exporter by volume in the next decade, due to its proximity to large Asian markets and assuming that climate-change impacts remain manageable for its grassland-based dairy farming system. At the same time, US export shares are expected to also continue to grow with accelerating speed, reaching +17% by 2035. EU exports can remain stable in this period, with a continued transformation of the export portfolio towards more added value in the traded commodities. Correspondingly, although EU export volumes are not expected to change significantly in the coming decade, the growth in value terms could reach +2.6% per year, slowing down only slightly compared with the last decade (+3.2% per year).

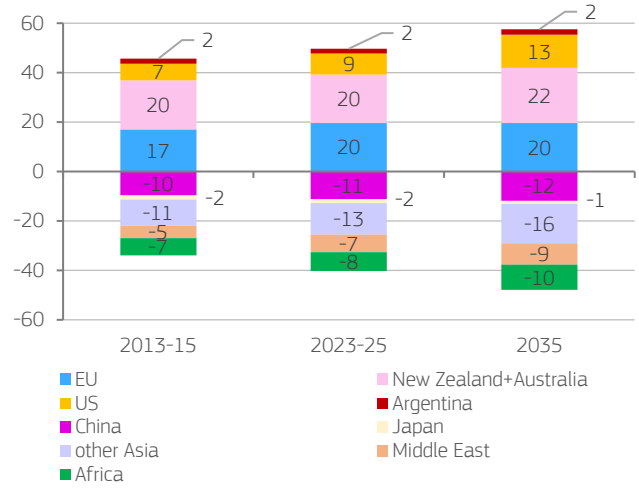
EU EXPORTS SET TO ADAPT TO CHANGING GLOBAL DEMAND

The global trade in whole and skimmed milk powders has changed in recent years due to: (i) declining import demand in China (due to its expanding production capacity); (ii) markets in the Middle East and north Africa becoming more price-sensitive; and (iii) the emergence of new markets in South-East Asia. This has helped to increase the export shares of New Zealand for whole milk powder, while the EU and US are competing on key skimmed milk powder markets, which is likely to continue in the next decade. Furthermore, the EU is expected to remain dominant in global cheese exports between now and 2035, supported by increasing production and the expanding demand for whey derivatives. By contrast, New Zealand will likely keep its price competitiveness on key markets relative to EU exporters. These market developments will drive dairy exports even more towards higher value-added goods.

GRAPH 4.7 Milk production volumes (million t) and annual growth rates (%) in given periods for selected countries

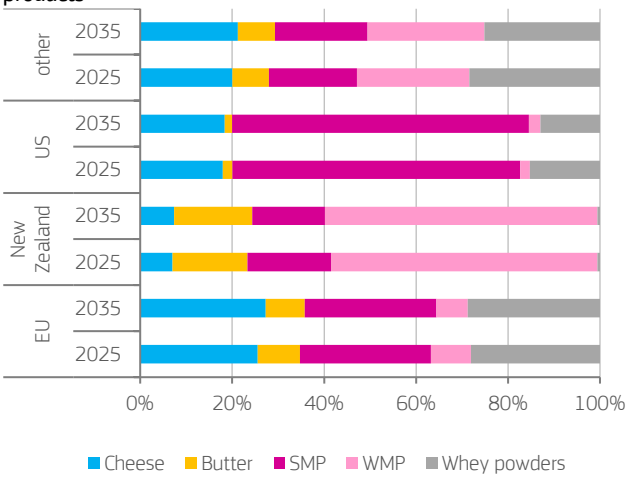


GRAPH 4.8 Milk surplus and deficit in selected countries and regions (million t of milk equivalent)



Note: Surplus and deficit is calculated as domestic consumption minus domestic production.

GRAPH 4.9 Trade shares of main dairy exporters in selected dairy products

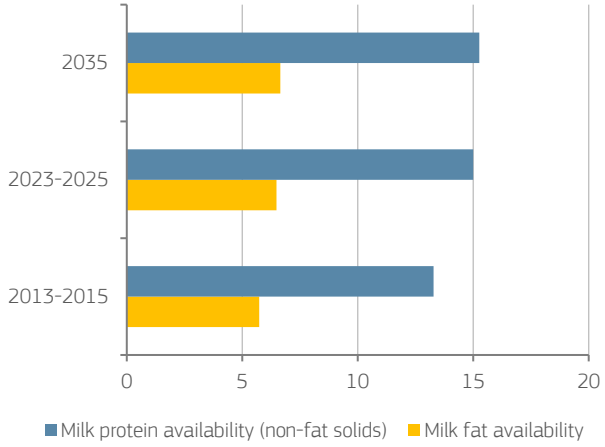


DAIRY PRODUCTS

AVAILABILITY OF MILK SOLIDS CONTINUES TO INCREASE

The combination of productivity gains and improving milk solids content is leading to a slight increase in the milk solids pool. Milk fat availability could increase by +2.6% in the coming decade, while the availability of non-fat solids could increase by +1.8% by 2035. This increase is expected to be due to: (i) better feeding practices and techniques; (ii) technological improvements (e.g. robotics) at the dairy farms; and (iii) genetic improvements in dairy cows to increase the butterfat and protein content of their milk. In the next decade, these improvements could also be increasingly needed to compensate for the negative impacts of climate change, as adverse weather events are becoming more impactful and more likely in some regions. Both resilient EU demand and the increasing global import demand for dairy commodities provides an outlet for the EU's increasing production of dairy commodities.

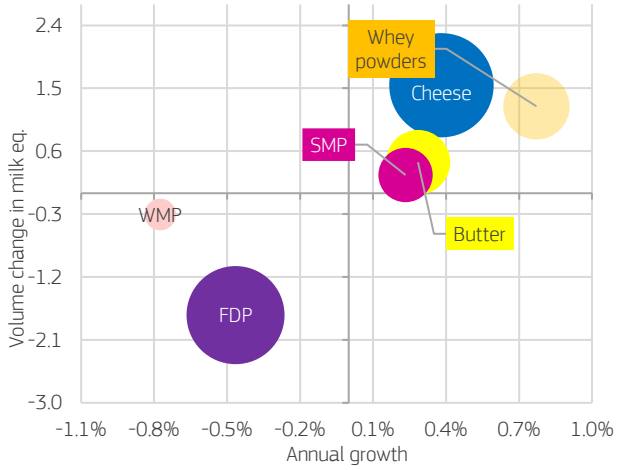
GRAPH 4.10 Availability of milk fat and milk protein in the EU (million t)



PROCESSORS AIM TO GENERATE MORE ADDED VALUE

The limited growth potential in the EU milk solids pool, combined with resilient domestic demand and increasing global demand could create a tight market for milk fat in the coming decade. At the same time, global competition is forcing processors to boost their profit margins by extending their higher value-added product lines. These market developments favour cheese and whey production (which are forecast to increase by +0.4% per year and +0.8% per year by 2035, respectively). The increased availability of milk solids could also allow for a small increase in both butter production (+0.3% per year by 2035), and skimmed milk powder production (+0.2% per year). On the other hand, the production of whole milk powder is expected to decline (-0.8% per year), due to decreasing price competitiveness and shrinking demand in key export markets. The production of fresh dairy products (FDPs) could also decline in the next decade, including a decline for drinking milk but an increase for yogurt and cream.

GRAPH 4.11 EU production of selected dairy products change (million t of milk equivalent) and annual growth (%) in 2025-2035

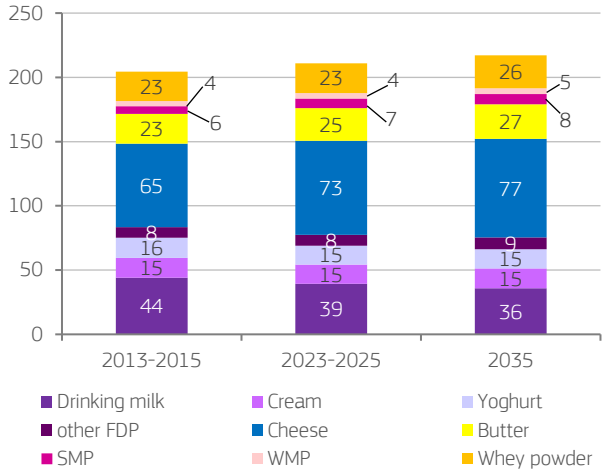


Note: Sizes of circles correspond to the volume of milk (in milk equivalent) used for their projected production in 2035.

DAIRY PRODUCTS REMAIN A FAVOURED PROTEIN SOURCE

Resilient domestic demand in the EU could further drive demand for dairy products, with an increase of 6 kg of milk equivalent per capita expected between now and 2035 (in addition to the 211 kg per capita currently). Consumer trends could also shape demand, with a shift to dairy products enriched with protein, low-fat content and low-sugar content. Demand for fortified (with vitamins and minerals) and functional dairy products could also increase over the coming decade to meet the needs of an ageing population and to meet both convenience lifestyle choices and health-conscious diets. Although the market segment for plant-based alternatives could increase, dairy products are likely to remain a key protein source in EU diets.

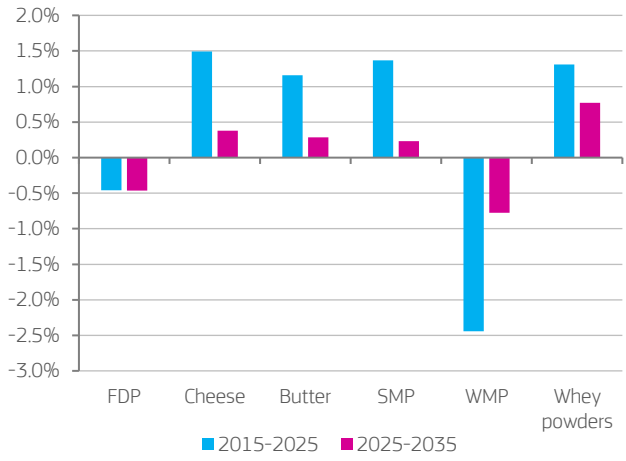
GRAPH 4.12 EU per capita dairy consumption by selected products (kg of milk equivalent)



MARKET FAVOURS CHEESE AND WHEY PRODUCTION

Global consumption trends are favourable for cheese, supporting projections for further growth in EU cheese production. Although cheese is to set to remain the EU's flagship export product (+0.7% per year increase until 2035), growth in exports over this period could slow down due to increasing global competition for both lower-value cheeses and processed cheese. Within the EU, a further increase in cheese consumption could still be possible in this period (+0.5% per year), despite a likely slowdown of consumption growth due to high food inflation in recent years. At the same time, global demand for whey products is set to continuously increase, driven by both increasing consumption of new product lines covering nutritional or health functions in significant export markets and the ageing EU population. Both EU whey production and EU whey exports are projected to increase between now and 2035 (+0.8% and +0.5% per year).

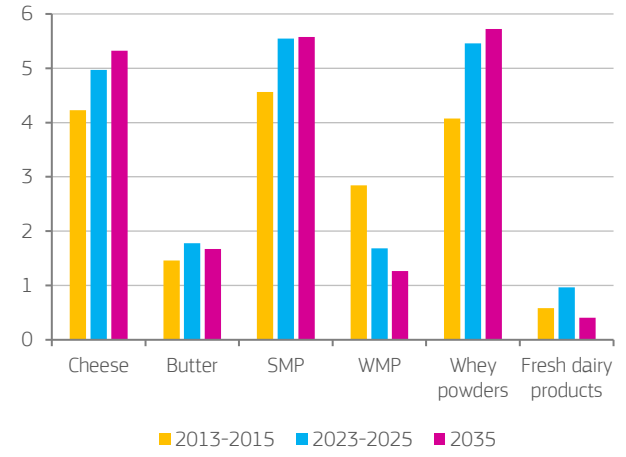
GRAPH 4.13 Annual change in use of selected dairy products in the EU



RESILIENT EU DEMAND STABILISES BUTTER MARKET

Although EU butter export prices were not competitive in key global markets in 2025, resilient domestic demand still allows that the EU butter production could still grow slightly (+0.3% per year until 2035). Despite this growth in production, EU butter exports could decrease (-0.6% per year), in contrast with the strong export performance of the last three years. EU production and consumption of FDPs is projected to decrease between now and 2035. And FDP export volumes in the coming decade are also projected to fall well below their levels in the past decade due to decreasing demand in China for drinking milk. EU production and exports of SMP are expected to remain stable in the coming decade, despite both the current downward price pressure in EU markets, and the increasing global competition. WMP production and exports are set to decline in the coming decade due to both shrinking global markets and low EU competitiveness (by -0.8% and -2.8% per year, respectively).

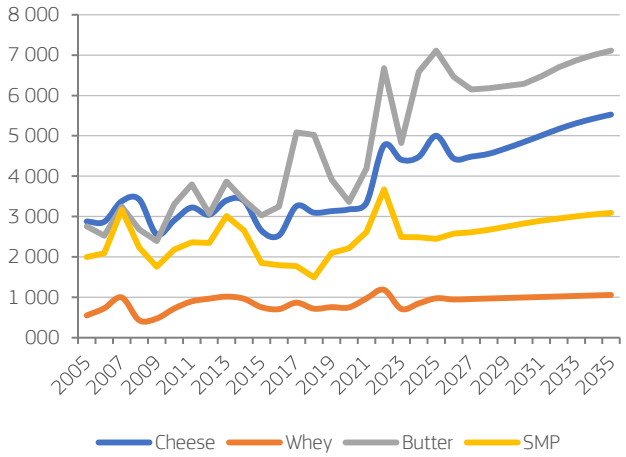
GRAPH 4.14 EU exports of selected dairy products (million t of milk equivalent)



MARKET FUNDAMENTALS SUPPORT RAW MILK PRICES

The second half of 2025 saw a downward correction in prices of butter, skimmed milk powder and whole milk powder. As a result, EU raw milk prices are also expected to decline in the coming months. Nevertheless, by 2035 the combination of strong EU and global demand and only limited growth potential in raw milk production worldwide could drive EU raw milk prices back to the record levels of 2022. The EU milk fat market will likely remain tight in the coming decade, supporting cheese prices, which are expected to steadily increase over this period. While butter prices are falling at present, resilient EU demand could help them to bounce back by 2035. Whey prices could continue to increase between now and 2035 amid increasing demand within both the EU and key EU export markets. Factoring in assumption on the future inflation, real price developments are expected to remain rather flat.

GRAPH 4.15 EU Dairy commodity prices in the EU (EUR/t)



5. MEAT PRODUCTS

This chapter presents the drivers and trends of the EU's meat markets and introduces projections for the coming decade for beef and veal, sheep and goat meat, pigmeat, poultry, and eggs.

Sustainability concerns are set to take a more prominent role in the coming decade in shaping the production and consumption of meat in the EU. In this context, the most significant outcomes that could be expected by 2035 include: (i) a marginal decline in per capita meat consumption; and (ii) lower production based on more extensive and environmentally friendly systems, along with fewer animals. Poultry and eggs will be the only sectors to expand in terms of production and consumption. However, the spread of animal diseases and geopolitical conflicts remain a significant source of uncertainty.

While world consumption and import demand are expected to increase in the next decade (except for pigmeat), opportunities for EU export growth should mostly benefit the poultry and eggs sector. The outcome of trade agreements under negotiation might alter prospects for the EU's trade relations, impacting the current outlook.

EU prices for meat products will generally increase in the coming decade and continue to reflect increasing production costs, lower supply, and changes in world prices.

DRIVERS AND TRENDS

INCREASING WORLD DEMAND FOR MEAT

Between now and 2035, world meat consumption is expected to have increased significantly (+45.8 million t by 2035). This increase will be driven by population and income growth, mainly in developing countries. A large part of the growth in world demand could be met by domestic production. However, 2.5 million t of poultry and 1.1 million t of beef may need to come from an increase in global shipments. Large growth markets for meat in the coming decade include Asia, sub-Saharan Africa and the Middle East (mainly for poultry). The EU is likely to only benefit to a limited extent from this additional demand given its tight supply balance at present. China's increasing self-sufficiency in meat production could also lead to lower import demand for poultry and pigmeat. Given China's significant influence on global meat markets, any abrupt shifts in its consumption or import demand are likely to generate considerable effects on international trade flows and prices.

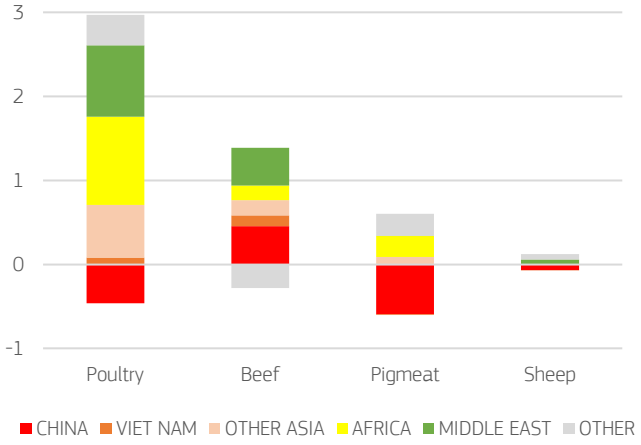
EU CONSUMPTION SET TO MARGINALLY DECLINE

EU meat consumption is set to decline marginally by -0.5 kg per capita (-1.3% between 2025 and 2035), unlike other regions in the world where meat consumption is increasing. This overall decline is expected to be accompanied by a change in the consumer basket with a continuation of the shift in meat consumption away from beef and pigmeat and towards poultry. Sustainability is projected to play an increasingly prominent role in EU meat markets for both producers and consumers. Consumer concerns about the environment and climate change could result in more attention being paid to production processes and places of production (for example leading to a greater emphasis on local sourcing, organic and other quality schemes, animal welfare, avoiding deforestation, and reducing environmental footprint). Health considerations could also reduce or limit people's intake of animal-based proteins. Cultivated meat is not expected to become a big competitor for meat in the next decade in part because of: (i) possible lower acceptance by consumers; (ii) its likely higher price compared with conventional meat; and (iii) regulatory requirements. Growing consumer interest in plant-based diets could lead to a growing number of protein alternatives to meat, but these are expected to continue to occupy only a small share of the market.

EU MEAT PRICES HISTORICALLY HIGH IN 2025

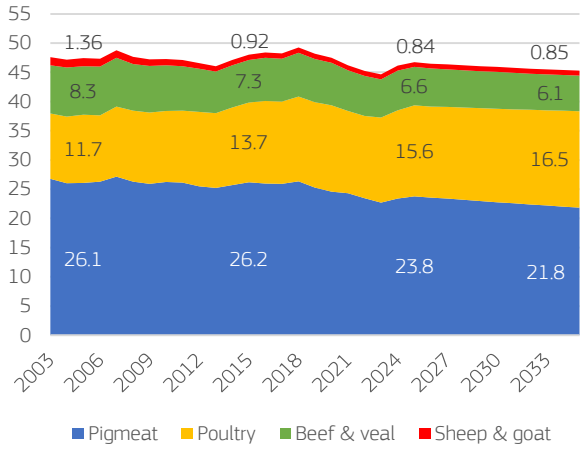
With the exception of pigmeat, meat prices in the EU have risen sharply in 2025 compared with the previous year, underpinned by tighter domestic supply and elevated carcass values. For example, cattle prices are estimated to be on average +26% higher in 2025 compared with 2024, while the EU average price for chicken broiler carcasses reached above EUR 3 000/t for the first time this year with demand exceeding supply. At the same time, the price gap between EU and world market levels has widened, making EU exports less competitive and prompting more imports. Looking ahead, uncertainty remains high: tariffs and currency movements all pose risks to price stability, market flows and trade balances in the coming years.

GRAPH 5.1 Changes in world imports of meat and live animals in 2035 compared to 2025 (million t)



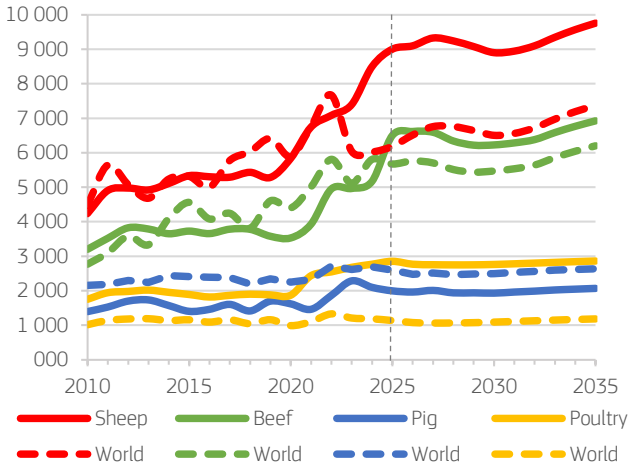
Source: DG Agriculture and Rural Development, based on OECD-FAO Outlook.
Note: Middle East includes Egypt.

GRAPH 5.2 Per capita meat consumption by meat type (kg of retail weight)



Note: Per capita consumption excludes other uses (e.g. pet food), losses in the value chain and waste at distribution level.

GRAPH 5.3 EU meat prices compared to world prices (EUR/t)



Note: Non-EU prices are based on the World Bank commodity prices' publication and on the OECD-FAO Outlook.

BEEF AND VEAL

BEEF PRODUCTION CONTINUES TO FALL

After a decline in EU beef production in 2025, production is projected to continue declining and fall by an additional 615 000 t to 6.1 million t between now and 2035 (-9.2% compared with the 2023-2025 average). At the same time, the EU cow herd is set to decrease by 2.85 million heads over this period (-9.7%). The dairy herd (see chapter on dairy) and the suckler cow herd are also projected to decline during this time. The number of suckler cows is projected to decrease to 9.24 million heads by 2035 (-860 000 heads or -8.5% compared with 2023-2025). These trends could reflect the farming sector's perception of future uncertainty about the EU and national regulatory framework. Coupled income support and certain eco-schemes under the new CAP, together with a relatively favourable price outlook, can only slow down this declining trend. The average slaughter weight for beef cattle is expected to continue its slightly upward trend between now and 2035 thanks to better feed and herd management, and a larger share of beef-type animals in the productive herd.

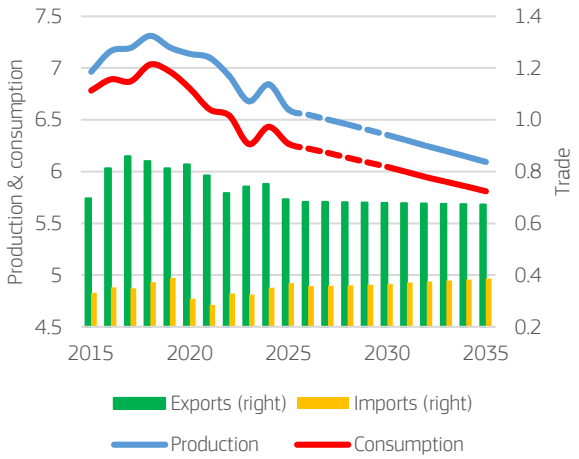
BEEF IMPORTS SET TO INCREASE

EU per capita beef consumption by retail weight is expected to decline to 6.1 kg by 2035 (-0.57 kg per capita compared with 2023-2025). This decline is set to be driven by the lower availability of beef, and its relatively higher price compared with other meats. In 2025, demand has remained robust. Tight EU supply led to historically high beef prices attracting more beef imports from Mercosur countries. With the beef price projected to remain high in the period from 2025 to 2035 at around EUR 7 000/t by 2035 (driven by tight supply and increasing production costs), beef imports into the EU could further increase between now and 2035 (+1.0% per year).

STABLE MEAT EXPORTS AND DECLINING EXPORTS OF LIVE ANIMALS

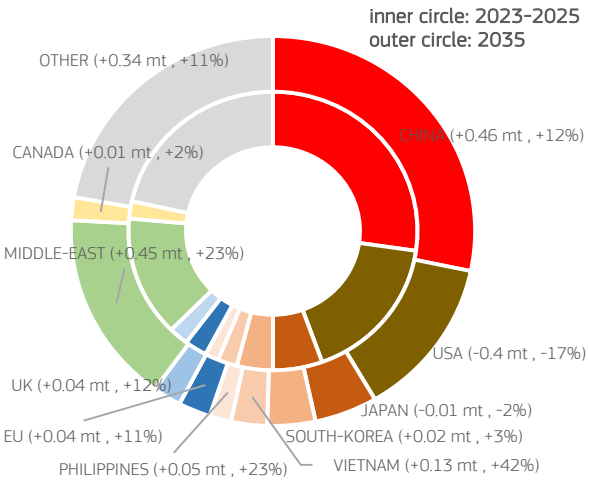
World beef import demand is projected to increase by 1.1 million t between 2023-2025 and 2035 driven by greater demand in China, Viet Nam, the Middle East and sub-Saharan Africa. Continued or rising demand for beef is also expected to come from EU trade partners (UK, the Balkans, the Middle East, and north Africa). However, EU beef exports declined in 2025 as the EU faces increasing competition and less supply available for exports, and this decline in EU beef exports could continue in the coming years (with falls of -0.8% per year between now and 2035). Despite this forecast decline in exports, EU beef meat exports are expected to remain stable over this period (down only -0.1% per year each year over the coming decade) due to a partial substitution of live exports for butchered meat, with the EU continuing to export mainly to neighbouring countries. EU exports of live animals are expected to decline gradually by 3.2% per year each year over the coming decade due to fewer animals available for live exports due to lower supply, a greater focus on intra-EU trade, and concerns about animal welfare in long-distance transport.

GRAPH 5.4 EU beef and veal market balance (million t)



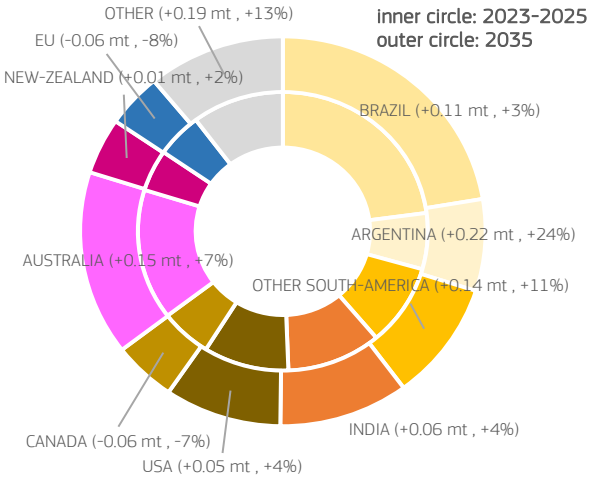
Note: Production corresponds to gross indigenous production; trade includes live animals.

GRAPH 5.5 World beef and veal imports (million t)



Source: DG Agriculture and Rural Development, based on OECD-FAO Outlook.

GRAPH 5.6 World beef and veal imports (million t)



Source: DG Agriculture and Rural Development, based on OECD-FAO Outlook.

SHEEP AND GOAT MEAT

HERD REDUCTION CONTINUES...

After a decline in EU production of sheep- and goatmeat in 2025, production is projected to decrease further to 539 000 t by 2035, falling by 0.7% per year between 2025 and 2035. This is set to be mainly driven by a continued production decline in the countries that joined the EU before 2004 (where sheep- and goatmeat production is set to fall by 0.9% per year), while production is expected to be more stable in the countries elsewhere (only -0.2% per year). However, animal disease outbreaks could exacerbate lower production levels over the period from 2025 to 2035. Between 2010 and 2025, the EU recorded a decline in the sheep and goat herd of around 13 million heads (-16%). Coupled income support in place and a continuation of favourable prices might somewhat counterbalance these negative trends. Production is expected to remain concentrated in a few EU countries, mainly in Spain, Greece, France, Ireland, and Romania.

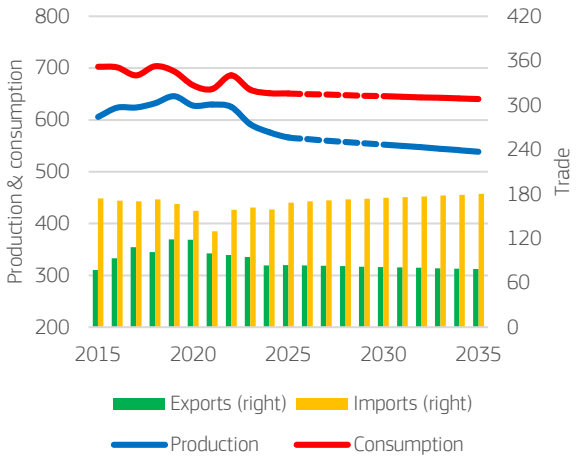
... BUT CONSUMPTION SUSTAINED AND IMPORTS EXPECTED TO GROW

EU sheep- and goatmeat consumption is projected to remain steady at 0.85 kg per capita until 2035, driven by traditions and religious festivities and an expected increase in the Muslim population in the EU. With inelastic demand and tight supply, EU prices for sheep and goat meat are expected to remain above their 2020 levels, and could reach around EUR 9 750/t by 2035. The gap between prices in the EU (with relatively higher prices) and prices in New Zealand and Australia (with relatively lower prices) could remain over the coming decade, reflecting differences in production and labour costs. As a result, EU imports are expected to increase by +1.0% per year by 2035. The free-trade agreements between the UK and Australia could also lead to more UK imports from this destination, therefore favouring more exports of UK sheep meat into the EU as already seen in 2025. If New Zealand decides to focus less on the Chinese market and more on the EU market in the future, EU imports of sheep meat from New Zealand could increase even more strongly.

MEAT EXPORTS TO NORTH AFRICA AND THE MIDDLE EAST ARE LIKELY TO BE SUSTAINED

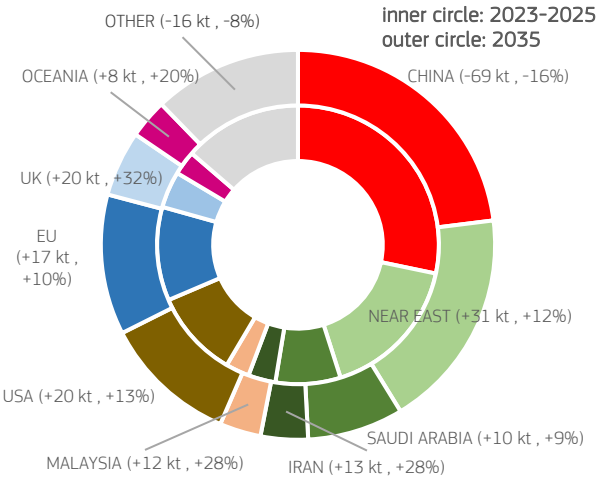
EU annual exports of live sheep and goats could decline to 45 300 t by 2035 (-1.6% per year by 2035). This is likely to be due to animal welfare concerns in long-distance transport and financial risks in certain destinations. After several years of declining meat exports and high domestic prices, EU exports of sheep- and goatmeat are projected to stabilise around 33 400 t by 2035 (-0.3% per year by 2035) based on a consolidation in the Middle East and expansion in north Africa, although export destinations remain uncertain and may vary while quantities remain volatile. EU sheep- and goatmeat exports to the UK could decline as a result of the previously mentioned UK trade agreement.

GRAPH 5.6 EU sheep and goat meat market balance (1000 t)



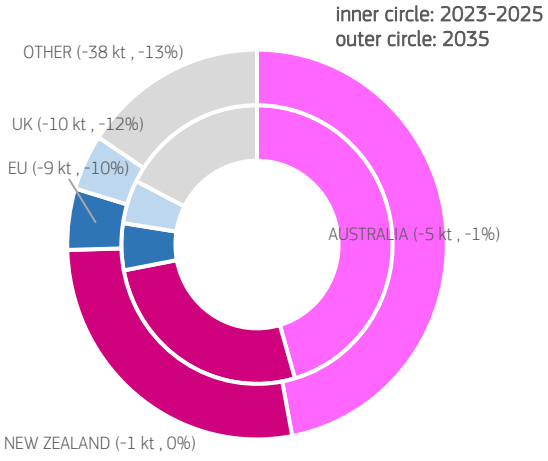
Note: Production corresponds to gross indigenous production; trade includes live animals.

GRAPH 5.7 World sheep and goat imports (1000 t)



Source: DG Agriculture and Rural Development, based on OECD-FAO Outlook.

GRAPH 5.8 World sheep and goat exports (1000 t)



Source: DG Agriculture and Rural Development, based on OECD-FAO Outlook.

PIGMEAT

PIGMEAT PRODUCTION ON A DECLINING TREND

Although EU pigmeat production has increased in 2024 and 2025 (through a recovery in the breeding sow herd in 2024), intensive pigmeat production systems are likely to face further societal criticism in the coming years. EU pigmeat production is expected to be further reduced by both: (i) the implementation of stricter animal welfare and environmental laws in certain EU countries; and (ii) declining export opportunities (especially due to lower demand from China). African Swine Fever (ASF) is assumed to be present in the EU, but no major or uncontrolled outbreaks are assumed.

Therefore, EU pigmeat production is projected to fall by 0.75% per year between now and 2035 (or by around 1.54 million t in 2035 compared with 2023-2025). However, this decline is not uniform. For example, production could decrease more strongly in western Europe (the Netherlands, Belgium, Germany and France), whereas production could still expand in Spain.

NEGATIVE PROSPECTS FOR PIGMEAT CONSUMPTION

In the EU, environmental and societal concerns regarding pigmeat production could continue to reduce consumer appetite for pigmeat. Additionally, the relatively higher fat content of pigmeat compared with other meat types might be seen less favourably by some consumers. Despite pigmeat remaining the cheapest meat type, EU per capita pigmeat consumption is projected to decline from 23.3 kg a year to 21.8 kg a year by 2035 in line with the projections for a decline in EU supply.

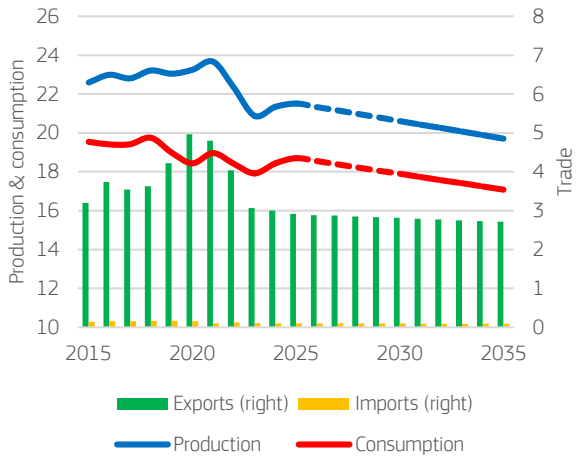
In the last decade, the EU imported only a small amount of pigmeat (between 100 000 and 150 000 t per year) of which around 70% was from the UK. The historically declining trend in pigmeat imports is expected to continue, and reach a decline of 1.2% per year to 90 000 t between now and 2035.

EXPORTS DECLINING WITH LOWER CHINESE DEMAND

World demand for pigmeat imports is projected to remain stable at 10.5 million t between now and 2035. Production capacities in China and Viet Nam are expected to recover during this time, leading to lower import demand from some of the main EU export markets, despite the expected continuation of ASF outbreaks. In contrast, there could be increased demand for imports in some regions in Africa and Asia (e.g. Malaysia). Over the period from 2025 to 2035, the UK could become the largest single export destination for EU pigmeat (replacing China) even though UK demand is expected to remain stable between now and 2035.

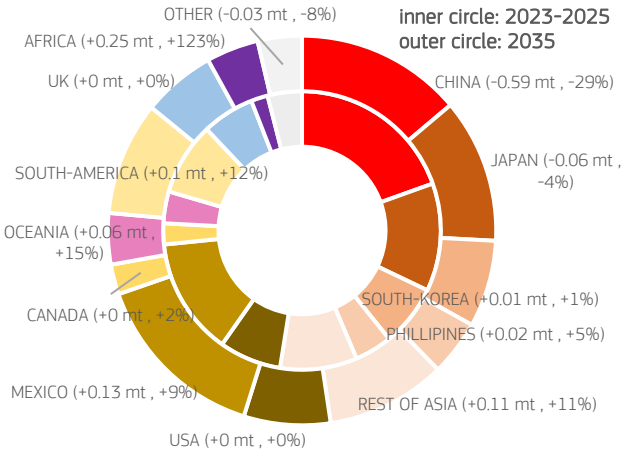
Lower Chinese pigmeat demand in the next decade could increase competition from the US, Canada and Brazil in other Asian markets. It is expected that EU pigmeat prices could stay at around EUR 2 000/t between now and 2035, at levels seen in the past, albeit still above Brazilian and Canadian producer prices. After a decline in exports in 2025, EU pigmeat exports could decrease by 1.0% per year by 2035 (a fall of -280 000 t). As a result, the EU's share of global pigmeat exports could decline from 28.5% to 26%.

GRAPH 5.9 EU pigmeat market balance (million t)



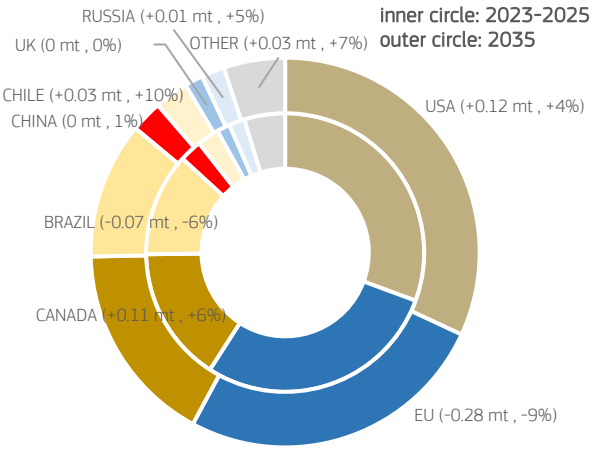
Note: Production corresponds to gross indigenous production.

GRAPH 5.10 World pigmeat imports (million t)



Source: DG Agriculture and Rural Development, based on OECD-FAO Outlook.

GRAPH 5.11 World pigmeat exports (million t)



Source: DG Agriculture and Rural Development, based on OECD-FAO Outlook.

POULTRY MEAT

POULTRY PRODUCTION GROWING MORE SLOWLY

In 2025, it is estimated that EU poultry production will continue to increase slightly compared to 2024 against the backdrop of solid demand and favourable feed cost and output prices. Changes in EU consumption patterns, together with growing export opportunities, are set to increase EU poultry production by 965 000 t between now and 2035 (corresponding to an increase of +0.7% per year). A stricter environmental legislative framework and an adjustment of the sector to more sustainable production systems could mean that production expansion could only be possible in some EU regions. Unlike outbreaks in previous years, the incidence of Highly Pathogenic Avian Influenza (HPAI) is expected to extend over the whole year in the EU instead of being a seasonal event and this could challenge the poultry sector in the coming years.

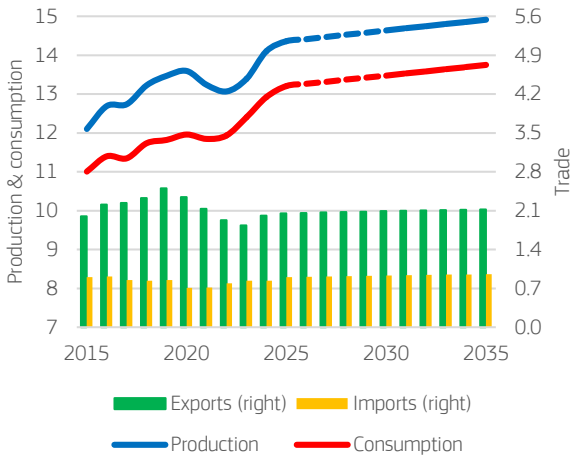
POULTRY IMPORT TO INCREASE WITH SUSTAINED DEMAND

EU poultry consumption is expected to continue to increase between 2025 and 2035, thanks to both: (i) consumers perceiving poultry as a more convenient, healthy and sustainable option; and (ii) higher demand from the food services and food processing sectors. Per capita poultry consumption is projected to increase from 15.1 kg a year in 2023-2025 to 16.5 kg a year by 2035. To meet this increase in demand, EU import is set to increase by 1.1% per year between now and 2035 to 955 000 t. Import will also be incentivised by higher poultry prices in the EU as already seen in 2025, when there was an increase in EU import from Brazil, UK and Thailand. EU poultry prices are projected to gradually increase to around EUR 2 850/t by 2035, through a combination of sustained demand in the EU and price development at world level.

POULTRY EXPORT TO INCREASE, BUT EU GLOBAL SHARE TO REMAIN STABLE

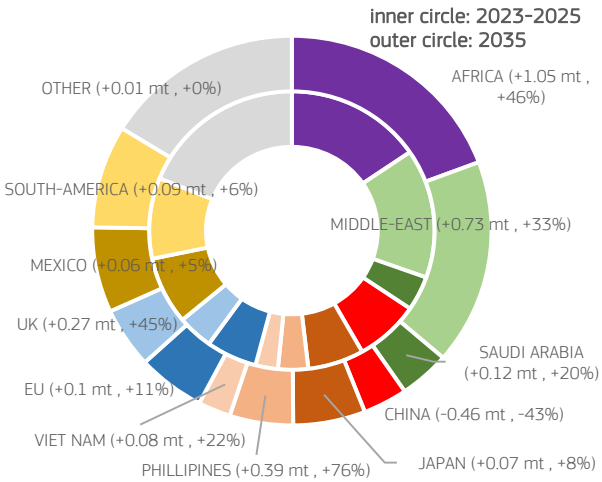
World import demand for poultry is expected to increase by 2.5 million t by 2035, with increasing demand for poultry in the Middle East, Africa and Asia. After some decline in recent years, EU poultry exports are expected to regain momentum in the coming decade. In line with increased EU production, EU export could grow slowly by +0.8% per year between now 2035, reaching a level of more than 2.1 million t by 2035. EU exports to the UK are also expected to remain strong, while export to Africa, Asia and the Middle East are expected to increase. However, the EU's share of global poultry export is set to remain fairly stable at around 12.5%, as low-cost global competitors such as Brazil, the US, Thailand or Ukraine could benefit more from increasing global demand, while local production could also expand in other non-EU countries.

GRAPH 5.12 EU poultry meat market balance (million t)



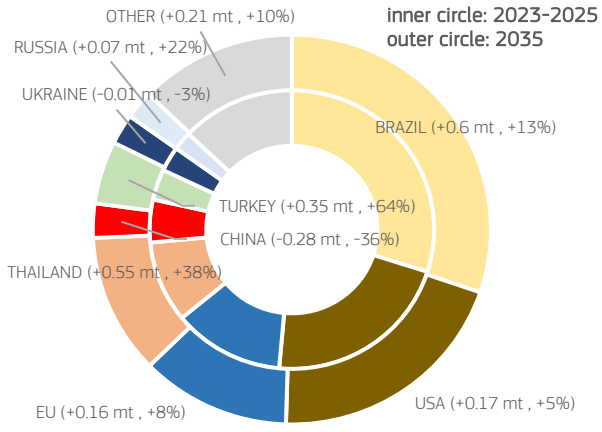
Note: Production corresponds to gross indigenous production.

GRAPH 5.13 World poultry meat imports (million t)



Source: DG Agriculture and Rural Development, based on OECD-FAO Outlook.
Note: Middle East includes Egypt.

GRAPH 5.14 World poultry meat exports (million t)



Source: DG Agriculture and Rural Development, based on OECD-FAO Outlook.

EGGS

GROWTH IN EGG PRODUCTION SET TO SLOW SLIGHTLY

In 2015-2025, EU egg production grew by +0.8% per year. In the next decade, EU egg production is projected to continue growing, driven by steady demand, but at a slightly lower growth rate (+0.5% per year). This is due to forecasts for declining population growth, and possible supply challenges from HPAI. Productivity improvements in the egg sector could originate from automation, digitalisation and genetics (by improving longevity and the persistency of laying), but these improvements could partly be offset in the short-term by: (i) the implementation of animal welfare policies; and (ii) an end to the practices of both killing male chicks and the in-ovo sexing of eggs.

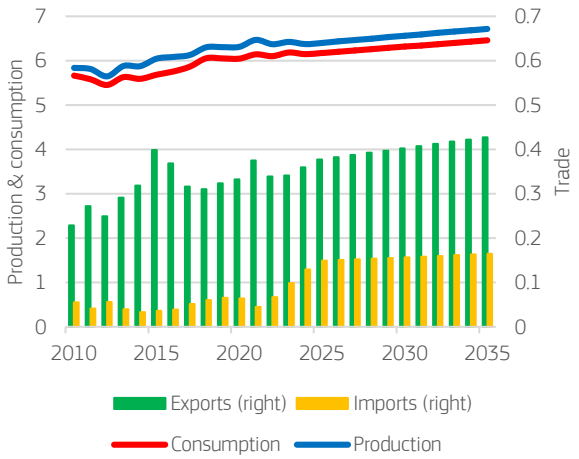
PER CAPITA CONSUMPTION SET TO CONTINUE GROWING

EU per capita consumption of eggs is expected to grow by +0.5 % per year by 2035 to reach 14 kg. Future trends in the consumption of eggs are driven by: (i) the ease of preparing eggs; (ii) their status as a cheap source of protein; (iii) the health consciousness of consumers; and (iv) an ageing population in which older adults tend to consume more eggs. Furthermore, there is sustained demand from the egg processing industry with eggs as ingredients in various food products (bakery, ice cream, sauces, desserts). With growing incomes, the demand for organic and free-range eggs is expected to increase. Given the perishability of the product, the EU imports most of its eggs (mostly fresh eggs) from neighbouring countries, such as Ukraine and the UK. In the last three years, imports from Ukraine have grown, with around 60% of total EU egg imports coming from Ukraine in 2023 and 2024. EU imports are projected to grow by + 2.7% per year in the coming decade assuming egg imports from Ukraine continue at similar levels as in 2025.

POTENTIAL EXPORT OPPORTUNITIES IN SOUTH-EAST ASIA

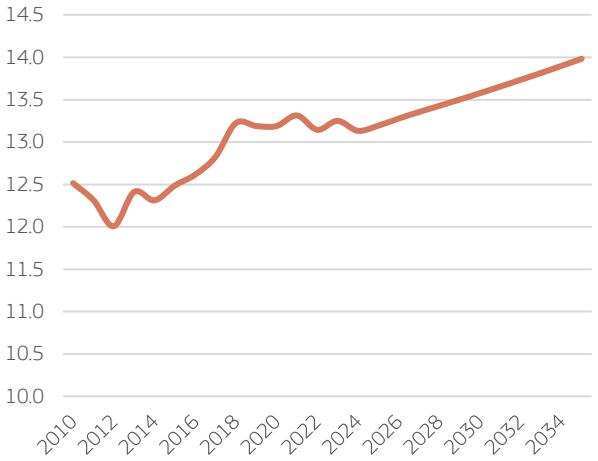
World egg consumption is expected to grow by +13% between 2025 and 2035, mainly in India and emerging markets in South-East Asia with high rates of annual economic growth like Viet Nam and Indonesia. However, the global egg trade is limited compared with total production, with only around 1.5% of global egg production traded due to transport costs, perishability and HPAI restrictions. Nonetheless, the growth in egg processing in emerging markets may increase trade opportunities in the long term. In 2025, EU exports of eggs are expected to grow by +5 % in volume compared with 2024. In the next decade, EU exports are expected to grow at around +1.7% per year supported in part by growing demand in neighbouring countries and the export of albumin to countries like Japan (there is relatively less demand for egg white in the EU than there is in Japan).

GRAPH 5.15 EU egg market balance (million t)

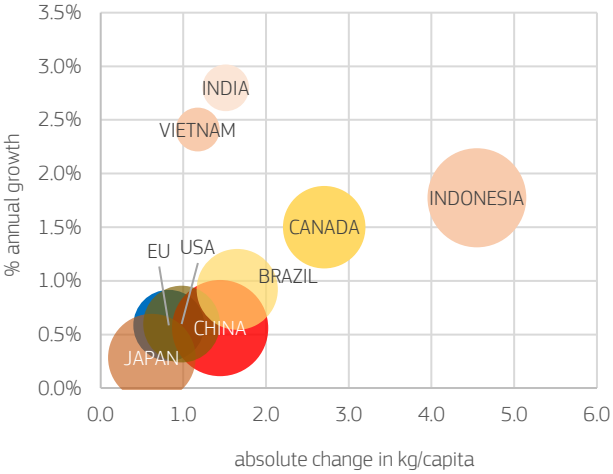


Note: The market balance contains only eggs for consumption.

GRAPH 5.16 EU per capita egg consumption



GRAPH 5.17 Change in per capita egg consumption



Note: Bubble size indicates per capita consumption in 2035
Source: DG Agriculture and Rural Development, based on OECD-FAO Outlook.

6. SPECIALISED CROPS

This chapter looks into the following specialised sectors: olive oil, wine, and selected fruit and vegetables (apples, oranges, tomatoes, peaches and nectarines). The wine sector is not covered by the AGLINK-COSIMO model, and projections are therefore based on expert judgement and literature reviews. For apples, oranges, tomatoes, peaches and nectarines, both production streams (fresh consumption and processing) are analysed. This analysis is conducted for selected EU countries using the AGMEMOD model, as is also the case for olive oil and table olives. The AGMEMOD model is using macroeconomic assumptions aligned with AGLINK-COSIMO model.

EU wine consumption is declining. The same is true for wine production as well as for exports. New markets in Latin America and Africa could offer opportunities but their current shares remain too limited to significantly help to stabilise the EU exports. The EU olive oil sector is recovering thanks to increasing yields, and global consumption is on the rise thanks to the popularity of the Mediterranean diet. In contrast, the production of table olives appears to be slowing although consumption remains high.

EU apple production is expected to grow slightly. Preferences appear to be shifting, with a decline in the consumption of fresh apples but increasing demand for processed apple products. The production of peaches and nectarines, on the other hand, is set to decline, mainly due to a reduced growing area, though yield improvement efforts could yet mitigate the impact. The overall consumption is falling slightly and the EU remains a net exporter. EU tomato production is on a positive trend, with rising demand for both fresh tomatoes due to snacking popularity and processed tomatoes due to convenience trends. The consumption of fresh oranges is projected to decline while demand for processed oranges could rise slightly, increasing the reliance on imports.

WINE

EU WINE CONSUMPTION DECLINES FURTHER

The structural decline in EU wine consumption is expected to continue as a result of changing consumption habits and preferences. Younger generations of consumers in particular tend to drink less alcohol. The preference for more up-market wines, consumed less frequently, could be another reason for the slowing consumption. The main causes, however, appear to be health concerns by consumers, national policies supporting a moderate alcohol consumption for health-related reasons, and increasing competition from other types of beverages. The extent of the decline differs by country, with countries that have traditionally had a high level of wine consumption (such as France and Germany) seeing the largest drop. Furthermore, there is a clear shift in consumer preferences for different types of wine, with a general decline in demand for red wines and increasing demand for fresher, lighter and easier-to-drink wines, in particular sparkling and white wines. A novel trend has emerged in the form of increasing sales of wine-based drinks, including non- and low- alcoholic wines. Nevertheless, sales volumes are expected to remain small for this type of product.

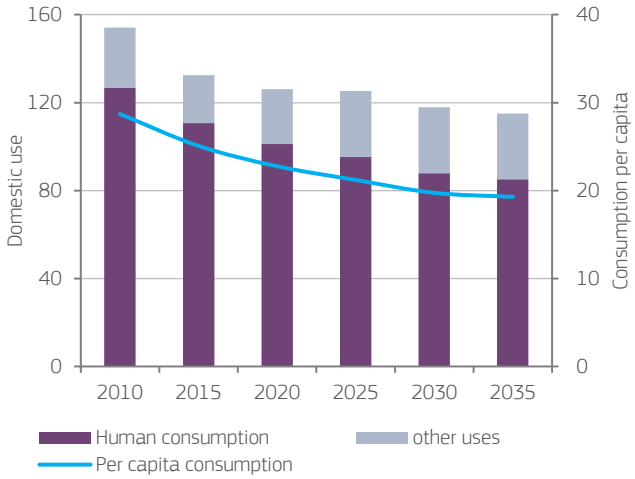
WINE PRODUCTION IS ADJUSTING TO DECLINING CONSUMPTION

Wine drinking in the EU is expected to decline by around 0.9% per year until 2035, to around 19.3 l per capita (down from 21.2 l on average in 2021-2025). By contrast, 'other uses' (e.g. distillation or transformation into processed products) are projected to stay relatively stable at around 30 million hl per year until 2023. Domestic human consumption is the largest outlet for the EU wine sector, at 66% in 2021-2025, while exports account for 20%. Some of the EU's main export markets (e.g. the US and the UK) are starting to see similar consumption trends as the EU. As a result of these trends, the EU wine production could decline further down by 0.5% per year between now and 2035, meaning that by 2035 production will have dropped to 138 million hl. A projected reduction in vineyard areas of 0.6% per year between now and 2035, assuming weather conditions and thus average yields remain stable, is anobher major reason for the projected decline in production.

FUTURE EU EXPORT GROWTH REMAINS UNCERTAIN

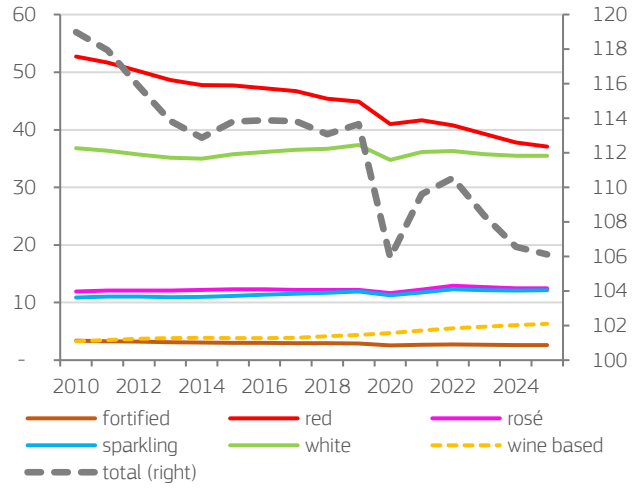
Given the ongoing developments on the US tariffs and the related high market uncertainty, the EU is temporarily affected by declining shipments to the US, being the main EU export destination. At the same time, demand from the UK, the EU's second largest export market, is also declining. However, there is increasing demand from Latin America and some countries in Africa, which could, however, not fully stabilise EU wine exports. The declining trend in EU wine imports is expected to continue in line with changing domestic consumption patterns. Overall, EU exports are expected to decrease by 0.6% and imports by 1.9% per year between now and 2035.

GRAPH 6.1 EU wine domestic use (million hl) and human per capita consumption (l)



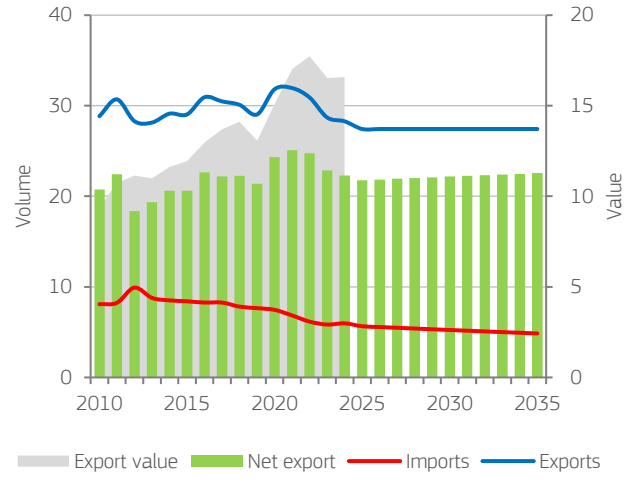
Source: DG Agriculture and Rural Development, based on Eurostat and MS notifications.

GRAPH 6.2 EU wine sales by wine colour (million hl)



Source: Euromonitor International, Alcoholic Drinks 2025 industry edition.

GRAPH 6.3 EU wine trade in volume (million hl) and value (billion EUR)



SPOTLIGHT ON OLIVE OIL

THE OLIVE OIL SECTOR IS UNDERGOING MAJOR CHANGE

The future of the EU olive oil sector will be shaped by a shift that is already underway in Portugal and Spain: in the coming years, traditional non-irrigated olive groves are expected to give way to super-intensive olive farms with efficient water management. This development is key to ensure the profitability of the sector. It is projected that by 2035, production in Spain could increase to nearly 1.8 million t and in Portugal to nearly 0.2 million t per year. In Greece, a projected decline in cultivated areas and yields could result in production volumes falling to below 0.18 million t per year. Similarly, Italian production is expected to decline by some 3% per year due to smaller areas and yields. Other factors that negatively affect the performance of the sector include climate change, extreme weather events, water scarcity and pests. *Xylella fastidiosa* remains a serious concern in areas such as Puglia, for example.

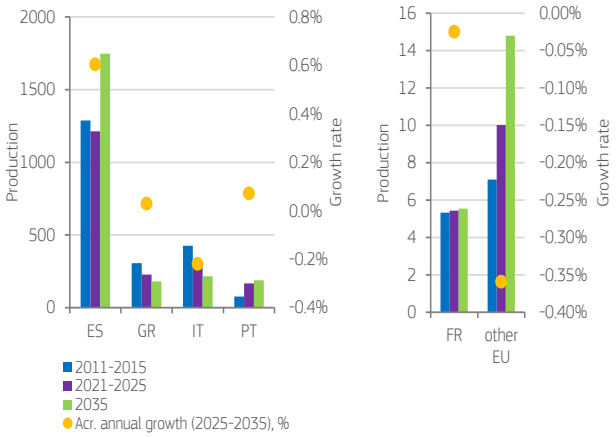
OLIVE OIL CONSUMPTION TRENDS ARE DECLINING

Olive oil continues to benefit from a reputation as a healthy source of fat. Nevertheless, high prices in recent years have dampened consumption, particularly in countries outside the Mediterranean area, where many consumers have switched to more affordable substitutes such as sunflower oil. Per capita consumption in Spain is projected to decline by 0.6% per year between now and 2035. This reflects changes in consumer preferences and a declining population. Per capita consumption in Italy, Greece and France is also expected to decline, at a rate ranging from 0.5% to 1.3% per year. By contrast, per capita consumption in Portugal is expected to increase due to growing production, which could make olive oil more affordable. In other EU countries, aggregate per capita consumption levels are expected to rise as people increasingly opt for healthier types of fat out of health concerns. Per capita consumption in these countries could increase to 1.2 kg between now and 2035, albeit from low levels.

OLIVE OIL EXPORTS COULD SEE A BOOST

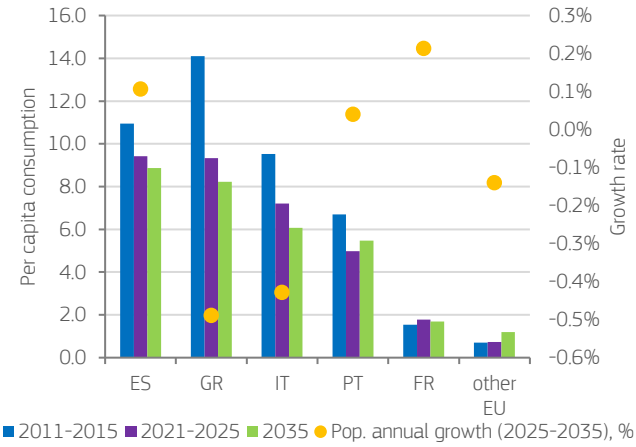
Over the next decade, net olive oil exports from Spain are projected to increase by 5.1% and from Portugal by 0.9%. In the case of Spain, this trend reflects both declining consumption and rising production. Conversely, other EU countries are expected to see an increase in net imports of 4.1% per year until 2023 to meet rising demand. In Italy, net imports are projected to decline by 0.4% per year due to lower per capita consumption and reduced production. The EU is projected to remain a net exporter, with net exports increasing by 6.1% between now and 2035. Looking ahead, product differentiation and good marketing strategies will be key if the EU olive oil sector is to maintain its leading role in the global market.

GRAPH 6.4 Olive oil production (1 000 t) and changes in olives for oil acreage (%)



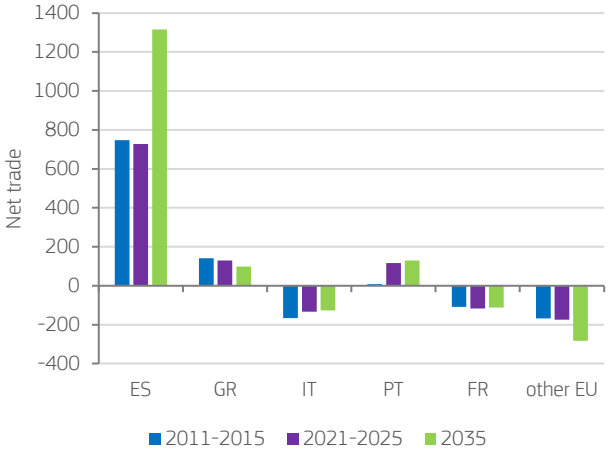
Source: AGMEMOD simulation.
Note: 2011-2015 and 2021-2025 represent Olympic averages (in all graphs).

GRAPH 6.5 Olive oil consumption per capita (kg)



Source: AGMEMOD simulation.

GRAPH 6.6 Olive oil net trade developments (1 000 t)



Source: AGMEMOD simulation.

SPOTLIGHT ON TABLE OLIVES

CLIMATE CHANGE AND WATER SCARCITY COULD AFFECT TABLE OLIVE PRODUCTION

Olive production in the EU, be it for table olives or olive oil, continues to face adverse weather patterns and water scarcity. Spanish producers of table olives are falling behind in terms of competitiveness and international market share. In the coming years, unprofitable non-irrigated groves could be forced out of business. Production is expected to decline by 0.2% per year between now and 2035, mainly due to an acreage reduction of around 0.7% per year, partly offset by increasing yields thanks to irrigated cultivation techniques. This could boost Spain's production by 0.6% per year according to current estimates. Production of table olives in Greece, Italy and France is also expected to decline, at an annual rate of between 0.1% and 0.9%. Portugal is an exception to this trend, as efficient water management has led to yield increases that are expected to be maintained over the next decade.

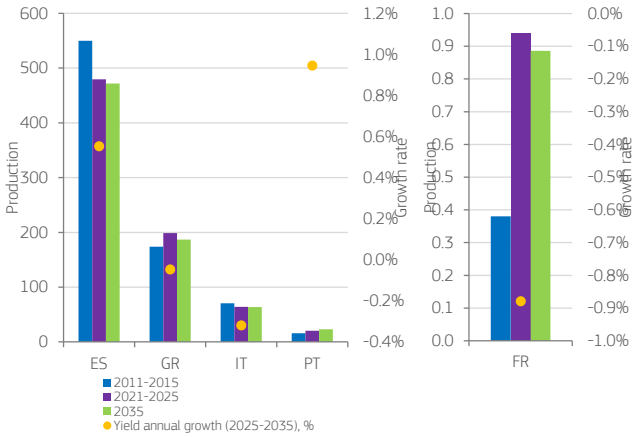
CONSUMPTION CONTINUES TO GROW

EU per capita consumption of table olives has remained stable at around 1.8 kg over the past decade, but the current EU Agricultural Outlook report projects that by 2035, consumption could increase to 2 kg per person. Looking at individual countries, per capita consumption of table olives is projected to fall in Spain, where the declining trend observed in recent years is expected to continue due to rising prices and a declining population. In contrast, per capita consumption is expected to increase in Greece, Italy and Portugal. Portugal could see the largest increase, although consumption will remain modest at 0.6 kg per person. In France, per capita consumption is projected to stabilise following annual increases of 3.2% in the period from 2015 to 2025. In other EU countries, per capita consumption is expected to continue to increase, reaching 1.1 kg by 2035.

MAJOR EU PRODUCERS ARE LIKELY TO REMAIN NET EXPORTERS

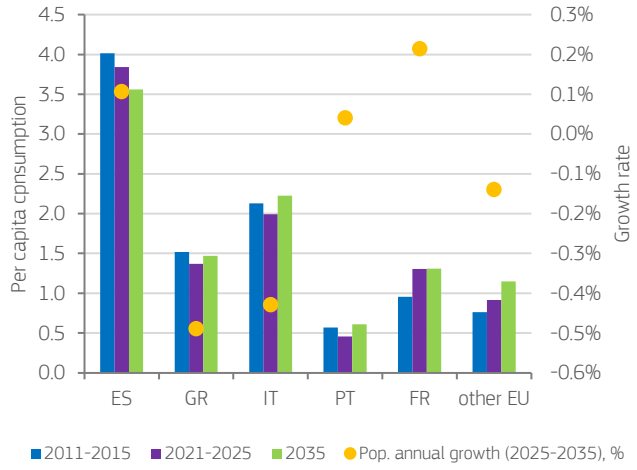
All major EU table olive producers are expected to maintain their current net trading position. Net exports from Spain and Portugal are projected to grow, with annual growth rates in the range of 0.2-0.7% until 2023. For Spain, this is due to a projected drop in consumption that more than offsets the decline in production. By contrast, Italian net imports are projected to increase by 24% from 2025 to 2035. Similar developments are currently projected for other EU countries, where growth in demand for table olives could translate into per yearly increase in net imports of 2.2%. In a global context, the EU table olive sector could face increasing competition from key producers such as Türkiye, Morocco, Tunisia and Egypt.

GRAPH 6.7 Production of table olives (1 000 t) and changes in yield (%)



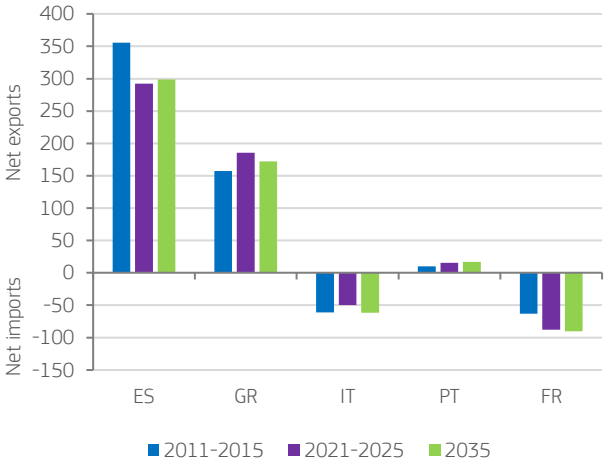
Source: AGMEMOD simulation.
Note: 2011-2015 and 2021-2025 represent Olympic averages (in all graphs).

GRAPH 6.8 Table olive consumption per capita



Source: AGMEMOD simulation.

GRAPH 6.9 Table olive net trade developments (1 000 t)



Source: AGMEMOD simulation.
Note: For data availability reasons, the current version of the AGMEMOD model only covers the table olive sector in the countries shown in the figure. This means that production, and therefore of the scope for exports, could be underestimated.

SPOTLIGHT ON APPLES

DESPITE A DECLINING GROWING AREA, APPLE PRODUCTION SHOULD STABILISE

The total production of apples for fresh consumption in the six main EU apple-producing countries is expected to increase by about 1.6% from 2025 to 2035. At the same time, the total growing area could decrease by about 4.6%. In particular, Poland is expected to see a decline in growing area due to small farms going out of business, but this could be offset by an average growth in yields of about 6.5% over the next decade, linked to a shift towards more intensive, industrial-scale orchards delivering exclusively to the processing industry. Yields are expected to increase in Hungary between now and 2035 but to slightly decline in all other key EU apple-producing countries. Key challenges faced by EU apple growers include climate change, a shortage of plant protection products and rising labour costs.

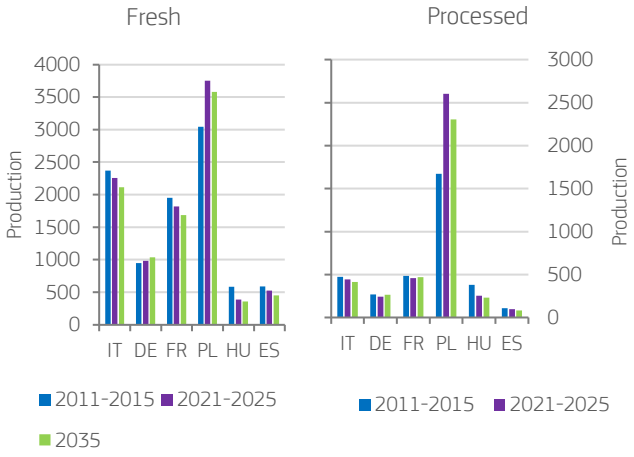
FRESH APPLE CONSUMPTION IS LIKELY TO FALL

Per capita consumption of fresh apples is expected to decline in most of the EU's main apple-producing countries except Poland, where it is projected to remain stable. This declining trend reflects changes in consumer preferences, especially among the younger generations. Although apples are generally more affordable than other fruits, consumers increasingly prefer to buy fruits such as avocados or berries. In some countries, the apple sector is trying to win over young people for example by depicting cartoon characters on the packaging. In contrast, the EU Agricultural Outlook is more positive for processed apples. Per capita consumption could increase in four out of seven selected EU countries. In France, the consumption of processed apples has increased considerably, offsetting the decline in the consumption of fresh apples.

LARGER VOLUMES OF FRESH APPLES COULD BE SUPPLIED

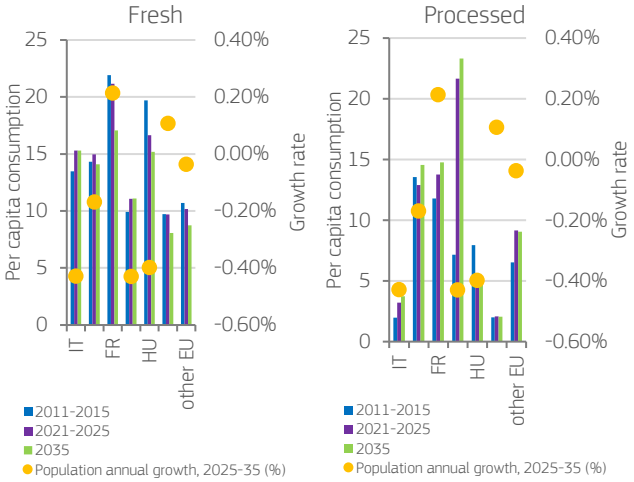
The EU exports almost half of its total production. This share is expected to increase further to 55% between now and 2035, with Poland and Italy remaining the EU's main exporters of both fresh apples and processed products. However, both countries could see declining net export growth for fresh apples. Overall, the EU is projected to remain a net exporter of fresh apples, with a 4.9% increase in export volumes over the coming decade (compared to 2021-2025). Focusing on organic or 'club' varieties could help strengthen the EU's position globally. Looking at trade in processed products, the EU is likely to become structurally reliant on imports, but trade volumes could remain small over the next decade. The projected increase in EU net imports of processed products is linked to rising imports in countries such as Germany and France that have traditionally been net importers.

GRAPH 6.10 Production of apples (1000 t)



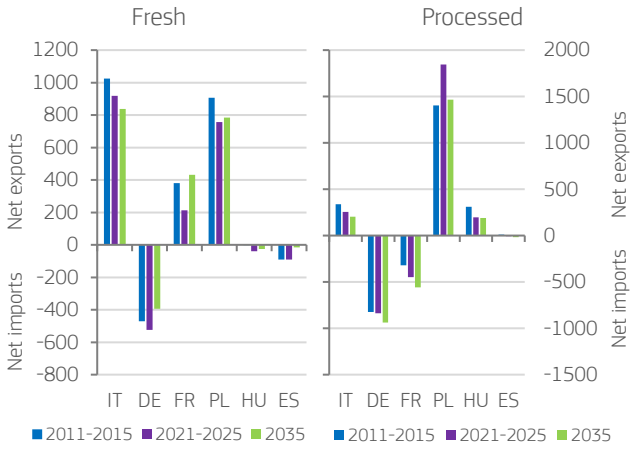
Source: AGMEMOD simulation.
Note: 2011-2015 and 2021-2025 represent Olympic averages (in all graphs).

GRAPH 6.11 Per capita consumption of apples (kg) and population growth (%)



Source: AGMEMOD simulation.

GRAPH 6.12 Net trade developments of apples (1000 t)



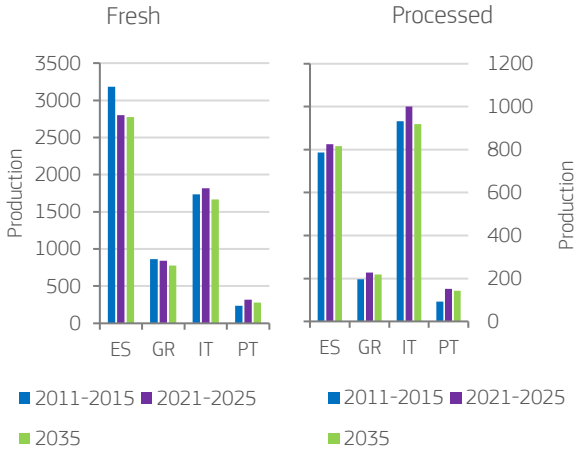
Source: AGMEMOD simulation.

SPOTLIGHT ON ORANGES

DECLINING PROFITABILITY AND CLIMATE CHANGE THREATEN PRODUCTION

The EU orange sector is facing various challenges like labour costs increase, availability of plant protection products and climate-related impacts, such as water shortages and episodes of heavy rainfall. This is already having a considerable adverse impact on yields. The growing area is expected to decline, partly in response to falling profits, in all main orange-producing EU countries. As a result, production is projected to decline at a rate of 0.1% to 1.3% per year, depending on the country, between now and 2035. As regards the production of processed oranges, the outlook is uncertain due not only to climate change and pests, but also to the emergence of new players in third countries and fluctuations in demand. Moreover, the challenges faced by oranges producers could lead to a restructuring of the sector, favouring an increase in the size of agricultural holdings.

GRAPH 6.13 Production of oranges (1 000 t)

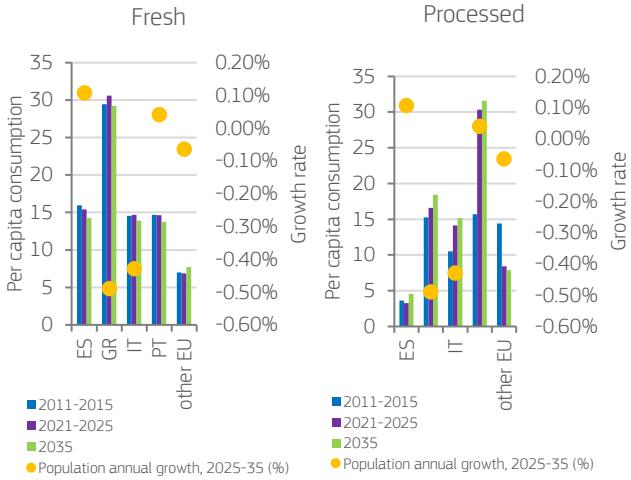


Source: AGMEMOD simulation.
Note: 2011-2015 and 2021-2025 represent Olympic averages (in all graphs).

CONSUMPTION TRENDS DIFFER BETWEEN FRESH AND PROCESSED ORANGES

EU per capita consumption of fresh oranges has remained largely stable over time at around 9.6 kg. However, in the period leading up to 2035 fresh orange consumption per person is projected to decline between 4% and 7% in all major orange-producing EU countries. The demand for processed oranges is expected to grow slightly in some EU countries, largely driven by rising demand for orange juice. Spain is expected to see the largest increase in per capita consumption of processed oranges, although starting from a very low level and remaining below 5 kg in 2035. The juice industry is exploring a wider range of products, such as freshly squeezed juice, juice with pulp and juice with reduced sugar content, to boost consumption and compete with other soft drinks on the market.

GRAPH 6.14 Per capita consumption of oranges (kg) and population growth (%)

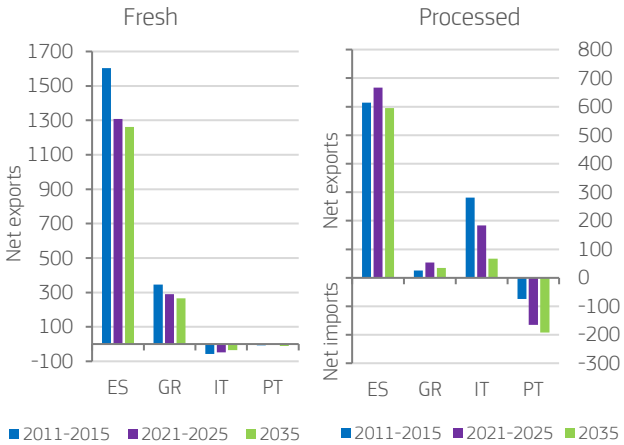


Source: AGMEMOD simulation.

IMPORTS COULD GROW AS PRODUCTION DECLINES

The EU is currently a net importer of both fresh and processed oranges. This is unlikely to change due to a production decline. Egypt and South Africa are currently the main non-EU suppliers of oranges. Among EU countries, Spain and Greece are expected to remain net exporters, although Spanish net exports of fresh oranges are projected to decline by 0.3% and Greek net exports by 0.7% per year. Looking at trade flows in processed oranges, net exports are projected to fall in Spain, Greece and Italy from 1% to 8%.

GRAPH 6.15 Net trade developments of oranges (1 000 t)



Source: AGMEMOD simulation.

SPOTLIGHT ON PEACHES AND NECTARINES

THE GROWING AREA IS DECLINING BUT PRODUCTION REMAINS STABLE

The peach and nectarine growing area is expected to decline in most EU producer countries. In Italy and Spain, in particular, the growing area has been declining in the north of Italy and in Spain's Catalonia region, but changes in growing areas and yields vary widely across regions. Taken together, these trends point to a decline in production at an annual rate of around 0.3% in Spain and 0.5% in Italy. France is an exception to this trend, as its peach and nectarine growing area has remained stable for the past five years. Factors that could adversely affect yields include bad weather, including extreme weather events, the emergence of new pests, a shortage of plant protection products and labour shortages. Investments to improve risk management, optimised water management and the use of improved varieties could help counter these risks and allow the sector to achieve higher yields in the coming years.

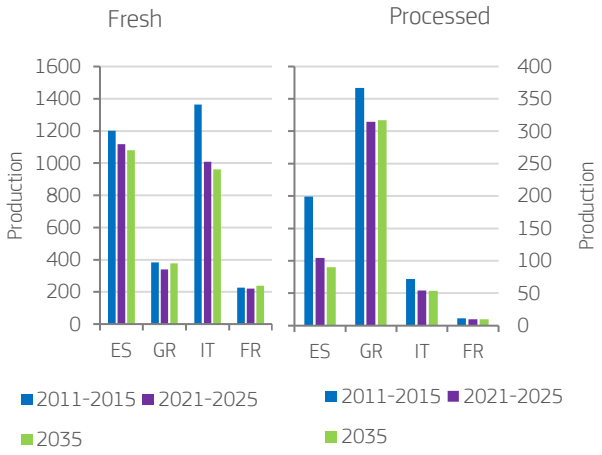
CONSUMPTION IS DECLINING OVERALL BUT VARIES BY COUNTRY

Overall EU per capita consumption of peaches and nectarines is expected to decline slightly between now and 2035, falling by 0.7% per year for fresh products and by 0.9% for processed products. In the main producer countries, however, per capita consumption is projected to grow slightly by 0.1% to 0.3% per year for fresh peaches and nectarines, and a similar trend is expected for processed products. By contrast, per capita consumption is expected to fall in other EU countries (-4.1% per year). Greece is both a major producer and a top consumer of canned peaches, but most of Greece's production is exported and exports to non-EU countries are projected to grow. France is expected to see the largest increase in per capita consumption of processed products (2.6% per year), reflecting a growing demand for processed fruit among French consumers, a trend also observed for apple compotes.

TRADE PATTERNS VARY AMONG EU PRODUCER COUNTRIES

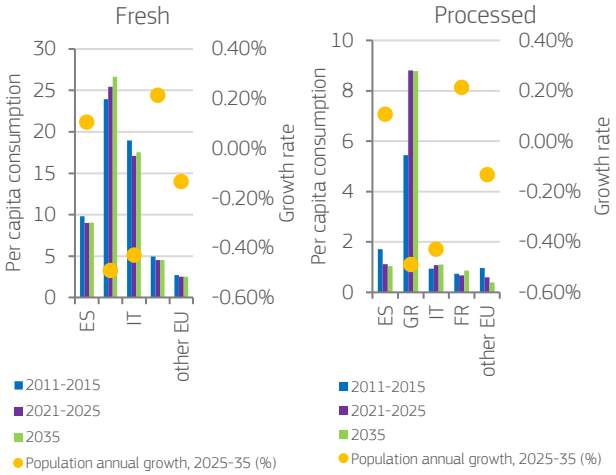
According to projections, the EU could remain a net exporter of peaches and nectarines, both for fresh consumption and for processing, in 2035. More specifically, in countries other than the main producers, net imports of fresh fruit are expected to remain stable while net imports of processed fruit are expected to decline. Among the main producer countries, two different patterns emerge, with Spain and Greece remaining net exporters and Italy and France net importers. Net imports of processed products are projected to increase by 1.8% for Italy and by 2.9% for France. In the coming years, EU trade could face stronger competition as new players, such as Chile and Pakistan, enter the international market.

GRAPH 6.16 Production of peaches and nectarines (1 000 t)



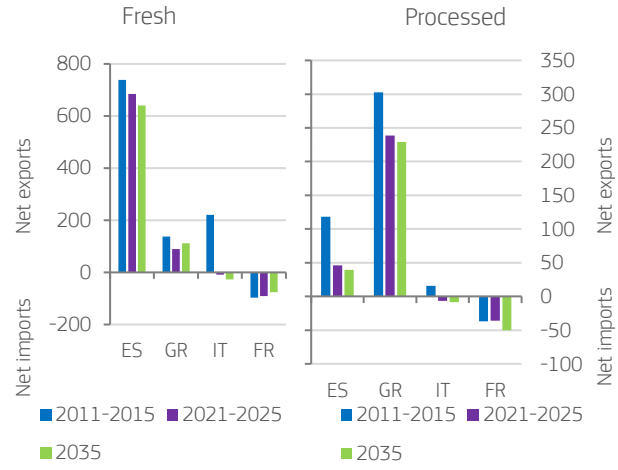
Source: AGMEMOD simulation.
Note: 2015 and 2025 represent Olympic averages (in all graphs).

GRAPH 6.17 Per capita consumption of peaches and nectarines (kg) and population growth (%)



Source: AGMEMOD simulation.

GRAPH 6.18 Net trade developments of peaches and nectarines (1000 t)



Source: AGMEMOD simulation.

SPOTLIGHT ON TOMATOES

PRODUCTION TRENDS VARY WIDELY

Tomato production for fresh consumption is expected to decline between now and 2035 in major producer countries such as Spain and Greece. In Spain, where both cultivated areas and yields are expected to decline, the sector is increasingly turning to lower-yield varieties with higher added value to boost profitability. In the Netherlands, production is projected to increase by 1.2% per year, with a shift towards larger tomatoes. With regard to tomatoes for processing, production is projected to expand in Spain and Portugal. In Spain, this trend reflects investments as well as CAP-related policy support. Looking ahead, key challenges remain: stronger global competition, climate change, water scarcity, increasing costs of inputs, a scarcity of plant protection products and high costs and a short supply of labour.

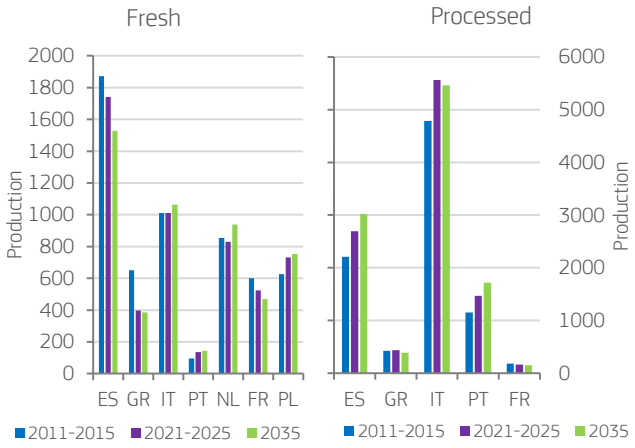
'SNACKING' VARIETIES ARE GAINING IN POPULARITY

Overall EU demand for fresh tomatoes is expected to increase by about 7% between now and 2035. Over the next decade, per capita consumption is expected to grow in Spain, the Netherlands and Poland, with annual growth rates ranging from 0.3% to 1.7%. The shift towards small-sized varieties seen in recent years is expected to continue. Per capita consumption of processed tomato products is projected to grow in all EU countries, at a rate ranging from 0.1% to 1.3%. This reflects rising demand for convenience foods and prepared meals, which suits today's busy life styles. To make processed tomato products more attractive, the industry is increasingly proposing healthier products containing less salt and sugar and more healthy fats.

TRADE PATTERNS COULD CHANGE AS PRODUCTION MOVES ABROAD

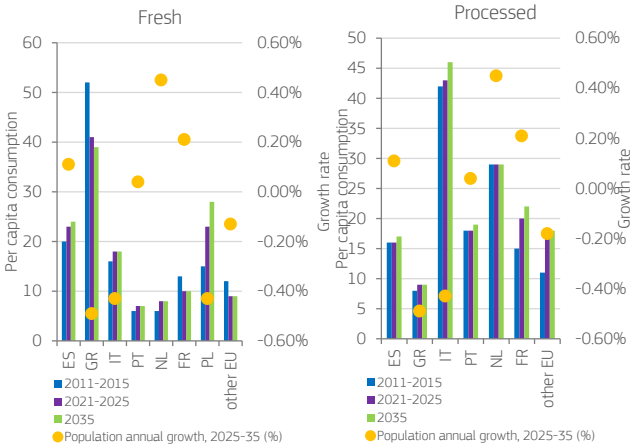
EU net imports of fresh tomatoes are expected to continue to grow, approaching a volume of 600 000 t per year by 2035. This reflects a slight increase in demand (0.6%) combined with a modest decline in production (-3.4%) in key producer countries such as Spain, Greece and France. There is some uncertainty in the market due to the possibility of EU production relocating or expanding outside the EU, as a way for producers to ensure supply throughout the year. This shift could lead to tougher competition both within the EU and in global markets and to a further decrease in EU production. The main producer countries of processed tomatoes are expected to maintain their current market position, with Italy remaining the largest producer and exporter. Expansion of production in countries such as Egypt and Chile and cultivation of double-use varieties in Türkiye could increase competitive pressure in the market.

GRAPH 6.19 Production of tomatoes (1 000 t)



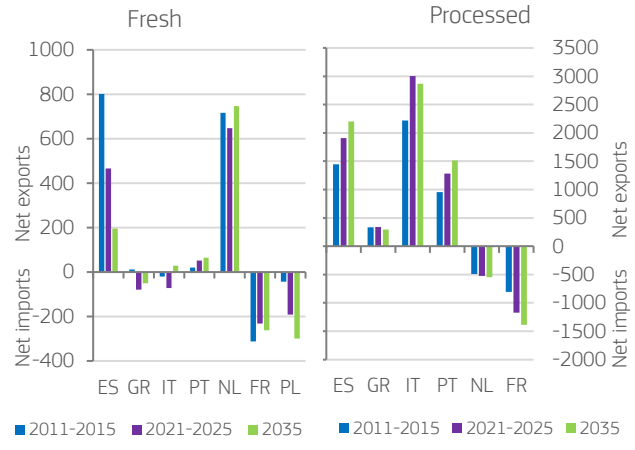
Source: AGMEMOD simulation.
Note: 2011-2015 and 2021-2025 represent Olympic averages (in all graphs).

GRAPH 6.20 Per capita consumption of tomatoes (kg) and population growth (%)



Source: AGMEMOD simulation.

GRAPH 6.21 Net trade development of processed tomatoes (1 000 t)



Source: AGMEMOD simulation.

7. ENVIRONMENTAL ASPECTS

This chapter presents a partial analysis of the climate and environmental aspects of the EU Agricultural Outlook for 2035, focusing on greenhouse gas emissions, crop diversity and pesticides use.

On the basis of the market projections presented in the previous chapters, direct greenhouse gas emissions from overall agricultural production are expected to decline further, in particular from livestock production but also from crop farming.

The analysis of crop diversity and pesticides use is based on the CAPRI model, with the 2024 EU Agricultural Outlook report as the basis for projected changes in area, livestock numbers and production. In view of these projections, crop diversity could remain relatively stable until 2035, with only a slight overall decrease. Pesticide use is projected to decrease by 8% overall as a result of a lower intensity of pesticide use (kilogramme per hectare) for most crops as well as a reduction in the total area under crops (mainly cereals and other arable crops).

It is important to note that this partial analysis does not take into account the implications of farming practices supported under the CAP strategic plans. As the impact of farming practices such as organic farming, landscape features, grassland management and animal welfare practices are not factored into this modelling exercise, the results presented should be interpreted accordingly.

GREENHOUSE GAS EMISSIONS

AN ACCELERATED REDUCTION OF GHGS FROM AGRICULTURE IS LIKELY

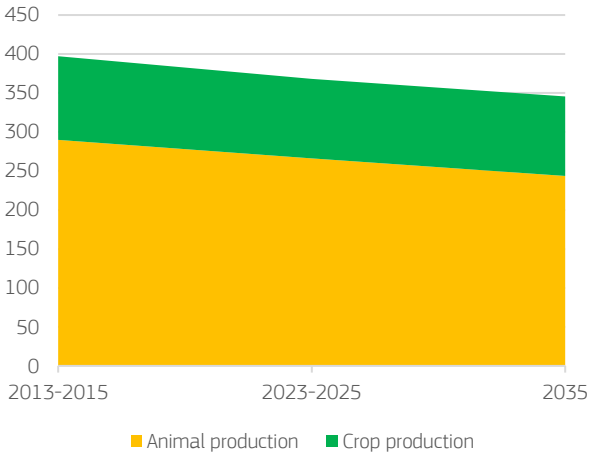
According to projections with the Aglink-Cosimo model, direct GHG emissions from overall agricultural production (based on direct emission factors such as acreage and animal numbers only) are expected to continue to decline in the coming years, especially emissions from livestock production. Direct GHG emissions from animal production are projected to decline by 8.4% between now and 2035

Emissions from crop farming are projected to remain stable, mainly thanks to stable yields and a slight decline in arable land. As a result, overall total GHG emissions from agriculture are projected to decline by 6.1% in the next decade.

As only direct emissions are taken into account in this calculation, it is likely that even greater emission reductions would be achieved if the implementation of CAP measures were considered as well as the use of emission reduction technologies and environmentally sustainable farming practices.

The following sections on crop diversity and pesticide use are based on the CAPRI model, with the 2024 EU Agricultural Outlook report as the basis for projected changes in area, livestock numbers and production.

GRAPH 7.1 GHG emissions from EU agriculture (million t of CO2 eq.)



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

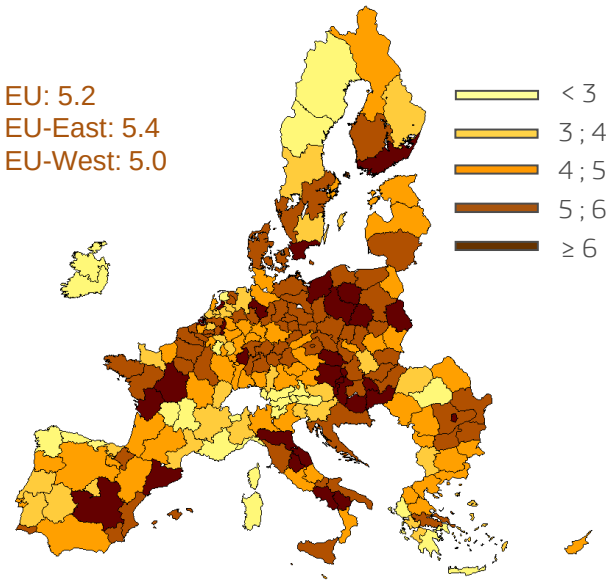
Source: EU Agricultural Outlook 2025 (AGLINK-COSIMO simulation).

CROP DIVERSITY

CROP DIVERSITY ACCORDING TO THE SHANNON DIVERSITY INDEX

Agriculture is considered more sustainable when there is no dominance of one or just a few crops, as mosaic landscapes often have higher landscape and biodiversity values. In addition, crop diversification and rotation are beneficial to soil health. To measure crop diversity, the Shannon diversity index is used, a mathematical formula based on crop richness (the number of crops) and the relative abundance or evenness of crop distribution. The index is expressed in a scale of 0 to 10, where pure monoculture is 0 and 10 indicates an equal share of all available crops or crop groups included in the CAPRI model, which is used to calculate the index. Permanent grasslands are excluded, as a very high share of grassland would result in a very low index value. This could be misleading because permanent grasslands are often rich in plant species, providing significant environmental benefits. The indices are calculated based on area uses at NUTS2 level. This is a highly aggregate spatial resolution which could potentially conceal actual crop diversity patterns at farm or local eco-system level. Finally, the simulations do not take full account of the impact of crop rotation and diversification requirements under the CAP.

GRAPH 7.2 Shannon diversity index on annual and permanent crops in 2035



Source: CAPRI simulation based on 2024 EU Agricultural Outlook baseline.

DIVERSITY AT REGIONAL LEVEL COULD DECREASE SLIGHTLY

The projected 2035 index value for total EU land use diversity (annual and permanent crops) is 5.2 on average, slightly higher for EU-East (5.4) than for EU-West (5.0). The projected changes from the 2017 base year to 2035 are very small, at -0.12 points on average for the EU (-0.2 EU-East, -0.08 EU-West). Only a few EU regions could see changes of more than 0.5 points. A higher concentration of olive groves in Greece (up from an already high level) and temporary grasslands in Portugal and Cyprus explain significant drops in the index value. Conversely, significant rises are linked to declining cereal crops in regions with originally high shares of cereals (e.g. Finland, north-east Spain and Austria). In general, permanent crops have a limited impact on the overall index values. Notable exceptions include the expansion of olive groves in Greece and the decline of vineyards in southern France (decreasing crop diversity) and changes in fruit orchards in Portugal and Spain (increasing crop diversity).

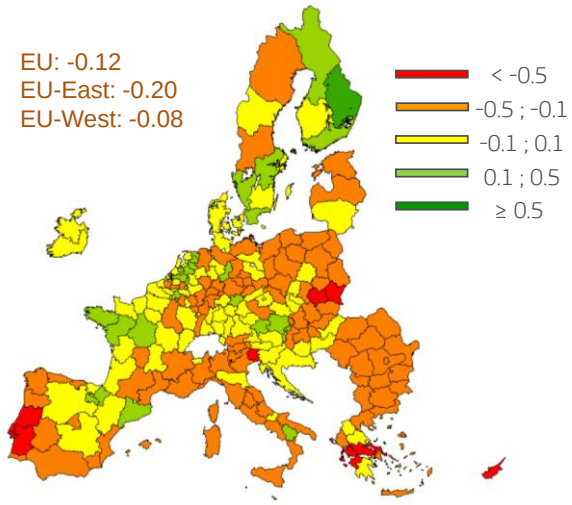
The index gives a higher projected average value of 6.3 for 2035 if permanent crops are excluded, but similar results when absolute changes are considered. Lower values (below 4) are found in EU regions where natural conditions favour livestock production, such as the Scandinavian countries and the north-west Iberian Peninsula. The expansion of (fodder) maize cultivation has a negative impact in Eastern Europe, while shifts in temporary grasslands (including alfalfa) have mixed effects. In some regions (mainly north-western Europe, Poland, Finland and Greece) they contribute to higher crop diversity and in others (southern France, some Italian regions, Cyprus and Portugal) to lower crop diversity.

DISTRIBUTION RATHER THAN RICHNESS DRIVE CHANGES IN CROP DIVERSITY

The Shannon index measures both crop richness and evenness of distribution. The Shannon equitability index, on the other hand, calculates only the equitability or evenness of crop distribution. This index shows very similar results to the crop diversity index (a decrease of -0.11 points for the EU as a whole). It can therefore be deduced that a shift in the evenness of crop distribution, rather than a change in the number of crops, is the main cause of most changes in regional crop diversity.

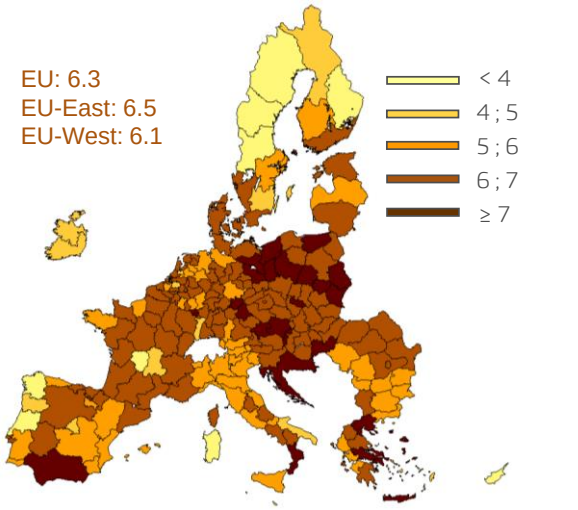
In summary, CAPRI baseline projections show how cropping is expected to change at regional level. In the period leading up to 2035, crop diversity is projected to remain relatively stable, with only a minor overall decrease due mainly to an expansion of the maize-growing area and a reduction in the areas for growing potatoes, pulses and rice. However, this reduction is partially offset by a decline in the cultivation of winter cereals (except oats) and increased cultivation of oilseed. Shifts in temporary grasslands (including alfalfa) have a mixed net effect on diversity. It should be noted that the results could be rather different if an index calculated at a higher spatial resolution were used, e.g. at farm level, and if commitments from CAP interventions targeting crop rotation and diversification were explicitly included.

GRAPH 7.3 Change in Shannon diversity index on annual and permanent crops 2035-2017



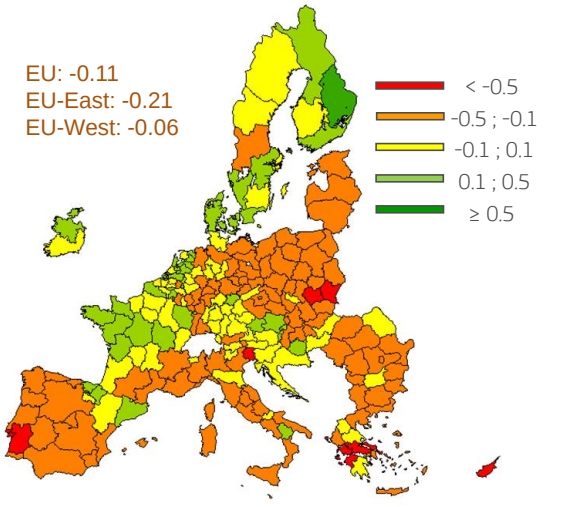
Source: CAPRI simulation based on 2024 EU Agricultural Outlook baseline.

GRAPH 7.4 Shannon diversity index on annual crops in 2035



Source: CAPRI simulation based on 2024 EU Agricultural Outlook baseline.

GRAPH 7.5 Change in Shannon equitability index on annual and permanent crops 2035-2017



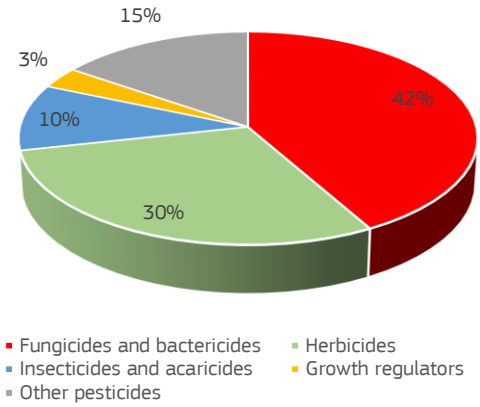
Source: CAPRI simulation based on 2024 EU Agricultural Outlook baseline.

PESTICIDES USE

MODELLING PESTICIDE USE

CAPRI model projections of pesticide use are primarily based on changes in crop areas, crop yields and an assumed constant growing annual trend in pesticide use efficiency. The analysis includes data on all pesticide quantities (in t). It does not take account of the risk or hazard of pesticides to human health or the environment. The results cannot therefore be directly compared with the Harmonized Risk Indicator-1 established under EU Directive 2009/128/EC. Caveats include the non-explicit modelling of the impact of environmental CAP interventions, which could result in the potential pesticide reduction being underestimated, while assumed efficiency gains could have the opposite effect.

GRAPH 7.6 Pesticide distribution by type in 2035

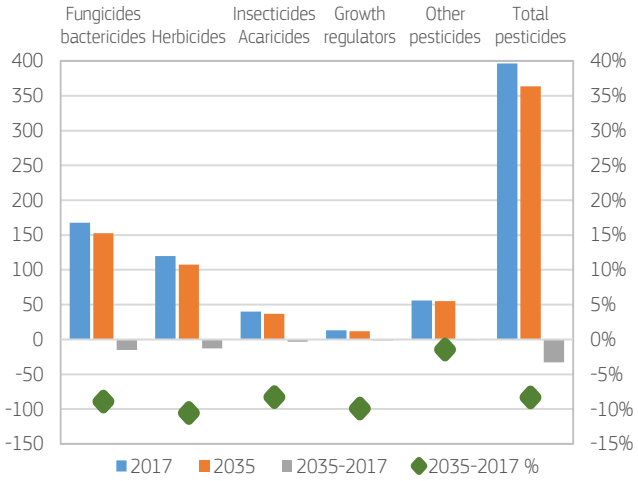


Source: CAPRI simulation based on 2024 EU Agricultural Outlook baseline.

OVERALL PESTICIDE USE COULD DECREASE BY 8%

Five main groups of pesticides are considered in this analysis: fungicides and bactericides, herbicides, insecticides and acaricides, growth regulators, and other pesticides. According to projections, in 2035 the main types or categories of pesticide could be fungicides and bactericides (around 42%) and herbicides, including haulm destructors and moss killers (30%, of which approximately 25% glyphosate). Percentages are lower for insecticides and acaricides (10%), growth regulators (3%) and other pesticides (15%). Pesticide use is projected to decline by around 10% for most categories between 2017 and 2035, resulting in an overall decrease of 8% at EU level. For the 'other pesticides' category, the reduction is smaller than for the main categories due to changes in the relative area shares of crops to which these products are applied. This category is mostly used on vegetables and permanent crops, and their use is projected to increase significantly for olive oil plantations, nurseries and flowers but to decrease for vegetables and vineyards.

GRAPH 7.7 Pesticide use by type (1000 t) and changes between 2017 and 2035 (%)



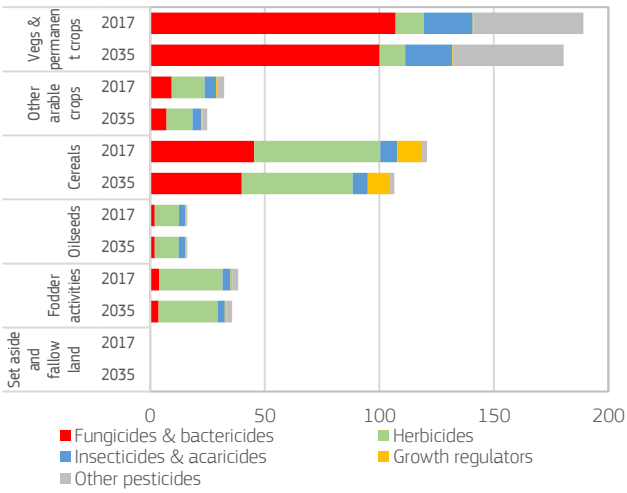
Source: CAPRI simulation based on 2024 EU Agricultural Outlook baseline.

PESTICIDE USE DECLINES THE MOST FOR CEREALS, VEGETABLES AND PERMANENT CROPS

The highest absolute amounts of pesticides (in 1 000 t), mainly fungicides and bactericides, insecticides and other pesticides, are applied to vegetables and permanents crops. Large amounts of pesticides are also applied to cereals, mainly due to their large area share. Herbicides are mainly applied to arable crops.

Pesticide use intensity (kg per hectare) by specific crops is also the highest for vegetables and permanent crops, followed by other arable crops (including potatoes, sugar beet, pulses and industrial and textile crops), cereals, and oilseeds. Much lower quantities of pesticides per hectare are applied to fodder and grasslands.

GRAPH 7.8 Pesticide use by crop type (1000 t)



Source: CAPRI simulation based on 2024 EU Agricultural Outlook baseline.

A LOWER PESTICIDE USE INTENSITY AND A DECREASE IN TOTAL AREA ARE THE MAIN DRIVERS

The most significant projected changes in pesticide use are for cereals (down by 12%, accounting for 43% of the total reduction), vegetables and permanent crops (-5% in use and 26% of total reduction), and other arable crops (-23% in use and 23% of total reduction). The projected changes for arable crops are due both to the declining intensity of pesticide use (kg per hectare) and to a reduction in area (area for cereals decreasing by 6% and for other arable crops by 17%). Pesticide use intensities are projected to decrease for pulses and sugar beet but to increase for potatoes. These intensity changes are mainly linked to use efficiency trends, regional shifts in production and underlying assumptions about yield development.

The overall area under vegetables and permanent crops is not projected to change significantly, but there are changes in distribution of crops (with vineyard and vegetable areas declining and olive grove, fruit, flower and nursery areas increasing). For individual vegetables and permanent crops, pesticide use intensity per hectare could fall in some regions but increase in others, leading to an EU average change of -5% for this group of crops. The intensity could decrease e.g. for olive groves (-7%) and vineyards (-4%), partially offset by an increase for flowers (+8%), nurseries (+4%) and tomatoes (+2%).

REGIONAL DISTRIBUTION OF PESTICIDE USE

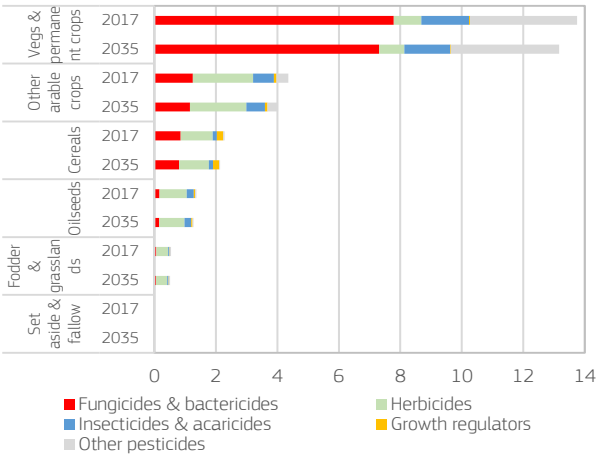
The regional distribution of pesticide use intensities (kg/ha of UAA) shows the highest levels for fungicides and bactericides (EU average 0.9 kg/ha UAA). This is partially due to the inclusion of heavy copper-based active substances. Hotspots correspond to regions with a high land use share of vegetables and permanent crops, such as the Netherlands, south-eastern Spain, Cyprus and some Italian regions. Herbicides (EU average 0.7 kg/ha UAA) are more evenly distributed, but north-western Europe has the highest values due to high land use shares and yields of arable crops. Insecticide and acaricide use intensities (EU average 0.2 kg/ha UAA) are the highest in western Germany (regions with vineyards, potatoes, sugar beet, vegetables, apples and nurseries) and in some Mediterranean regions (typically growing fruit, citrus, olives and vegetables).

Projected changes in pesticide use intensities show an overall reduction of 8% for herbicides and of 6% for the other two major groups (fungicides/bactericides and insecticides/acaricides). For fungicides and bactericides, southern France and Italy could see the most significant decline, while a rise is projected for the Netherlands (due to an increase in areas and use intensity for flowers and nurseries), eastern Spain, Portugal and Finland. A smaller but more widely distributed reduction is projected for herbicides, mainly due to reduced pesticide use intensities and a decline in arable land, in particular land under cereals. Insecticides and acaricides show only modest changes, with a reduction in some German regions, southern France and Cyprus and small increases in Greece and Portugal.

TABLE 7.1 Change in pesticide use and in area, 2035-2017

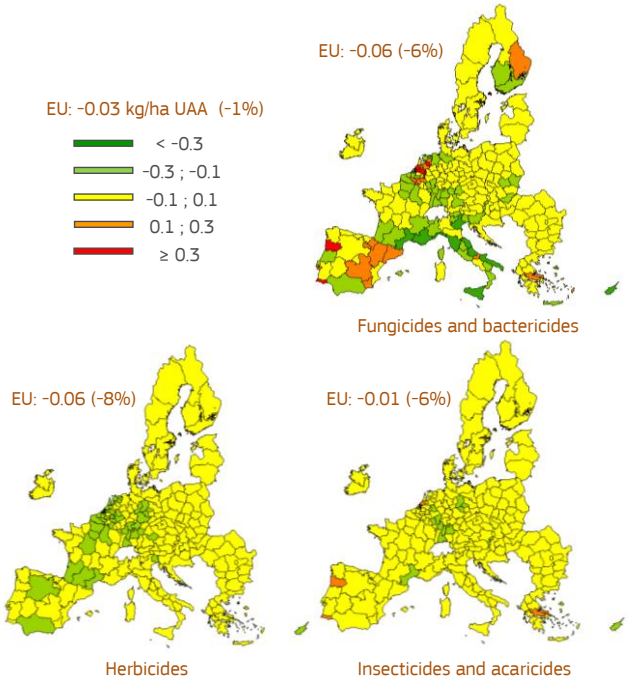
	% change	1000 t change	% of total decrease	Area change
Vegetables and permanent crops	-5%	-8.6	26%	0%
Other arable crops	-23%	-7.5	23%	-17%
Cereals	-12%	-14.2	43%	-6%
Oilseeds	0%	0.0	0%	7%
Fodder activities	-7%	-2.7	8%	-1%
Set aside & fallow land	-	-	0%	-5%
Utilised Agricultural Area	**-8%**	**-33.0**	**100%**	**-3%**

GRAPH 7.9 Pesticide use by crop type (kg/ha)



Source: CAPRI simulation based on 2024 EU Agricultural Outlook baseline.

GRAPH 7.10 Changes in regional distribution of pesticides (kg/ha of UAA) between 2017 and 2035 (%)



Source: CAPRI simulation based on 2024 EU Agricultural Outlook baseline.

8. AGRICULTURAL INCOME, LABOUR AND FARM OUTLOOK

This chapter analyses how changes in agricultural markets will affect the value of agricultural production and farmers' income in the next decade. The analysis shows one of several possible developments, based on a number of assumptions (including about agricultural sectors not explicitly covered by this outlook report), using data from Eurostat's Economic Accounts for Agriculture. It also includes projections on labour and productivity trends, extrapolating past farm structure changes to the next decade and drawing conclusions on how this could affect employment in agriculture.

For the first time, this chapter is complemented with a disaggregated analysis of the economic and environmental implications of the market projections for EU farms, based on the IFM-CAP farm-level model calibrated to 2020 farm-level data from the Farm Accountancy Data Network (FADN). As such, the results presented are only representative for market-oriented farms in the EU and do not reflect the prospects for subsistence or semi-subsistence farms.

AGRICULTURAL INCOME

AGRICULTURAL OUTPUT VALUE IS GROWING STEADILY

Based on production and producer price projections from the market outlook, the nominal value of EU agricultural output is projected to reach EUR 605 billion in 2035, growing at a rate of 0.8% per year from 2026 onwards, a slower rate than in previous years. The breakdown of output by commodity is projected to remain stable over the next decade: commodities such as cereals, oilseeds, sugar beet, milk, eggs and livestock would continue to account for 53% of output in 2035, while other agricultural products such as forage plants, fruit and vegetables, protein crops, potatoes, wine and olive oil would account for 38%. Processing activities at farms (i.e. transformation) are expected to account for 4% of total output, as compared to 5% for agricultural services such as agritourism and rural recreation.

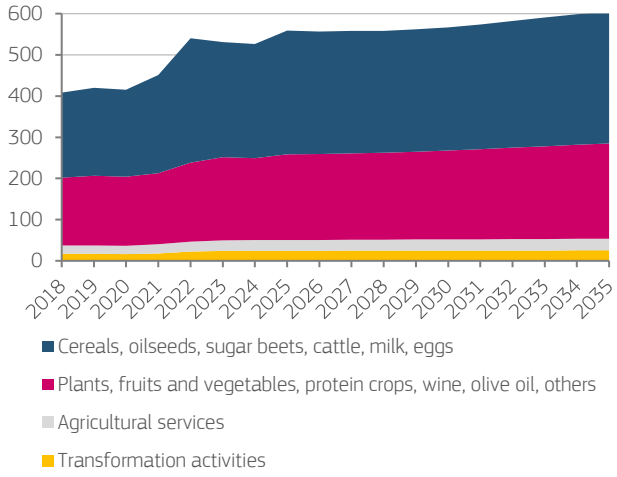
INPUT COSTS TO REMAIN ABOVE PRE-CRISIS LEVELS

In 2035, intermediate input costs such as energy, seeds, feed and fertilisers are expected to remain higher than the levels seen before the price rise triggered by the 2022 Russian war of aggression against Ukraine. Projections show that total agricultural intermediate input costs could increase by 0.7% per year from 2026 to 2035, with animal feed remaining the most significant input cost, amounting to 38% of the total. Costs for plant protection products, advisory services, veterinary expenses and the maintenance of buildings, among others, could account for 39% in 2035, while energy and fertiliser costs could account for an increased share of 10% and 7%, respectively. While the expected reduction in oil prices could ease energy costs for farmers, there is a significant price transmission delay between wholesale and retail energy prices. Moreover, the energy mix used by the farming sector also includes other energy sources such as electricity, which could contribute to an upward price pressure overall.

AGRICULTURAL REAL INCOME PER WORKER COULD INCREASE DESPITE INFLATION

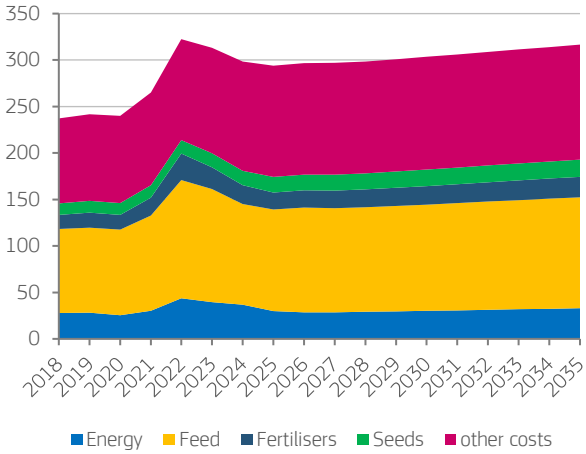
Based on previous trends, it is possible to calculate an income margin, corresponding to a 'factor income' in nominal terms, by subtracting intermediate costs, depreciation and taxes on production from agricultural output and adding subsidies on production, with taxes and subsidies assumed to be constant over the next decade. The result is a 23% increase in nominal factor income from the 2023-2025 average to 2035. If inflation is factored in, factor income is projected to decrease slightly in real terms (by 2%) over the next decade. In view of the assumed continuation of structural change (described in the next section), factor income per annual work unit (AWU), a measure of income per agricultural worker, shows an even larger increase of 35% in nominal terms over the entire next decade, and an 8% increase in real terms from the 2023-2025 average to 2035.

GRAPH 8.1 Value of EU agricultural output (billion EUR)



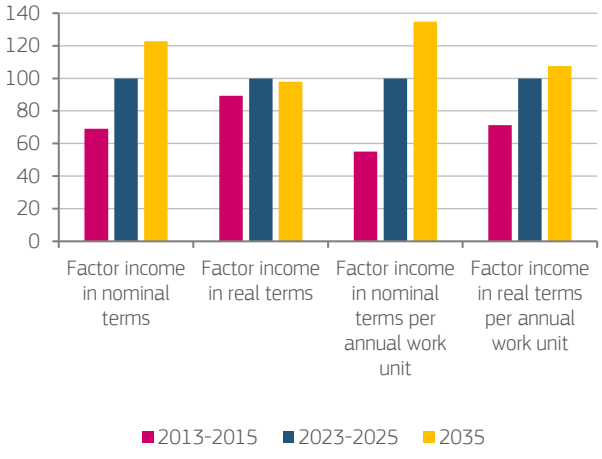
Source: DG Agricultural and Rural Development, based on AGLINK-COSIMO and Eurostat Economic Accounts for Agriculture.

GRAPH 8.2 Agricultural intermediate costs per category (billion EUR)



Source: DG Agricultural and Rural Development, based on AGLINK-COSIMO and Eurostat Economic Accounts for Agriculture.

GRAPH 8.3 Farm income at nominal and real 2010 terms – total and per annual work unit (average 2023-2025 = 100)



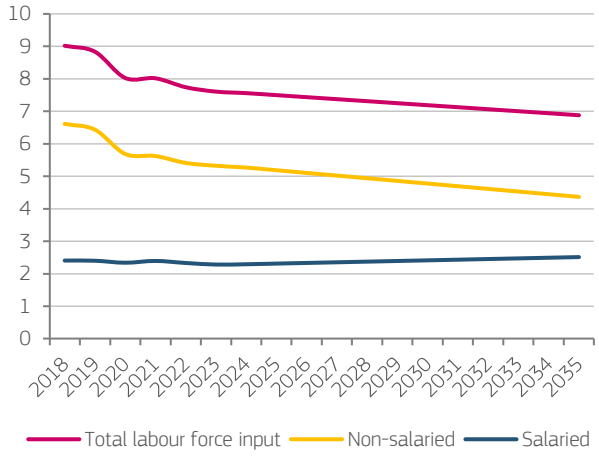
Source: DG Agricultural and Rural Development, based on AGLINK-COSIMO and Eurostat Economic Accounts for Agriculture.

AGRICULTURAL LABOUR

FARM STRUCTURES CONTINUE TO CHANGE

If one extrapolates to 2035 the past evolution of the number of EU farms until 2020, broken down by economic size (based on data from Eurostat's Integrated Farm Surveys), the number of smaller farms is set to fall significantly while bigger farms increase slightly over time. As larger farms employ more salaried workers than smaller farms, which tend to rely on unpaid family members (i.e. an unsalaried workforce), the impact on farm labour is dampened, but EU agricultural labour force (measured in annual work units, AWU) would still drop considerably to 6.9 million AWU in 2035 (compared to 9.5 million AWU in 2014 and 7.55 million AWU in 2024), of which 37% salaried and 63 % non-salaried. The same shares in 2024 were 31% and 69%, with non-salaried workers accounting for more than 90% in Slovenia, Malta, Poland and Croatia.

GRAPH 8.4 Projected annual work units in EU agricultural sector by labour type (millions)



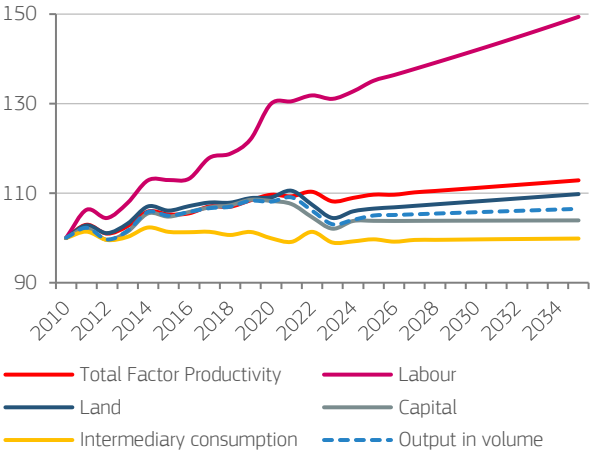
Source: DG Agriculture and Rural Development, based on Eurostat Economic Accounts for Agriculture and FADN.

LABOUR PRODUCTIVITY COULD REMAIN A KEY DRIVER OF AGRICULTURAL PRODUCTION

For the first time, this edition of the EU Agricultural Outlook report translates market projections into a new medium-term indicator of productivity. The indicator is calculated as the ratio of change in agricultural output volumes to changes in production factors (land, labour, capital and input costs). Moreover, it includes total factor productivity, a productivity indicator measuring other productivity gains such as innovation and technological gains. These productivity indicators are expressed as an index, meaning they only measure productivity changes over time and not actual productivity levels.

According to these estimates, after a period of reduced productivity growth in 2022-2024 due to increased input costs, labour productivity would be the key driver of agricultural productivity in the medium term, estimated to grow at a rate of 1% per year compared to 1.6% per year from 2015 to 2025. By comparison, land productivity, which can be seen as a measure of land use intensification, is expected to grow at a slower pace of 0.3% per year, following a sustained growth rate of 0.9% from 2011 to 2021 and a drop in 2022 and 2023. Capital productivity, which can be seen as a measure of investment efficiency, is assumed to remain flat over the medium term, indicating that agricultural output volumes increase at a similar rate as fixed capital consumption. At the same time, intermediate consumption productivity, a measure of the more rational use of inputs, remains unchanged compared to the 2010 base year. The most likely reason for this is that this category includes feed, fertilisers, energy and variable costs whose consumption is more linked to agricultural output. Finally, total factor productivity, which measures productivity effects beyond the four partial productivity measures mentioned above, is expected to grow at a rate of 0.3%, in line with the historical growth rates observed.

GRAPH 8.5 Evolution of agricultural output volumes, total factor productivity and partial productivities (labour, land, capital and intermediate consumption) – index 2010 =100



Source: DG Agriculture and Rural Development, based on Eurostat Economic Accounts for Agriculture, AGLINK-COSIMO and FADN.

FARM OUTLOOK

For the first time, the EU Agricultural Outlook report includes economic and environmental implications of market projections for EU market-oriented farms. This new addition is closely linked to other sections of the report through shared assumptions on macroeconomics, inputs and market dynamics. IFM-CAP, a farm-level model, is used to complement market perspectives and provide more detailed, disaggregated farm-level evidence. The model simulates the behaviour of individual EU farms. It is calibrated to FADN farm-level data from 2020 (the current reference year used in IFM-CAP) and uses producer prices from the AGLINK-COSIMO model to project how individual farms could adjust to the EU Agricultural Outlook market projections for 2035.

FADN is a major EU farm survey that collects comprehensive microeconomic data on market-oriented farms across EU countries. It covers both the farms' economic and financial situation, such as the value of production, sales, costs, CAP subsidies, and physical and structural features such as land area, livestock numbers and the labour force. Based on common bookkeeping principles, the survey is the only harmonised EU-wide microeconomic source of agricultural-sector data and thus provides a solid basis for EU-wide analyses. Every year, it collects data from around 75 000 farms, statistically weighted to represent the entire population of roughly 3.6 million market-oriented holdings in the EU. Market-oriented holdings are defined as farms that produce goods and services to meet market demand rather than solely for their own subsistence. These farms have an economic size (measured by Standard Output, i.e. the average monetary value of a farm's production at farm-gate prices) above a minimum threshold that varies from one EU country to another. Collectively, market-oriented farms account for more than 90% of the EU's agricultural production and utilised agricultural area.

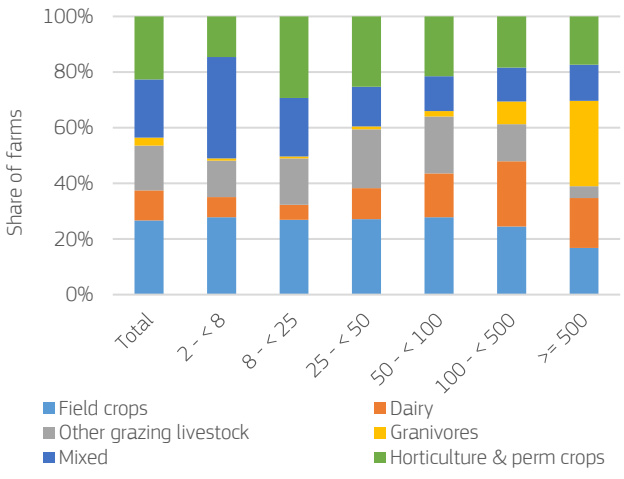
The disaggregated analysis can reveal trade-offs that do not come to light in aggregate indicators, thereby highlighting farm types with particularly favourable or unfavourable prospects under the 2035 scenario. The IFM-CAP model also provides a comprehensive set of indicators, aggregated at farm-type level, that allow a holistic assessment beyond purely economic measures. Specifically, the farm outlook gives detailed insights into farm net added value per AWU, gross farm income, farm economic viability, erosion risk, GHG emissions and the nitrogen surplus. These results enhance the EU Agricultural Outlook by showing how medium-term macroeconomic and market developments could play out across different types and sizes of farm in the EU.

Results are presented by farm type, along with a summary section that allows a better comparison across farm types and economic size classes. Farm Net Value Added (FNVA) is used to measure income generated by farming activities that serves to remunerate both rented factors of production (capital, wages and land rents) and owned factors (own labour, capital and land). Subsidies are incorporated into this measure. FNVA per AWU is used for comparison as it standardises the income generated relative to the labour input (AWU), irrespective of whether the production costs arise from external or owned factors. The distribution of farm income, expressed as FNVA per AWU, is presented across decile groups (D1 to D10, from the lowest to the highest income per AWU) for the years 2020 and 2035. Each decile encompasses 10% of the FADN farm population. The disparity within each decile is visualised using boxplots: the line inside the box marks the median, the box represents the interquartile range (middle 50% of the distribution), and the whiskers indicate the remaining spread. The farm economic viability indicator is a measure of farms' ability to maintain operation and profitability over the long term. Farms are classified into four groups depending on their economic viability, where group 1 is the most viable (farms that can cover all costs); group 2 is viable (farms that earn a positive income but are unable to cover the implicit costs of own factors (e.g. own labour or own capital); group 3 is non-viable (farms earning a negative income that could be positive if depreciation were postponed); and group 4 is the most inviable (farms with a negative income and losses exceeding the value of depreciation).

The environmental indicators present aggregated results per farm type or economic size. GHG emissions are estimated for each farm based on activity level (hectares of crops or number of livestock) and input use. A Tier 1 approach is applied, except for enteric fermentation emissions. The nitrogen surplus is the difference in the amount of nitrogen that enters and leaves the farm gate. Throughputs, for example the uptake of grass by animals or the application of manure, are not part of the farm nitrogen budget. Finally, the erosion risk is based on the Revised Universal Soil Loss Equation (RUSLE), which takes account of soil management and cover factors.

'Field crops' refers to farms specialised in cereals and other arable crops (e.g. protein or oilseeds); 'Horticulture & perm crops' refers to farms specialised in (indoor or outdoor) horticulture, vineyards, fruits, citrus fruits, olives and other permanent crops; and 'Dairy' refers to farms specialised in the production of dairy products. 'Other grazing livestock' refers to farms raising cattle, sheep, goats and other grazing animals, and 'Granivores' to farms raising pigs and poultry. 'Mixed' farms have a mix of animals (not specialised in any), a combination of field crops and grazing livestock, or various crops and livestock combined.

GRAPH 8.6 *Share of farm types in each economic size class (EUR 1 000 of Standard Output) in FADN*

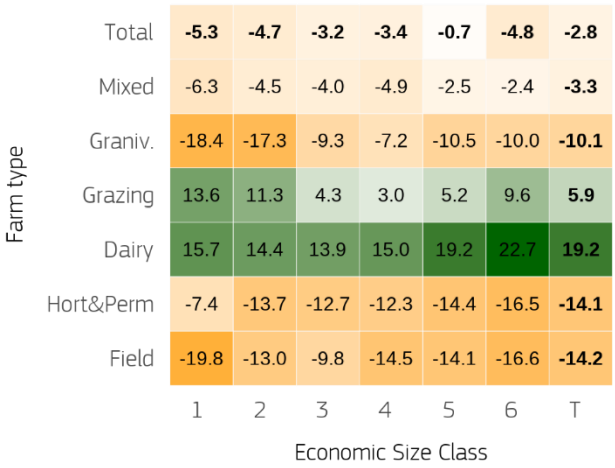


Source: FADN (2020).

LIVESTOCK FARMS COULD PERFORM BETTER THAN CROP FARMS

The results of IFM-CAP simulations indicate that farm income could decline more in real terms for small farms (economic size classes 1-2, with a Standard Output of less than EUR 25 000) from 2020 to 2035 than for bigger farms. Dairy farms and farms raising other grazing livestock could see an increase in gross income thanks to favourable price trends and expected productivity gains in 2035. By contrast, farms raising granivores could face a 10.1% reduction in gross income due to a projected decline in production volumes. Farms growing field crops or permanent crops and horticulture and winegrowing farms could see similar drops in income due to the combined effects of yield stagnation, price reductions and rising input costs.

GRAPH 8.7 Farm gross income real change (% change 2035 vs 2020) by farm type and economic size class

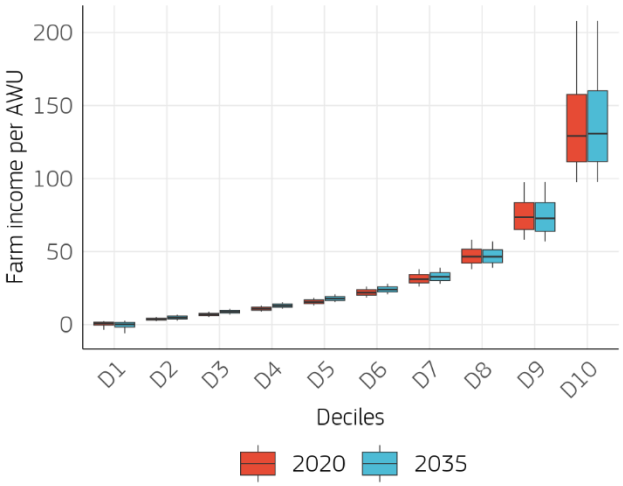


Source: IFM-CAP simulation.

FARM INCOME PER AWU COULD DECLINE MORE FOR LARGER FARMS

Based on IFM-CAP simulations, farms belonging to the middle deciles (D2 to D7) and the highest decile (D10) of income distribution are projected to see an increase in income/AWU between 2020 and 2035. There is a smaller proportional increase for D10 than for D2-D7. In contrast, farms in deciles D8 and D9 stand to lose as their distribution of income per AWU is projected to decline. For farms whose economic size is below EUR 100 000, AWU is projected to fall between 2020 and 2035, whereas the two largest economic size classes could see their AWU increase, contributing to the observed reduction in income per AWU.

GRAPH 8.8 Farm income per AWU (EUR 1 000) by decile group

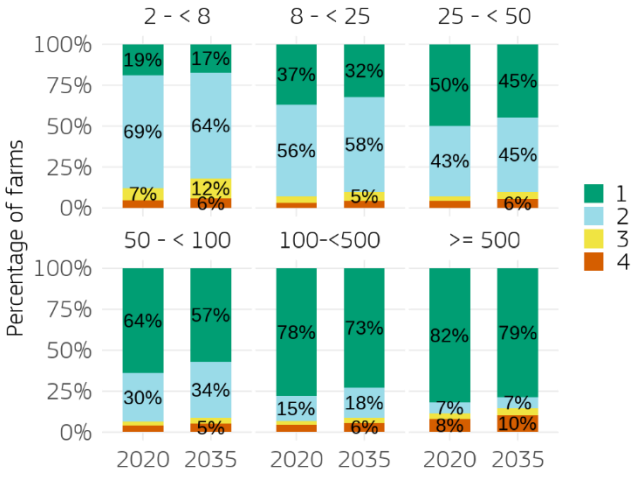


Source: IFM-CAP simulation.

THE PROPORTION OF MOST VIABLE FARMS COULD DECREASE

The proportion of farms in the most viable category (1) is projected to fall across the EU, from 45% in 2020 to 41% in 2035. Conversely, the proportion of farms in the least viable category (4), i.e. farms with a negative income and losses exceeding depreciation, could increase by one percentage point (from 4% to 5%) over the same period. In general, farm economic viability increases with economic size, with around 80% of farms in the highest economic size class (above EUR 500 000) currently falling into that category. The proportion of farms in the most viable category (1) is expected to decline for all economic size classes in 2035, whereas, despite the overall trend, the proportion of farms in the least viable category (4) is projected to remain below 10% for all economic size classes.

GRAPH 8.9 Percentage of farms in each farm viability category by economic size class (EUR 1 000)

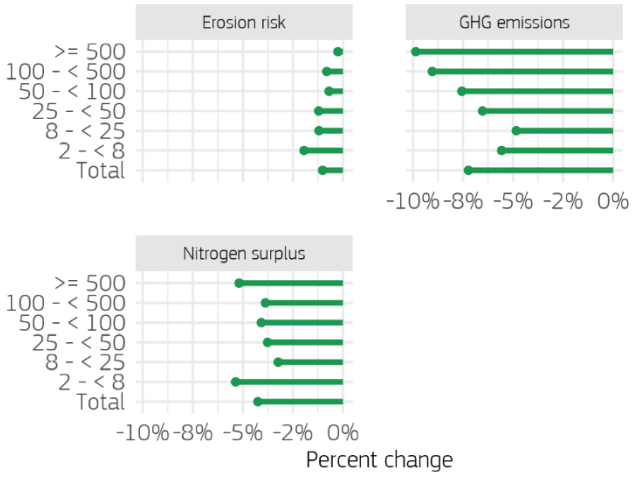


Source: IFM-CAP simulation.

OVERALL ENVIRONMENTAL IMPACTS COULD IMPROVE

Based on selected indicators, the overall environmental impact of EU farms, across all economic size classes, is projected to improve by 2035. The two largest economic size classes, predominantly consisting of livestock farms, account for a significant share of GHG emissions but also contribute substantially to the projected 8.5% reduction in this indicator, mainly due to an expected decrease in livestock numbers across all economic size classes. The nitrogen surplus, which measures the difference between nitrogen inputs and outputs at each farm, could be reduced for a number of reasons: a) a shift towards less input-intensive crops in response to higher variable costs in 2035, reducing the use of nitrogen fertilisation; b) reduced feed requirements due to a drop in livestock numbers, leading to lower nitrogen input from feed; and c) increased productivity, mainly for animal products, resulting in greater production (and thus more embedded nitrogen) leaving the farm. The erosion risk is projected to change only slightly, and at any rate by no more than 2%, due to changes in crop allocation (farms in the smaller economic size categories tend to grow crops).

GRAPH 8.10 Changes in environmental indicators, 2020-2035, by economic size class (EUR 1 000)



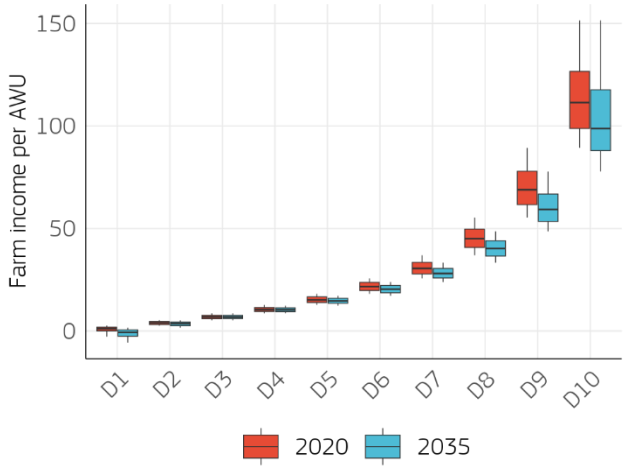
Source: IFM-CAP simulation.

INCOME PER AWU PROJECTED TO FALL

Field crop farms' overall income per AWU could decrease by 8.7% in real terms between 2020 and 2035, mainly due to falling real output prices for cereals and other arable crops such as potatoes, oilseeds and protein crops. By contrast, variable costs are projected to remain relatively constant in real terms over the same period. A decrease in farms' AWU over this period (-14.3%) could help offset the drop in income per unit of work.

Regarding how this could impact income per AWU across various groups, all deciles are expected to suffer. Nevertheless, field crop farms in the highest income per AWU decile (D10) are likely to see the greatest reduction (-16%). Farms in this decile are mostly farms in the two largest economic size classes (farms with > EUR 100 000 Standard Output). AWU is projected to increase by 8% for farms in the EUR 100 000 – 500 000 category and by 46% for the largest economic size class.

GRAPH 8.11 Farm income per AWU (EUR 1 000) by decile group

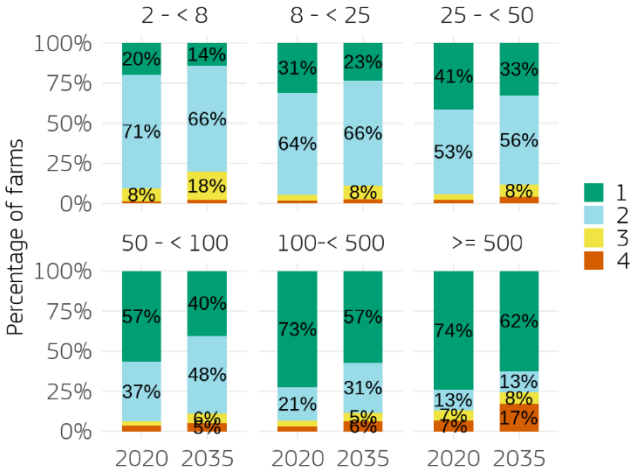


Source: IFM-CAP simulation.

HIGHER COSTS COULD NEGATIVELY AFFECT FARM VIABILITY

In terms of farm viability, the larger a farm's economic size, the more likely it is to belong to the most viable farm category. This is not expected to change in 2035. However, as farm income falls, the proportion of field crop farms in categories 1 and 2 ('viable farms') is projected to decline, from 93% to 87%. This could affect field crop farms in all economic size classes but is likely to hit the largest farms hardest, as the proportion of these farms in categories 1 and 2 could drop from 87% to 75%. The second worst affected category are the smallest farms, of which 80% fall into categories 1 and 2. Despite the projected reduction in income, the proportion of farms in the worst viability categories (3 and 4) would increase only slightly.

GRAPH 8.12 Percentage of farms in each farm viability category by economic size class (EUR 1 000)

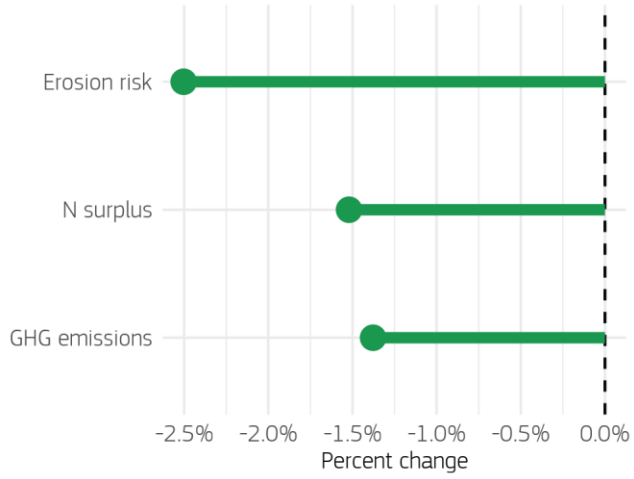


Source: IFM-CAP simulation.

CROP MIX CHANGES COULD REDUCE THE ENVIRONMENTAL IMPACT

Based on selected indicators, the environmental impact of field crop farms is expected to decline slightly in 2035. The risk of erosion could decrease by 2.5% due to changes in cropped areas for certain arable crops, e.g. maize or sunflower (associated with a high erosion risk) being replaced with other crops with a lower erosion risk (e.g. wheat or rye). Crop mix changes could also explain the slight projected reduction in the nitrogen surplus (i.e. the difference between nitrogen inputs and outputs at the farm). The projected reduction of GHG emissions could be due to famers deciding to allocate, in relative terms, more land to less input-intensive crops and less land to more input-intensive crops in response to rising input costs relative to output prices.

GRAPH 8.13 Change in environmental indicators, 2020-2035



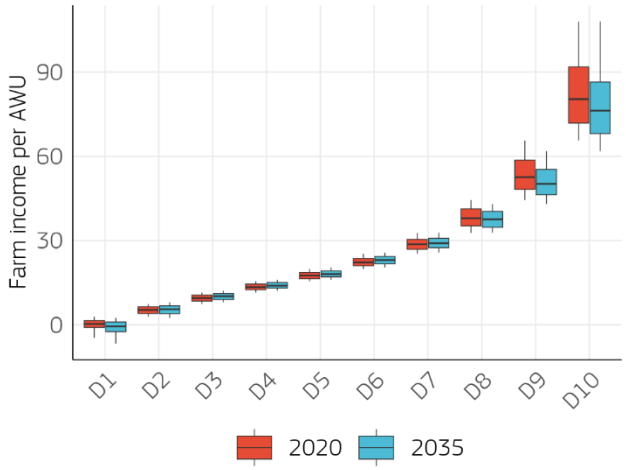
Source: IFM-CAP simulation

FARM OUTLOOK: HORTICULTURE, WINE AND OTHER PERMANENT CROPS

INCOME PER AWU COULD DROP, ESPECIALLY FOR THE LARGEST FARMS

Farm income per AWU for horticulture, permanent crop and wine farms is projected to decrease by 2.5% overall between 2020 and 2035. The main reason for this is an overall reduction in gross profit margins due to real output prices declining while input prices remain stable. However, this trend is not uniform across farms. Farms in the first seven deciles could see an increase, with the exception of those with the lowest income per AWU (D1). Conversely, the 30% of farms with the highest income per AWU (D8-D10) could see a decrease. One reason for this could be that farms with a lower income per AWU tend to be specialised in permanent crops and wine, whereas horticulture farms tend to be larger and therefore worse affected by reduced gross margins. This could contribute to the overall reduction of income for farms in the highest deciles of income per AWU.

GRAPH 8.14 Farm income per AWU (EUR 1 000) by decile group

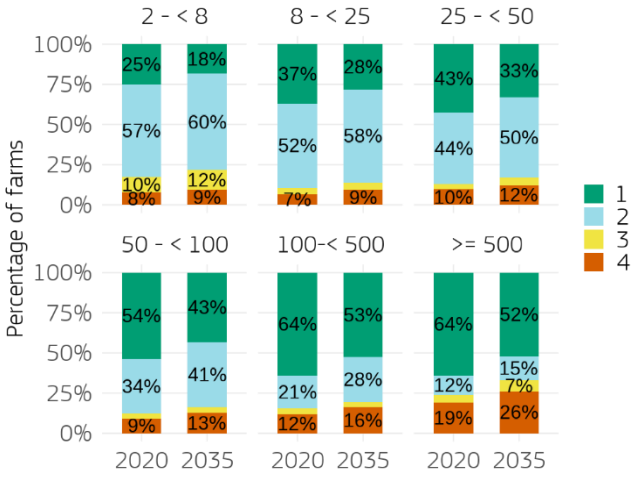


Source: IFM-CAP simulation.

THE NUMBER OF VIABLE FARMS COULD DROP SLIGHTLY

In 2020, over 87% of horticulture, permanent crop and wine farms, across all economic size classes, fell into the top two categories of the farm viability indicator ('viable farms'). By 2035, this proportion is expected to have decreased to 83%. The largest farms, i.e. those with a Standard Output exceeding EUR 500 000, could see the most significant reduction in viability, with the share of farms in categories 1 and 2 dropping from 76 % to 67%. Conversely, the proportion of large farms in the least viable category (4) is projected to increase by 7 percentage points. In contrast, smaller farms show resilience, with many expected to move from category 1 to category 2. There is also a relatively modest overall increase in less viable farms (categories 3 and 4). This indicates that larger farms could face more acute viability pressures while smaller farms are better able to maintain a degree of stability. This could be due to the greater proportion of horticulture farms in the largest economic size classes, as horticulture farms are harder hit by adverse market conditions than wine or permanent crop farms.

GRAPH 8.15 Percentage of farms in each farm viability category by economic size class (EUR 1 000)

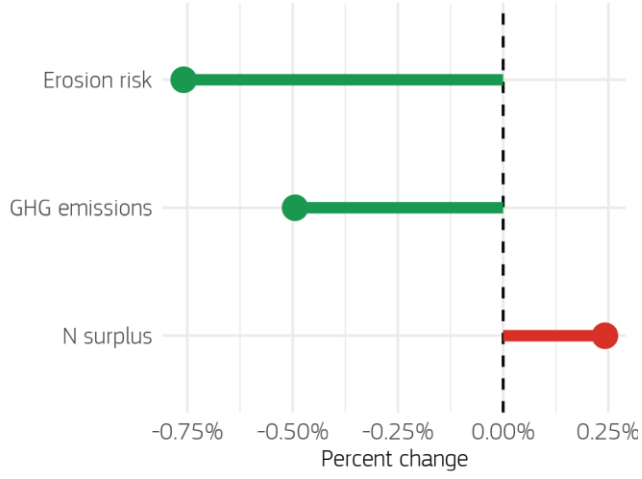


Source: IFM-CAP simulation.

ENVIRONMENTAL EFFECTS COULD PROVE RELATIVELY STABLE

The IFM-CAP model predicts that land devoted to permanent crops could remain relatively stable across the EU between 2020 and 2035, mainly because it does not take account of structural change. Accordingly, the environmental impacts of this farm type are projected to change only marginally. The results of the simulation show that the risk of erosion could decrease by 0.75% due to changes in land allocation. GHG emissions are projected to decline by 0.5%, indicating a modest reduction in farms' carbon footprint as their input use decreases due to changes in the crop mix. The nitrogen surplus could increase by 0.25%, meaning that nitrogen runoff leached into the environment could increase only slightly.

GRAPH 8.16 Change in environmental indicators, 2020-2035



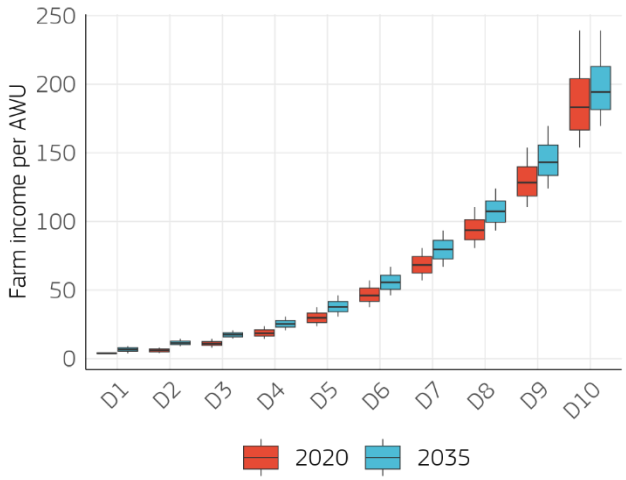
Source: IFM-CAP simulation.

FARM OUTLOOK: DAIRY

FAVOURABLE MARKET CONDITIONS APPEAR TO DRIVE INCOME UP

Farm income per AWU is projected to increase from 2020 to 2035 for most dairy farms (15.8% overall). The distribution of farm income per AWU is also expected to rise. Rising milk prices and productivity growth by 2035 are the main factors behind this positive projection, with dairy farms expected to see their gross margins improve significantly in 2035. However, the increase is uneven across deciles, with farms in deciles D4, D5 and D10 profiting most. For farms in the highest deciles (D9-D10), the 2020 and 2035 values differ less. This could be because most farms in those groups belong to the biggest economic size classes (above EUR 100 000 Standard Output), which are expected to see an increase in AWUs and therefore a lower income per AWU in 2035.

GRAPH 8.17 Farm income per AWU (EUR 1 000) by decile group

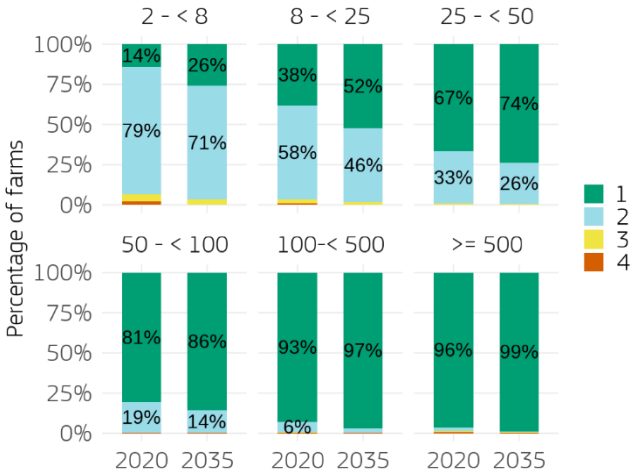


Source: IFM-CAP simulation.

MORE FARMS COULD MOVE INTO THE 'MOST VIABLE' CATEGORY

Dairy farms are the only farm type expected to see an increase in the proportion of farms in the highest viability group (1), implying that the proportion of other groups could decline. A projected rise in prices and increase in productivity could help make most dairy farms across the EU more viable. Most dairy farms belong to the top two viability groups, and it is the only farm type with more than 90% of farms in the most viable category for some economic size classes. The proportion of non-viable farms (categories 3 and 4) is very small for the two smallest economic size classes (6% and 3%, respectively) and almost non-existent for the other classes.

GRAPH 8.18 Percentage of farms in each farm viability category by economic size class (EUR 1 000)



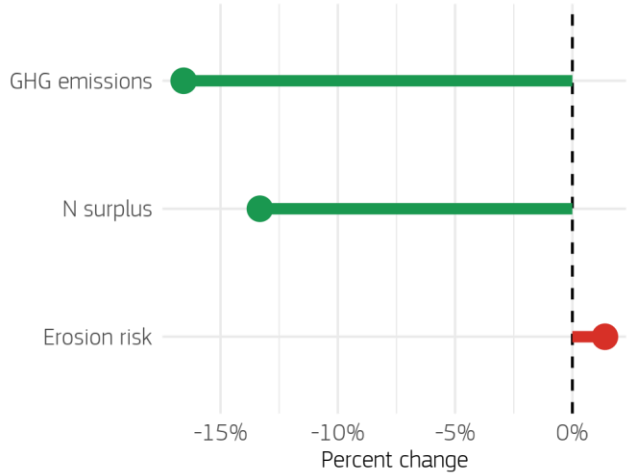
Source: IFM-CAP simulation.

THERE COULD BE A SHARP REDUCTION IN GHG EMISSIONS AND THE NITROGEN SURPLUS

It is projected that GHG emissions from dairy farms could drop by 16% and the nitrogen surplus by 13%, the most significant reduction across all farm types. The reduction in GHG emissions is linked to a reduced number of cows, which naturally leads to lower emissions per farm. The reduced nitrogen surplus can be explained both by less demand for feed, as there could be fewer animals, and by productivity growth in terms of more litres of milk produced per cow (resulting in an increase of nitrogen exportation).

On the other hand, the conversion of permanent grassland into arable crops, linked to the trend towards smaller herds, could increase the erosion risk by 1%. This is because arable crops provide poorer continuous soil cover and root reinforcement than permanent grassland.

GRAPH 8.19 Change in environmental indicators, 2020-2035



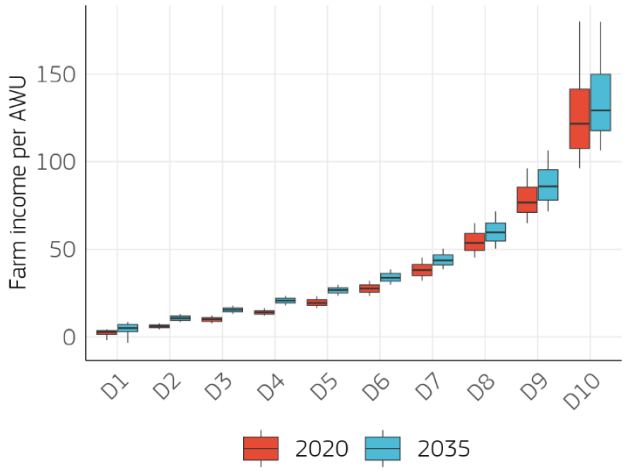
Source: IFM-CAP simulation.

FARM OUTLOOK: OTHER GRAZING LIVESTOCK

INCOME PER AWU COULD INCREASE

Along with dairy farms, other grazing livestock farms (rearing mostly cattle, sheep and goats for fattening) could be the only farms to see their income per AWU increase across all decile groups between 2020 and 2035. The total increase in income per AWU is 5.9%. However, not all farms perform equally well, with farms belonging to decile groups D6, D7 and D10 projected to see the largest increase. The pattern is similar to that of dairy farms.

GRAPH 8.20 Farm income per AWU (EUR 1 000) by decile group



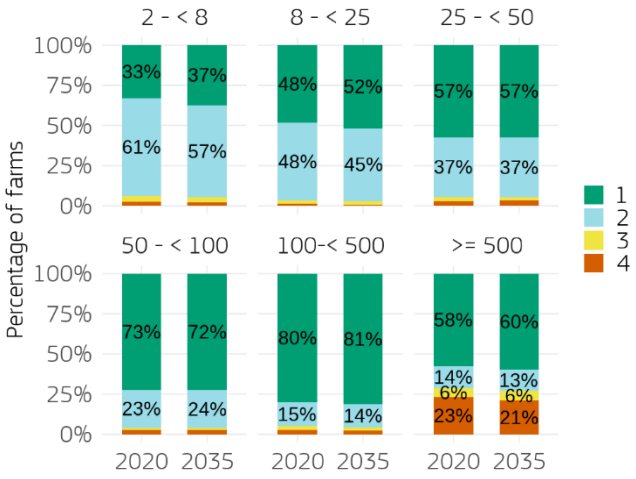
Source: IFM-CAP simulation.

FARM VIABILITY COULD PROVE STABLE

Farms in viability groups 1 and 2, in the economic size class below EUR 25 000 of Standard Output, are projected to see a slight improvement in viability, while the other groups could remain stable. The group of most viable farms (1) could become more prominent in all economic size classes, except for farms with a Standard Output between EUR 50 000 and EUR 100 000.

No significant changes are projected in the composition of the bottom two viability groups (3 and 4) from 2020 to 2035. The proportion of these farms is consistently very small across all economic size classes, with the exception of the largest farms (output of more than EUR 500 000). This economic size class is largely dominated by farms raising cattle, which could benefit comparatively less than sheep and goat farms from the improved economic conditions projected for 2035. More than a fifth of farms in this category could struggle to remain viable, and their situation is not expected to improve much in 2035.

GRAPH 8.21 Percentage of farms in each farm viability category by economic size class (EUR 1 000)

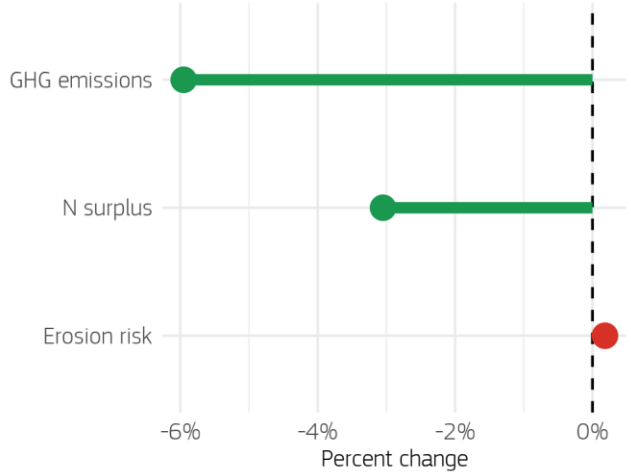


Source: IFM-CAP simulation.

NOTABLE IMPROVEMENTS IN ENVIRONMENTAL INDICATORS

Similarly to dairy farms, livestock numbers are expected to fall in this farm category, which could reduce their environmental impact in 2035 compared to 2020. These two farm types (dairy and other grazing livestock) were responsible for 44% of GHG emissions from EU market-oriented farms in 2020 and are projected to continue to be the main source of GHG emissions from farming (42% of the total). As a result of permanent grassland being replaced with arable crops, the erosion risk could increase by 0.2%. Falling livestock numbers drive this change from permanent grassland to arable crops, which could prove more profitable for these farms (similarly to dairy farms).

GRAPH 8.22 Change in environmental indicators, 2020-2035



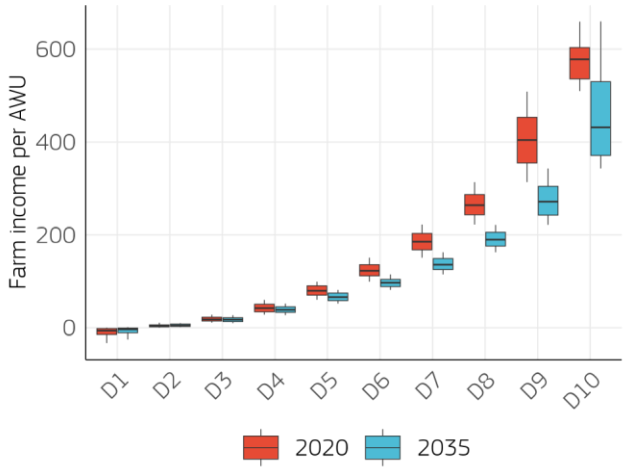
Source: IFM-CAP simulation.

FARM OUTLOOK: GRANIVORES

INCOME PER AWU COULD DROP OVERALL

Farms raising granivores, i.e. pigs and poultry, generally have a higher farm income per AWU than other types of farms. However, income per AWU is projected to decrease between 2020 and 2035, with these farms seeing a greater change in income per AWU over this period than any other farm type. This could be attributed to a decline in production combined with lower output prices. Farms raising pigs and poultry are generally large, with more than 80% of farms in the economic size class above EUR 100 000. A decline in income for this farm type therefore affects overall agricultural income. In addition, these farms could see an increase in AWUs in 2035, contributing to a significant decline in farm income per AWU.

GRAPH 8.23 Farm income per AWU (EUR 1 000) by decile group



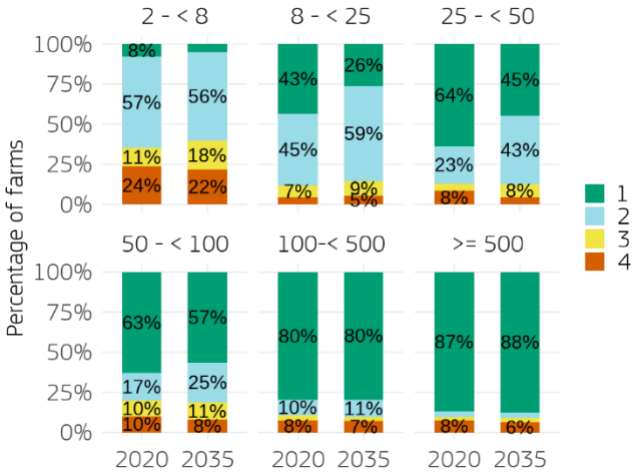
Source: IFM-CAP simulation.

THE NUMBER OF MOST VIABLE FARMS COULD DECREASE SLIGHTLY

In terms of economic viability, the situation is expected to remain stable for large farms (i.e. of an economic size of more than EUR 50 000). For smaller farms, a shift from the 'most viable' (1) to the 'viable' (2) category looks likely.

Farms in the smallest economic class were struggling to remain viable in 2020, and this is expected to continue in 2035. By contrast, for the two largest economic size classes, more than 80% of the farms are situated in the 'most viable' category (1). Medium-size farms are expected to remain largely viable despite a moderate decline. The share of non-viable farms is not expected to change significantly, although there is a decrease in the 'least viable' category (4) for most economic size classes.

GRAPH 8.24 Percentage of farms in each farm viability category by economic size class (EUR 1 000)

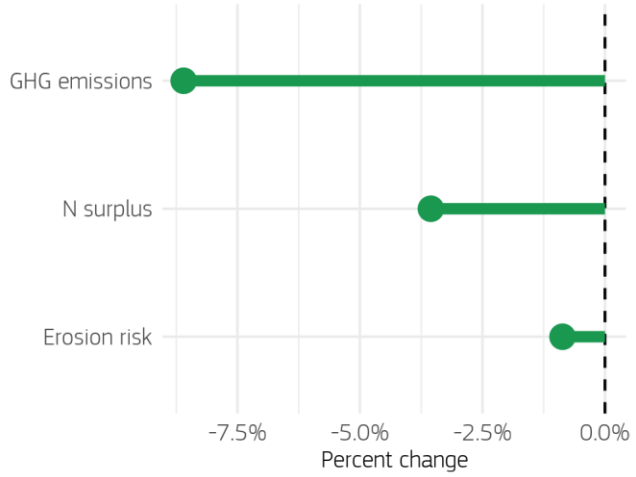


Source: IFM-CAP simulation.

ENVIRONMENTAL PERFORMANCE IS LIKELY TO IMPROVE

All environmental indicators included in the analysis are expected to improve in 2035. This could be attributed to the projected reduction in livestock numbers. Overall, the granivore sector is responsible for 17% of total GHG emissions and 19% of the total nitrogen surplus from farming. This positive trend could therefore help reduce the environmental impact of the entire farming sector. The slight projected decline in the erosion risk could be due to reduced demand for feed, leading to a moderate drop in on-farm production of arable crops.

GRAPH 8.25 Change in environmental indicators, 2020-2035



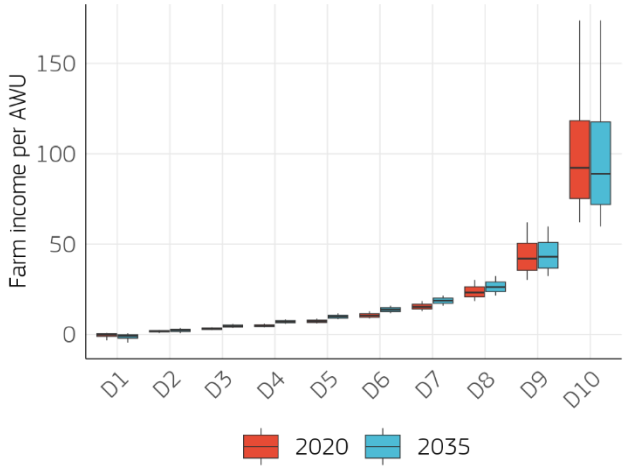
Source: IFM-CAP simulation.

FARM OUTLOOK: MIXED FARMS

INCOME PER AWU TRENDS VARY

Mixed farms are the most varied farm type, with farms growing a mix of crops (i.e. there is no dominant crop type) or rearing a mix of livestock (with no clearly dominant animal). Some farms have a significant combined crop and livestock production. Farm income per AWU is projected to increase by 1.6% overall from 2020 to 2035, with mixed crop farms' income increasing by 5.8% and mixed livestock farms' income decreasing by 4.4%. The most negative trend concerns farms in the highest income per AWU class (D10).

GRAPH 8.26 Farm income per AWU (EUR 1 000) by decile group

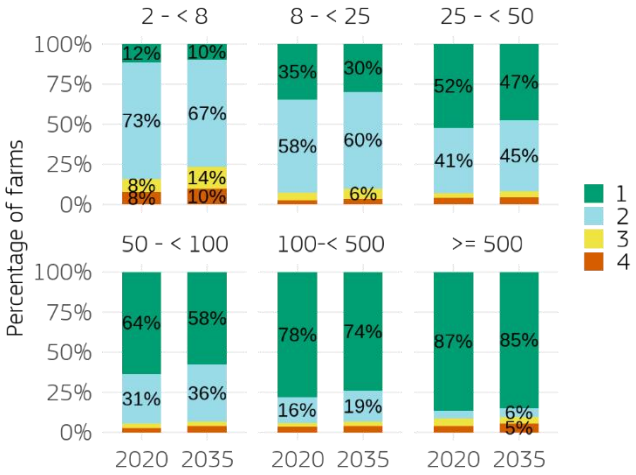


Source: IFM-CAP simulation.

FARM VIABILITY COULD REMAIN STABLE

Overall, no significant changes are projected in mixed farms' viability from 2020 to 2035. While small and medium-sized farms could see their viability decline minimally, large farms are expected to remain viable, with the proportion of viable farms in categories 1 and 2 dropping only slightly from 90% to 86%. Farms in the smallest economic size class are expected see the proportion of non-viable farms (viability categories 3 and 4) increase further, from 16% in 2020 to 24% in 2035. In contrast, this figure is likely to remain below 10% for the other economic size classes, highlighting the resilience of this farm type in the medium term.

GRAPH 8.27 Percentage of farms in each farm viability category by economic size class (EUR 1 000)

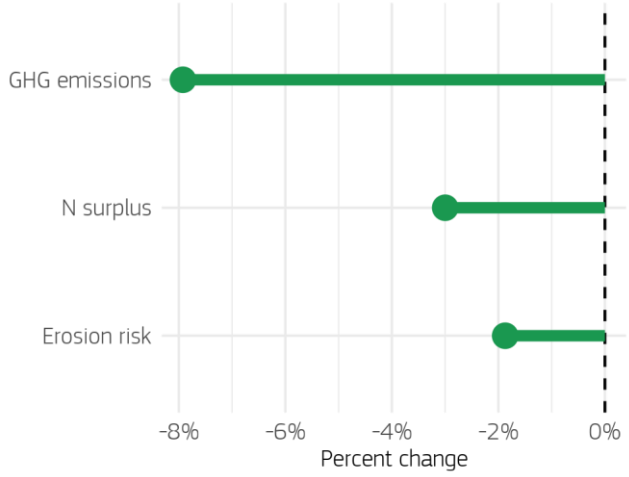


Source: IFM-CAP simulation.

ENVIRONMENTAL PERFORMANCE COULD IMPROVE

The environmental performance of mixed farms is projected to improve significantly. GHG emissions are expected to drop substantially, by almost 8%; the nitrogen surplus by a more moderate 3%; and the erosion risk in the areas covered by these farms by 2%. Similarly to other livestock-related farm types, this improvement in environmental performance is mainly due to a reduction in livestock numbers (expected to decrease by 2% between 2020 and 2035). Additionally, changing market conditions could influence the crop mix, leading to a reduction in areas under cereals and an increase in areas under potatoes and sugar beet, for example.

GRAPH 8.28 Change in environmental indicators, 2020-2035



Source: IFM-CAP simulation.

9. UNCERTAINTIES

While the medium-term market projections are framed in a stable policy, macroeconomic and climate environment, the outlook will remain subject to a high degree of uncertainty.

To understand the possible implications, this chapter discusses uncertainties affecting agricultural markets, such as geopolitical conflicts and adverse weather events. It highlights the volatility in energy prices, GDP, inflation, and exchange rates, which impact production costs, consumer purchasing power, and trade competitiveness. Crop yields exhibit significant variability. The uncertainty in yields, macroeconomic conditions, and energy prices lead to variations in agricultural commodity prices, with crops being more sensitive to yield shocks and macroeconomic factors compared to dairy and meat. The chapter also explores the impact of 'less likely events' on market balances and prices.

UNCERTAINTY

SOURCES OF UNCERTAINTY

Various uncertainties affect the outlook of agricultural markets and local and global food supply. Recent years have seen increased volatility due to the COVID-19 pandemic, geopolitical conflicts and more frequent adverse weather events impacting specific regions. The EU Agricultural Outlook report makes assumptions about drivers and trends to offer one possible trajectory, but it is crucial to also assess alternative trajectories, based on varying assumptions about macroeconomic conditions, energy prices, the weather, diseases and changing consumer preferences, to determine market outcomes.

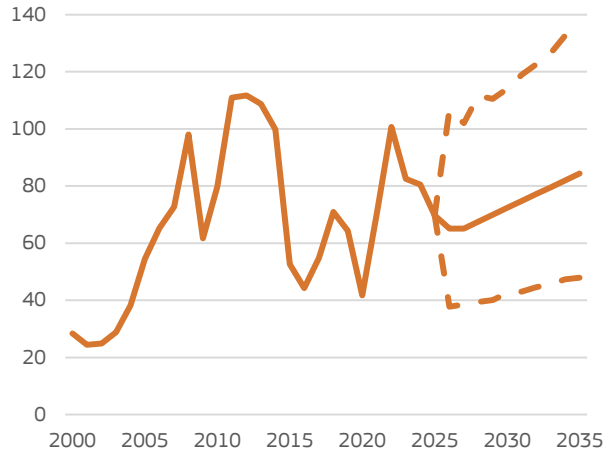
Some drivers and trends are more easily observed and quantified than others. This uncertainty analysis therefore relies on numerous stochastic simulations using alternative assumptions for macroeconomic conditions, energy prices and yields that deviate from baseline trajectories. The uncertainty ranges are based on the 97.5th and 2.5th percentiles of the generated values. In this analysis, crop yields and macroeconomic variables serve as proxies for various drivers, including climatic events (which impact yields) and geopolitical events (which affect the macroeconomic environment).

ENERGY PRICES, GDP, INFLATION AND EXCHANGE RATES

The Outlook is based on an assumed oil price of USD 84/bbl in 2035, which is highly uncertain and depends on factors such as global economic growth, climate policies and the rate of electric vehicle adoption. High energy prices raise production costs, which in turn leads to higher food prices and reduced consumer purchasing power. Higher oil prices decrease demand for fuel but make biofuels more competitive, impacting biofuel feedstock demand based on specific market conditions and policies. Exchange rate fluctuations also affect trade competitiveness and the cost of imported inputs. Real GDP, a measure of income, influences consumption patterns, with income changes affecting meat and dairy consumption more than the consumption of crops. Negative real GDP growth reduces commodity consumption, but to varying degrees. Inflation boosts food consumption by lowering food prices in relation to the general price level.

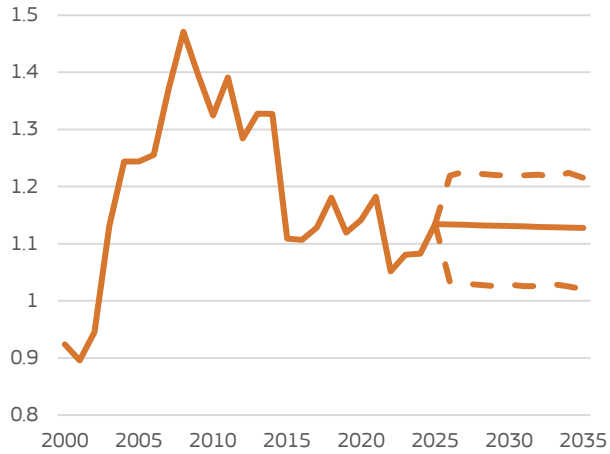
The historical dynamics of international oil prices suggest an uncertainty range of USD 30-50/bbl around the baseline value, significantly affecting market projections. The USD/EUR exchange rate has a narrower uncertainty band of ±10%, yet even slight changes could substantially impact market outcomes. This is true in particular for pigmeat, where the EU competes with the US. GDP and consumer price index (CPI) projections have even narrower uncertainty bands due to their aggregated nature, masking country-level differences.

GRAPH 9.1 Brent crude oil price projection (USD/bbl) and uncertainty range



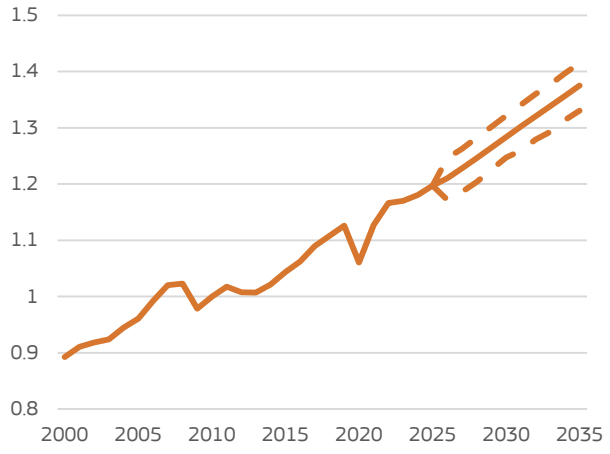
Source: DG JRC and DG Agriculture and Rural Development, based on OECD-FAO and S&P Global.

GRAPH 9.2 Exchange rate projection (USD/EUR) and uncertainty range



Source: DG JRC and DG Agriculture and Rural Development, based on OECD-FAO and S&P Global.

GRAPH 9.3 Real GDP projection (index: 2010=1) and uncertainty range



Source: DG JRC and DG Agriculture and Rural Development, based on OECD-FAO and S&P Global.

The variable with the largest variability in the uncertainty analysis is the crude oil price, with a CV value of 22.1%. Exchange rates, which affect trade, are also uncertain (the CV value of USD/EUR or EUR/USD is 4.7%, for example). In comparison, CV values are substantially lower for EU GDP and CPI. This is because these variables have varied much less than the oil price or the exchange rate in the past, although variation has increased in recent years.

CROP YIELDS

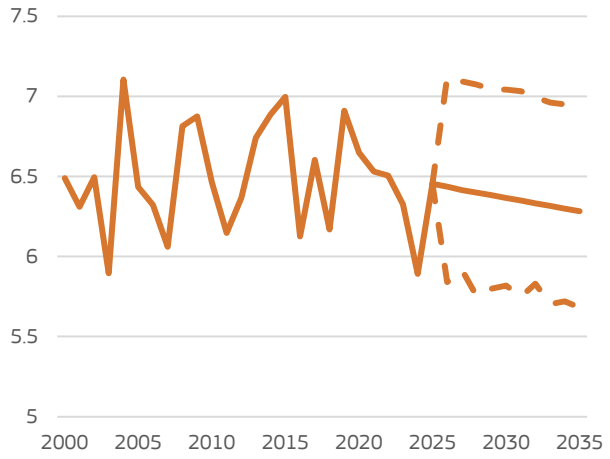
Yields directly affect crop production. Favourable weather conditions boost yields, while drought, heatwaves or excessive rainfall can lead to crop failure. As in the case of macroeconomic drivers, stochastic simulations were used to quantify future crop yield uncertainty around central projections. EU soft wheat yields are projected to stay stable at around 6.5 t/ha, balancing positive and negative factors, although historical variation suggest they could range between 5.7 and 6.9 t/ha in 2035. The EU crops with the most variable yields are maize, soya bean, sunflower, sugar beet and rye. Soya bean yield variability is higher for the EU than for other global producers because production is concentrated in specific regions. Oilseeds are more affected by fluctuations in GDP, inflation and oil prices, which impact production costs and biofuel demand. This leads to significant uncertainty in oilseed, protein and vegetable oil prices.

UNCERTAINTY OF PRICES DUE TO MACROECONOMIC, ENERGY AND YIELD UNCERTAINTY

Uncertainty in factors such as energy prices, exchange rates and yields lead to uncertainty in agricultural commodity prices. For instance, EU soft wheat prices might not follow the projected solid line. Variability in oil prices, exchange rates and other macroeconomic factors and in crop yields suggests prices may fall between the two dashed lines, diverging from the projections by about EUR ±60/t. This uncertainty also affects commodities that are indirectly influenced by yields, such as meat and dairy products. For pigmeat, the uncertainty range around the projected price is EUR ±260-360/t.

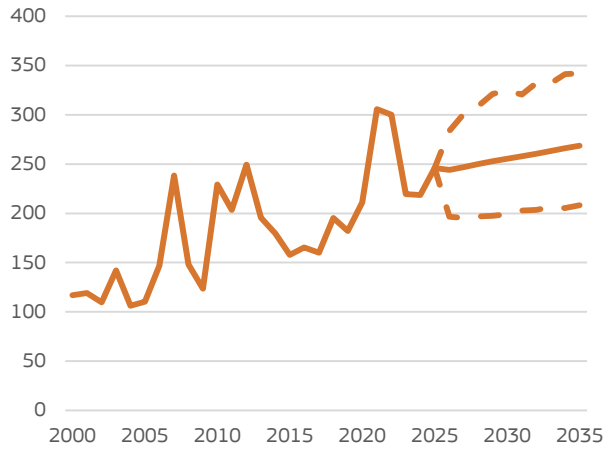
Dairy and meat prices are less impacted by variations in crop yields and macroeconomic factors than other commodities, especially crops. Butter, cheese and raw milk have a price-yield CV value under 2, while maize and barley are around 7 and wheat around 10, over five times that of dairy products. Pigmeat and poultry CV values are around 4.5 and that of sheep and beef somewhat lower at 3 and 2, respectively, partly due to diet differences such as the ruminant roughage component. Soya beans, white sugar and sunflower seed have the highest CV values in terms of domestic EU prices. Dairy, meat and biofuel prices are influenced mainly by macroeconomic shocks and oil price changes, which drive demand, whereas crop prices are mainly affected by yield shocks.

GRAPH 9.4 EU soft wheat yield projection (t/ha) and uncertainty range



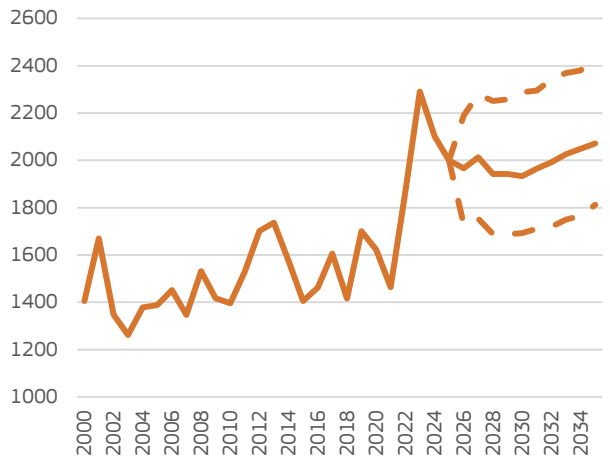
Source: DG JRC and DG Agriculture and Rural Development, based on OECD-FAO and S&P Global.

GRAPH 9.5 EU soft wheat price projection (EUR/t) and uncertainty range



Source: DG JRC and DG Agriculture and Rural Development, based on OECD-FAO and S&P Global.

GRAPH 9.6 EU pigmeat price projection (EUR/t) and uncertainty range

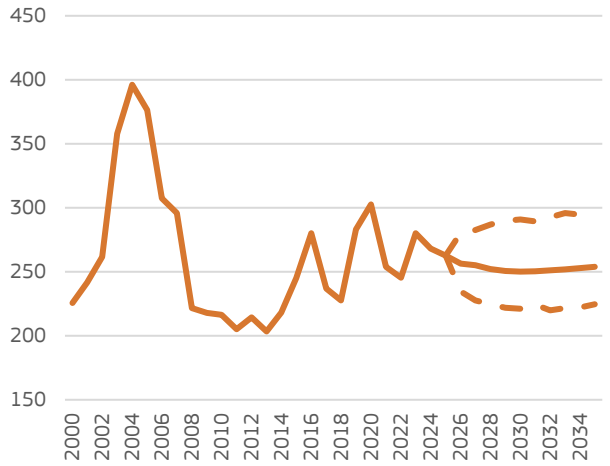


Source: DG JRC and DG Agriculture and Rural Development, based on OECD-FAO and S&P Global.

UNCERTAINTY OF MARKET BALANCE COMPONENTS (PRODUCTION, CONSUMPTION, TRADE)

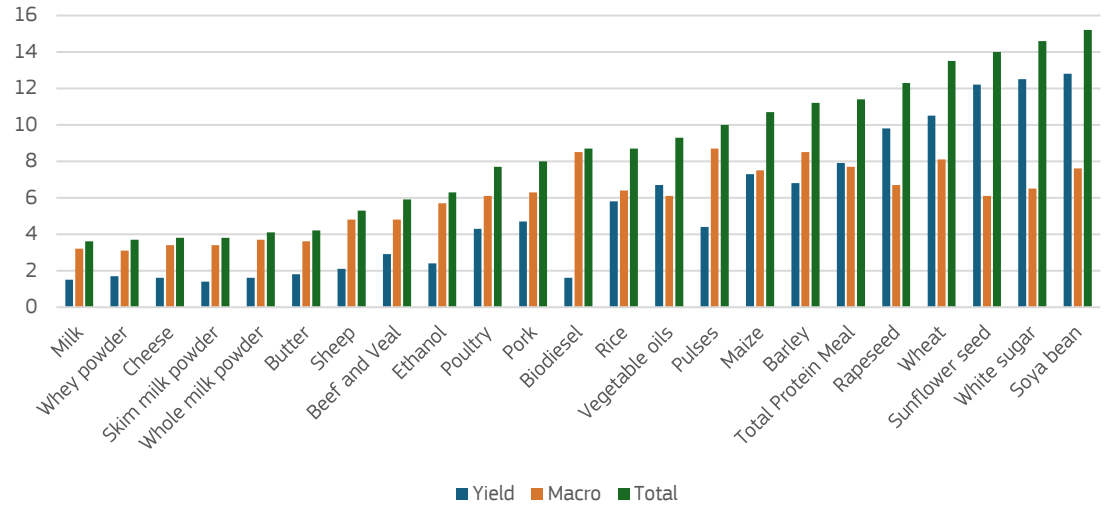
Crop production is directly affected by yield shocks and indirectly affected by energy prices and other macroeconomic factors, which impact export supply, import demand and domestic consumption. Meat and dairy production are indirectly influenced by these shocks. EU butter exports are projected to reach 250 000 t in 2035, but uncertainties in yields and macroeconomic outcomes suggest a range of 220 000-300 000 t. In general, the consumption of basic commodities is the least variable market balance component, followed by production and trade. Consumption responds to GDP and inflation changes but is less sensitive than production and trade to price fluctuations due to supply and demand shocks. This is because food commodities are necessity goods with limited substitutes and domestic producers compete with foreign ones, since the source of supply is indifferent to consumers.

GRAPH 9.7 EU butter export projection (1000 t) and uncertainty



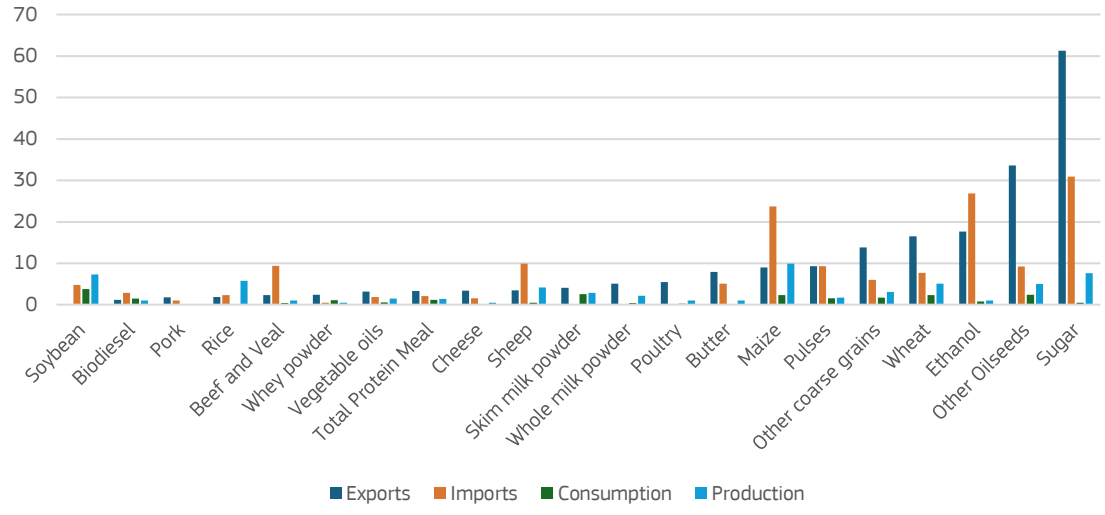
Source: DG JRC and DG Agriculture and Rural Development, based on OECD-FAO and S&P Global.

GRAPH 9.8 Variation in EU price CV values



Source: DG JRC and DG Agriculture and Rural Development, based on OECD-FAO and S&P Global.

GRAPH 9.9 Variation in EU market balance item CV values



Source: DG JRC and DG Agriculture and Rural Development, based on OECD-FAO and S&P Global.

SUBSET ANALYSIS 1: PRODUCTION-RELATED SHOCKS (CROP YIELDS, OIL PRICES)

Partial stochastic analysis helps examine 'less likely' scenarios, focusing on factors such as yields and energy prices. 'Less likely' scenarios are defined as wheat yields and oil prices above the 80th or below the 20th percentile. High oil prices increase production costs, shifting the supply curve upward and causing domestic prices to rise. In a high oil price scenario (above 106 USD/bbl), EU crop prices are projected to increase by about 7%, pigmeat and poultry prices by 5.5% and beef prices by 3% by 2035.

Low oil prices (below 77 USD/bbl) lead to more modest changes in price based on past trends of large price increases. Variability in wheat yields among exporters reflects historical patterns, with Australian yields 15.3% lower and the EU yields 3.9% lower on average in low-yield scenarios. This leads to reduced production among major exporters and to price increases globally, except for the US, whose exports fall relatively little.

High yields have a stronger impact on prices and production, causing prices to drop significantly in Ukraine, the EU and Russia. In these scenarios Russian exports see the greatest impact, with additional wheat exports of more than 21 million t, three times the increase in EU wheat exports compared to the baseline. In turn, price impacts alter consumption patterns, generally depressing consumption except in the US.

SUBSET ANALYSIS 2: CONSUMPTION-RELATED SHOCKS (GDP)

GDP shocks affect consumers' income of and therefore their food consumption. However, food consumption is not very sensitive to GDP changes. EU consumption of most agriculture commodities changes by no more than ±0.2% in the two subsets, defined as GDP above the 80th or below the 20th percentile. Consumption in regions with lower per capita incomes are more sensitive to income shocks, especially for higher-value products such as meat and dairy.

SUBSET ANALYSIS 3: TRADE-RELATED SHOCKS (EUR/USD EXCHANGE RATE)

The exchange rate (EUR/USD, in this case) allows a comparison of domestic prices (in EUR/t) and international prices (in USD/t). A high exchange rate, meaning it costs more euros to buy one USD, makes imports more expensive, whereas a lower exchange rate makes EU exports more affordable in USDs, improving EU competitiveness.

Projected import and export impacts generally reflect this line of reasoning, i.e. a high exchange rate is usually associated with declining EU imports and increasing exports, and vice-versa, especially for the main traded commodities. For example, a high or low exchange rate, defined in the same way as for yields, oil prices and GDP above, leads to a 0.7 and -0.9% change in EU pigmeat exports on average, and to a -0.7% and 0.2% change in EU soya bean imports. There are, however, also multiple examples where this is not the case. There are several possible explanations for this. First, shocks to macroeconomic variables are not independent across the different variables and countries included in the outlook report. Therefore, if the historical data suggests a significant correlation between two data series in two different countries, e.g. the USD exchange rate in the EU and Brazil, then this is maintained in the stochastic simulations. Second, exchange rate changes lead to substitution effects in consumption that may have second-order effects on trade that cancel out the first-order effects, especially for less-traded products.

10. ANNEX

This chapter presents the models used in the preparation of this report and how they are interlinked in greater detail. It also contains further methodological notes on the uncertainty analysis and the calculation of the Shannon index (used to illustrate crop diversity).

It complements the chapter on Uncertainties with some detailed data tables. In addition, it also includes a list of references used in the report.

As a new feature, balance sheets of the key EU agricultural markets are available in the Agri-food data portal.

AGRO-ECONOMIC MODELS USED IN THE 2025 EU AGRICULTURAL OUTLOOK (IMAP FRAMEWORK)

The European Commission's Joint Research Centre (JRC) manages the integrated modelling platform for agro-economic commodity and policy analysis (iMAP). It is used as a tool to deliver in-house policy support to the European Commission, assessing a broad range of policies and topics affecting the agricultural and food sector. Since its launch, iMAP has been constantly evolving to meet policy needs, in particular baseline market projections, policy scenarios for impact assessment, what-if analyses, counterfactual analyses and evaluations of exogenous shocks (Fellmann et al. 2023; Barreiro-Hurle et al. 2024).

iMAP covers a set of agro-economic models particularly relevant to the analysis of the EU agri-food sector. The following models have been used in the 2025 EU Agricultural Outlook report.[1]

AGLINK-COSIMO is a recursive-dynamic, partial-equilibrium, multi-commodity market model of world agriculture. Led by DG AGRI, the model is used in iMAP to produce the EU Agricultural Outlook report (also known as medium-term outlook - MTO), which is published every year, and to provide an input to the global OECD-FAO agricultural market outlook report. The MTO provides the reference (baseline) for policy assessments to which the other iMAP models are calibrated. AGLINK-COSIMO has a partial stochastic module that can be used to analyse the variability underlying the outlook report projections due to e.g. macroeconomic volatility or extreme weather events. Moreover, the model allows to assess various what-if and policy scenarios. AGLINK-COSIMO covers 44 individual countries and 12 regional aggregates over 90 commodities and 39 world market-clearing prices.

MAGNET (modular applied general equilibrium tool) is a recursive-dynamic, economy-wide global CGE model. The model takes a modular approach, whereby the standard GTAP-based core can be augmented with extensions and modules such as land supply, land allocation, biofuels, food waste and SDG modules, depending on the purpose of the study. For iMAP purposes, the detailed focus on agricultural policy is particularly useful. MAGNET covers 141 regions and individual countries, including the 27 EU countries. *In this year's MTO, MAGNET was used to provide a selection of EU food security indicators.*

AGMEMOD (agricultural Member State modelling) is an econometric, dynamic, partial-equilibrium, multi-country, multi-market model. It is composed of econometrically estimated, country-specific economic models of agricultural commodity markets and can provide details on the main agricultural sectors in individual EU and EU candidate countries. *In the context of the MTO report, AGMEMOD was used to provide results on selected EU countries, specifically for fruit, vegetables, olive oil and table olives.*

CAPRI (common agricultural policy regionalised impact) is a global, multi-commodity, comparative-static, partial-equilibrium model, specifically designed to analyse CAP, environmental, climate change and trade policies. The model is based on a consistent dataset over different regional scales (global, EU, Member State, NUTS2 regions), combining a very detailed and disaggregated representation of agricultural production in EU regions with a global market model. CAPRI can be used to assess a wide range of policy impacts on agricultural and environmental indicators. *CAPRI has enriched the MTO report with environmental indicators at regional level for several years.*

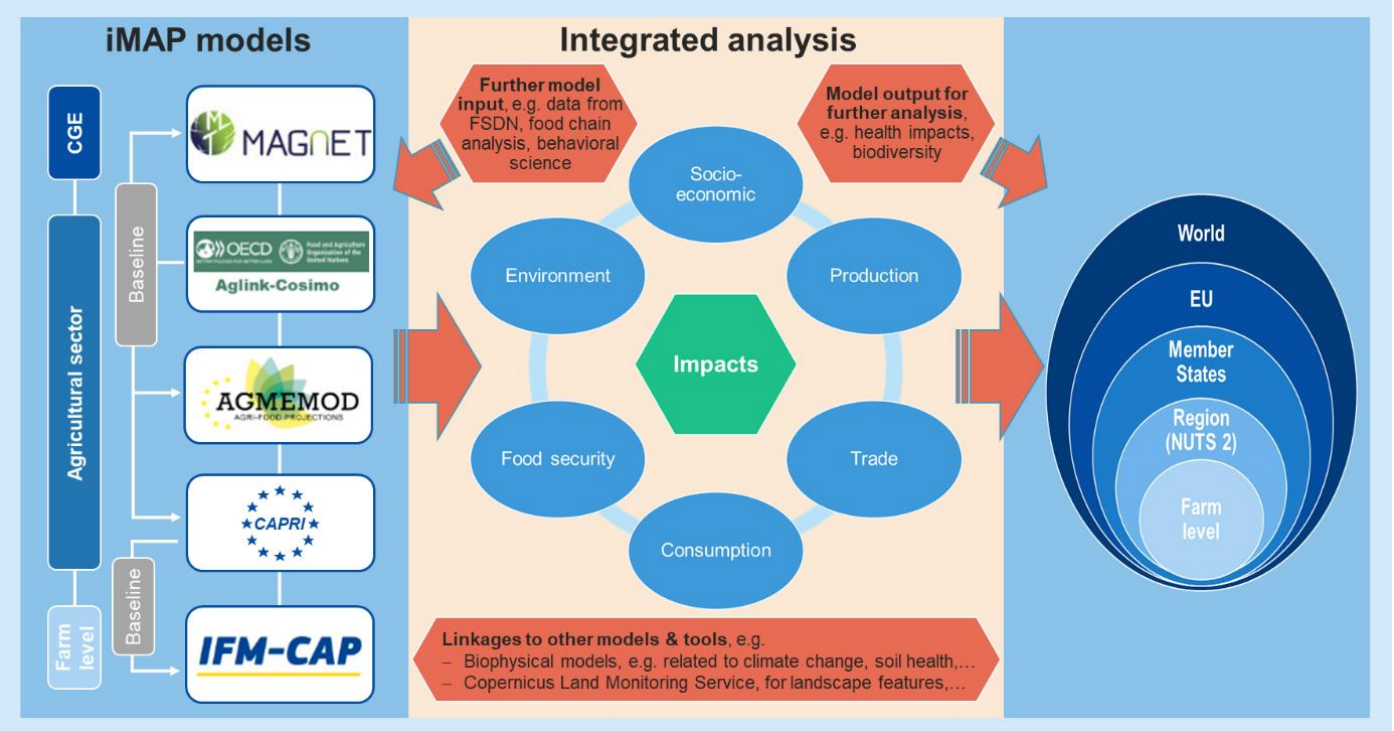
IFM-CAP (individual farm model for common agricultural policy analysis) is an EU-wide comparative static positive mathematical programming model applied to individual farms in the Farm Accountancy Data Network (FADN). It covers data from around 80 000 market-oriented EU farms, weighted to represent roughly 3.6 million holdings, i.e. the EU population of commercial farms. The model can be used to assess a wide range of farm-specific policies, taking account of the heterogeneity of EU commercial farms. It provides disaggregated economic results (farm income, land use, production, etc.) at a fine geographical scale. *This year, for the first time, IFM-CAP complemented the MTO report with the farm outlook report to provide farm-level results.*

[1] For more details on the models and links to model documentation, see DataM (https://datam.jrc.ec.europa.eu/datam/mashup/IMAP/). The models and their use for policy impact assessments are also described and publicly accessible in MIDAS (Modelling Inventory and Knowledge Management System of the European Commission).

The overall approach to integrated policy analysis based on the core iMAP models is shown in Figure 10.1. The starting point is the harmonisation of the baselines, used in each model as a reference for the comparison of policy scenarios. External drivers used in the baseline construction include, in particular, macroeconomic assumptions such as GDP growth, population, inflation, currency exchange rates and crude oil prices. The models also integrate main policy assumptions such as agricultural and trade policies.

Assumptions of external drivers are determined in the preparatory phase of the EU Agricultural Outlook report and used accordingly in the AGLINK-COSIMO model. The same assumptions are used in the MAGNET, AGMEMOD and CAPRI models, and the three models are then calibrated to the baseline results for major agricultural markets as presented in the EU Agricultural Outlook report. Price and yield trends from the CAPRI or AGLINK-COSIMO baseline are used as input in the baseline construction of the IFM-CAP farm-level model. The harmonisation of baseline assumptions allows the iMAP models to be applied in an integrated manner and the models to be combined in order to provide a more complete picture of impacts.

FIGURE 10.1 Integrated policy analysis based on the core iMAP models



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Fellmann, T., et al. (2023). Agro-economic-environmental modelling in the context of the Green Deal and sustainable food systems. JRC Technical Report, European Commission, Luxembourg: Publications Office of the European Union. https://dx.doi.org/10.2760/123978

Barreiro Hurle, J., Fellmann, T. M'barek, R. (2024). Modelling in support of better agricultural and food policies: the JRC's integrated agro-economic modelling platform (iMAP). EuroChoices 23(1), 43-53. https://doi.org/10.1111/1746-692X.12421

METHODOLOGICAL NOTES

Shannon index

The Shannon index is calculated as:

$$\boldsymbol{Shannon\ Diversity\ Index} = -\sum_{\boldsymbol{i=1}}^{\boldsymbol{N}} [\boldsymbol{p_i} \times \boldsymbol{ln}(\boldsymbol{p_i})]$$

where pi is the area share of crop i and N the total number of crops included in the index.

The Shannon index scaled to 10 is calculated as:

$$\boldsymbol{Shannon\ Diversity\ Index\ (scaled\ to\ 10)} = -\sum_{\boldsymbol{i=1}}^{\boldsymbol{N}} \left[\boldsymbol{p_i} \times \boldsymbol{ln}(\boldsymbol{p_i}) \times {\mathbf{10}}/{\boldsymbol{ln}(\boldsymbol{N})}\right]$$

where pi is the area share of crop i and N the total number of crops included in the index.

The Shannon equitability index is a mathematical measure used to quantify the relative abundance or evenness of the crop distribution. It is calculated as:

$$\boldsymbol{Shannon\ Equitability\ Index} = -\sum_{\boldsymbol{i=1}}^{\boldsymbol{n}} [\boldsymbol{p_i} \times \boldsymbol{ln}(\boldsymbol{p_i})] \ \times {\mathbf{10}}/{\boldsymbol{ln}(\boldsymbol{n})}$$

where pi is the area share of crop i and n the total number of crops in the region.

The index value depends on the number of crops available in the CAPRI model. In some cases, the model works directly with aggregates of crops (e.g. pulses, vegetables other than tomatoes, apples and pears, citrus, other fruits, industrial crops, textiles, other industrial crops, nurseries, new energy crops, etc.), which inherently limits the index's ability to fully reflect high-resolution crop diversity. In other cases, crops within the same botanic families are grouped together (e.g. grain maize and fodder maize, soft and durum wheat, sugar beet and fodder beets, wine and table grape vineyards, oil and table olive groves). A total of 22 annual crops/crop groups and 8 permanent crops/crop groups were used for the index calculations.

In the country groups, EU-East consists of Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Finland, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia.

EU-West consists of Austria, Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Portugal, Spain, Sweden, and the Netherlands.

Uncertainty analysis[2]

The uncertainty analysis presented in this report is based on the AGLINK-COSIMO model, a mathematical representation of global agricultural commodity markets and their interlinkages. In this model, production costs and consumer demand are affected by macroeconomic country-specific variables and the international crude oil price (proxy for energy prices). A change in any of these factors could affect commodity markets through model linkages. Crop and milk yields are endogenously determined, with domestic and international prices acting as market-clearing variables. The model allows for changes in equilibrium prices and quantities as long as market balances hold.

The following procedure was used to quantify the uncertainty of baseline projections: First, 140 variables were treated jointly as partially stochastic, using empirically observed variability in the period from 2000 to 2023[3]. Next, statistical time-series models were used to separate random movements over time from trends in the yield and macroeconomic variables or from stable relationships between them. Then, a large set of alternative trajectories of yields and macroeconomic variables were generated using statistical techniques that account for covariation across regional blocks. Finally, the generated time series was used as alternative input data to the model, resulting in a large set of alternative baselines.

Different combinations of yield and macroeconomic factors lead to different market balances and price equilibria. The area between the dashed lines in the fan charts in the stochastics chapter represents about 95% of alternative outcome distributions in each year. Similar graphs are presented in various commodity chapters of this report. An input variable with a high level of historical variation could result in market outcomes (e.g. market balances or prices) that also show notable variation. An indicator of relative variability that allows for comparison across variables measured in different units is the coefficient of variation (CV, %)[4]. The higher the CV value of an input variable, the higher the importance of that variable in driving market uncertainty. The macroeconomic variable with the largest variability in the uncertainty analysis is the crude oil price, with a CV value of 23.6%. Exchange rates that affect trade are also fairly uncertain (e.g. $CV_{USD/EUR}$ or $_{EUR/USD}$ = 5.2%). In comparison, the CV values of EU GDP and the consumer price index are somewhat lower.

On average, the EU crops with the most uncertain yields are maize, soya bean, sunflower, sugar beet and rye. Soya bean yield variability is lower in the major exporting countries. Soya bean and other oilseed prices are directly affected by changes in yields (affecting supply), but also by changes in GDP and inflation, which affect supply and demand for food and feed. In addition, the oil price affects production costs (supply) as well as demand for biofuel made from these crops. This means that oilseed prices are highly uncertain, which in turn leads to uncertain prices of vegetable oils and proteins.

[2] For more details see Pieralli et al. (2022 - Documentation of the European Commission's EU module of the Aglink-Cosimo model: 2021 version).
[3] 89 region-commodity combinations of crops and milk yields, 50 country-specific macroeconomic variables (consumer price index, exchange rates, real GDP, GDP index) and the crude oil price (Brent).
[4] Coefficient of variation (CV) = 100 × standard deviation ÷ mean. The CV is a measure of the dispersion of a distribution that is independent of the units of the stochastic variable. In this case, the distribution is that of simulated values in a given year (e.g. the crude oil price in 2031 across all stochastic simulations).

TABLE 10.1 Macroeconomic uncertainty in 2035 (CV, %)

Region	Consumer price index	GDP deflator	Real GDP	Exchange rate (dom. currency/USD)	Oil price
Australia	0.5	1.5	0.9	4.9	-
Brazil	0.8	0.7	1.6	9.3	-
Canada	0.5	1.1	1.3	3.1	-
China	0.8	1.2	1	2.2	-
United Kingdom	0.6	0.7	2.2	4	-
Indonesia	1.1	1.7	1.1	3.1	-
India	0.8	1	2.1	3	-
Japan	0.6	0.4	1.7	5.4	-
New Zealand	0.8	0.9	1.2	4.8	-
Russia	1.8	3.6	2.4	8.9	-
United States	0.9	0.9	1.3	-	-
EU-27	0.6	0.4	1.4	4.7	-
World	-	-	-	-	22.1

TABLE 10.2 Yield uncertainty in 2035 (CV, %)

Commodity/Region	Argentina	Australia	Brazil	Canada	China	EU-14	EU-13	Indonesia	India	Kazakhstan	Mexico	Malaysia	New Zealand	Paraguay	Russia	Thailand	Ukraine	United States	Vietnam
Barley	6.4	2.1	-	10	-	4	6.8	-	-	-	0.7	-	-	-	1.8	-	-	0.4	-
Common wheat	10.9	17.3	10.3	8.8	1.7	4.5	10.5	1.5	1.9	13.6	10.2	1.5	0.5	11.3	12.2	1.7	10.5	3.2	1.5
Durum wheat	-	-	-	-	-	6.4	5.1	-	-	-	-	-	-	-	-	-	-	-	-
Maize	7.4	0.5	7	5.5	0.9	5.3	18.7	1.7	1.5	3.6	5.8	2	0.4	10.9	1.1	2.9	13.1	2.6	2
Milk	0.4	0.4	0.7	0.4	0.6	0.2	0.6	-	-	-	0.2	-	0.7	-	0.3	-	-	0.3	-
Oats	0	0.7	-	8.1	-	4.6	7.6	-	-	-	0	-	-	-	1.9	-	-	0.3	-
Other Oilseeds	11.7	22	0	4.2	0.4	2.3	8.8	1.6	1.3	13.2	0	1.7	0	4.9	8.5	1.7	10.7	0.2	1.6
Other coarse grains	3.9	1.8	0.7	8.5	0.5	-	-	1.8	1	1.8	0.4	-	0.4	-	1.8	1.9	17.1	0.4	-
Palm oil	-	-	0	-	0	-	-	3.1	0.6	-	0	3.4	-	0.7	-	0.6	-	-	-
Rapeseed	0	22.1	0	4.2	0.5	2.6	6.6	-	-	-	0	-	0	-	1.7	-	-	0.2	-
Rice	0	0.3	0.5	-	9.7	5.9	0.5	0.8	4.3	1.7	0.4	0.9	-	1.2	0.8	1.8	1.4	4.7	2.5
Rye	0	-	-	0	-	7.3	9.1	-	-	-	-	-	-	-	0.4	-	-	-	-
Soybean	18	0	5.9	4	0.6	7.3	13.7	2.1	2.5	6.9	0	2.5	-	13.6	1.5	2.2	8	5	2.1
Sugarbeet	-	-	-	0.6	2.9	8.9	8.1	-	-	-	-	-	-	-	14	-	2.5	5.1	-
Sugarcane	27.9	4.2	7.6	-	1.6	-	-	1.3	3.2	-	0.4	-	-	0	-	14.4	-	4.1	1.2
Sunflower seed	14.4	0	0	0	0.4	4.6	15.5	-	-	-	0	-	-	-	11.1	-	-	0.2	-

TABLE 10.3 Price uncertainty in 2035 (CV, %)

	EU domestic price			International reference prices		
Commodity	Yield	Macro	Combined	Yield	Macro	Combined
Barley	6.8	8.5	11.2	-	-	-
Beef and Veal	2.9	4.8	5.9	2.9	3.9	4.9
Biodiesel	1.6	8.5	8.7	1.7	8	8.3
Butter	1.8	3.6	4.2	2.4	4.1	4.7
Casein	0.4	3.8	3.9	0	0	0
Cereal brans	5.8	7.1	9.4	4.7	5.3	7.1
Cheese	1.6	3.4	3.8	2	3.2	3.7
Corn Gluten Feed	5.6	7.6	9.6	5.6	6.3	8.5
Cotton	0.5	5.9	5.9	0.5	4.1	4.2
Dried Distillers Grains	5.7	7.8	9.9	5.5	6.5	8.5
Dried beet pulp	9	8.3	12.6	9.3	7.4	11.8
Ethanol	2.4	5.7	6.3	2.9	7	7.9
High fructose corn syrup	3.3	5.2	6.2	4.3	5.5	7
Maize	7.3	7.5	10.7	6.3	6.3	8.8
Meat and bone meal	0	0	0	5.9	6.3	8.7
Milk	1.5	3.2	3.6	-	-	-
Molasses	8.3	7.8	11.4	9	7.3	11.5
Other Oilseeds	10.2	6.5	12.6	11	5.8	12.7
Other coarse grains	6.8	7.6	10.6	6.2	7.9	10.3
Pork	4.7	6.3	8	4.8	4.8	6.8
Poultry	4.3	6.1	7.7	3.8	4.4	5.8
Pulses	4.4	8.7	10	3.5	7.8	8.7
Rapeseed	9.8	6.7	12.3	-	-	-
Rice	5.8	6.4	8.7	7.2	6.5	9.7
Roots and tubers	2.5	5	5.7	3.6	5.8	6.9
Sheep	2.1	4.8	5.3	2.4	3.2	4
Skim milk powder	1.4	3.4	3.8	1.4	2.3	2.6
Soybean	12.8	7.6	15.2	13.1	6.4	14.8
Sunflower seed	12.2	6.1	14	-	-	-
Total Protein Meal	7.9	7.7	11.4	8.6	6.7	11.1
Vegetable oils	6.7	6.1	9.3	6.6	4.4	8.1
Wheat	10.5	8.1	13.5	10.5	7	12.6
Whey powder	1.7	3.1	3.7	1.5	2.7	3.1
White sugar	12.5	6.5	14.6	5	3.9	6.4
Whole milk powder	1.6	3.7	4.1	1.8	3	3.5

TABLE 10.4 Market balance uncertainty in 2035 (CV, %)

	Yield				Macro				Total			
Commodity	Export	Import	Domestic use	Production	Export	Import	Domestic use	Production	Export	Import	Domestic use	Production
Barley	13.7	2.5	1.6	3.5	4.8	2	0.7	0.7	14.3	3.2	1.7	3.6
Beef and Veal	1.2	6.7	0.2	0.7	1.9	7.3	0.3	0.7	2.3	9.4	0.4	1
Biodiesel	0.5	1.4	0.4	0.3	1	2.6	1.5	1	1.2	2.9	1.5	1
Butter	3	1.8	0	0.4	7.1	4.7	0.1	0.9	7.9	5.1	0.1	1
Casein	4.2	4.2	0.1	2.3	11	10.8	0.4	5.8	11.5	11.4	0.4	6.2
Cereal brans	20	26.6	0.8	0.1	6.9	19.9	0.3	0.1	21.1	34.5	0.8	0.1
Cheese	0.9	0.5	0	0.1	3.2	1.6	0.1	0.4	3.4	1.6	0.1	0.5
Copra (coconut) meal		6	6			6.3	6.3			9	9	
Copra (coconut) oil		0	0			0.1	0.1			0.1	0.1	
Corn Gluten Feed	90	31.4	4.1	0.1	74.4	5.2	0.7	0.1	89.1	31.5	4.2	0.1
Cotton	0.2	0.2	0.1	0.4	0.9	0.9	1.2	0.6	0.9	0.9	1.2	0.8
Cotton seed		1.4	0.1			1.9	0.2			2.4	0.2	
Cotton seed meal		13.2	1.3	0.2		5	0.2	0.3		13.9	1.3	0.4
Cotton seed oil		1.9	0.5	0.2		1	0.3	0.3		2.2	0.6	0.4
Dried Distillers Grains	6.1	5.9	2	0.6	1.7	1.7	0.7	0.9	6.3	6.1	2.1	1
Dried beet pulp	27.3	25.7	5.4	7.2	5.9	6	1.3	0.6	27.9	26.4	5.6	7.2
Durum wheat	9.9	9.4	1.4	5.8	1.2	1.2	0.1	0.6	10	9.5	1.4	5.8
Eggs			0.2	0.2			0.2	0.2			0.3	0.3
Ethanol	4.6	7.3	0	0.3	16.7	25.7	0.8	1	17.7	26.9	0.8	1
Fresh dairy products			0	0.3			0	0.5			0.1	0.6
Groundnut		0.3	0.3			0.1	0.1			0.3	0.4	
Groundnut meal		14.4	1.3			2.7	0.2			14.8	1.3	
Groundnut oil		0.6	0.5			0.4	0.3			0.7	0.6	
High fructose corn syrup	6.8	7	0.1	0.5	10.9	10.9	0.2	1	13.2	13.1	0.3	1.1
Maize	9	23.7	2.3	9.9	0.6	2	0.5	0.6	9	23.7	2.3	9.9
Meat and bone meal	1.2			0.4	0.9			0.3	1.5			0.4
Milk				0.1				0.3				0.3
Molasses		21.8	4.8	7.6		5.5	1.6	0.6		22.3	5.1	7.6
Oats	22		3.6	4.1	5.2		0.6	0.4	21.8		3.7	4.1
Oilseed meals	3.2	2.2	1.3	1.4	1.1	0.5	0.2	0.2	3.4	2.3	1.3	1.4
Oilseed oils	4	4.2	0.5	1.5	1.3	1.1	0.5	0.2	4.2	4.3	0.7	1.5
Other Oilseeds	33.6	9.2	2.4	5	2.9	1	0.4	0.3	33.6	9.2	2.4	5
Other cereals		41.9	4.3	4.5		20.3	0.6	0.6		46.7	4.3	4.5
Other coarse grains	13.2	5.8	1.6	3	4.8	2.3	0.6	0.3	13.8	6	1.7	3.1
Palm kernel meal		0.9	0.9			0.8	0.8			1.2	1.2	
Palm kernel oil		0.5	0.6			0.5	0.5			0.7	0.8	
Palm oil		0.5	0.7			0.2	0.3			0.6	0.8	
Pork	1.6	0.6	0.2	0.2	0.9	0.8	0.1	0.1	1.8	1	0.2	0.2
Poultry	4.5	0.2	0.2	0.8	3.1	0.1	0.2	0.5	5.5	0.2	0.3	1
Pulses	7.4	7.3	1.4	1.2	5.5	5.6	0.9	1.2	9.3	9.3	1.6	1.7
Rapeseed	21.2	8.1	1.9	3.6	2.2	0.9	0.3	0.4	21.4	8.1	1.9	3.7
Rapeseed meal	8.6	8.4	1.2	1.9	3.3	3.3	0.3	0.3	9.3	9.1	1.3	1.9
Rapeseed oil	6.6	12.9	0.7	1.9	1.9	3.9	0.7	0.3	6.8	13.4	1	2
Raw sugar		30.1				4.5				31		
Rice	1.3	2.3	0.1	5.8	1.4	0.4	0.1	0.5	1.9	2.3	0.1	5.8
Roots and tubers	13	12.6	0.5	0.2	21.6	24.4	1.1	0.3	25.2	28.3	1.2	0.4
Rye	36.2	24.2	4	5.7	8.9	9.9	0.7	0.5	35.8	25.1	4.1	5.7
Sheep	1.8	6.1	0.2	2.7	2.2	7.6	0.4	2.9	3.5	9.9	0.5	4.2
Skim milk powder	0.7		1.8	0.8	4.1		1.8	2.7	4.1		2.6	2.9
Soft wheat	16.7	8.5	2.5	5.3	2.4	1.3	0.4	0.6	16.8	8.6	2.5	5.3
Soybean		4.7	3.7	7.3		0.9	0.7	0.5		4.8	3.8	7.3
Soybean meal	1	2	2.2	3.7	0.3	0.6	0.5	0.6	1.1	2.2	2.2	3.7
Soybean oil	4.2	8.4	1.1	3.7	0.5	1.1	0.5	0.6	4.3	8.5	1.2	3.7
Sugar	60.3	30.1	0.3	7.6	8.1	4.5	0.4	0.6	61.3	30.9	0.5	7.6
Sugarbeet				7.2				0.6				7.2
Sunflower meal		5.1	0.8	4		1.2	0.6	0.3		5.2	1	4
Sunflower oil	5.1	4.9	0.9	4	1.1	1.1	0.3	0.3	5.2	5	1	4
Sunflower seed	49.2	34.6	4.9	10.1	4.1	4.1	0.7	0.3	49.2	34.8	5	10.1
Total Protein Meal	3.1	2.1	1.2	1.3	1.1	0.4	0.2	0.2	3.3	2.1	1.2	1.4
Vegetable oils	3	1.9	0.4	1.5	1	0.5	0.4	0.2	3.2	1.9	0.6	1.5
Wheat	16.4	7.6	2.3	5	2.4	1.2	0.4	0.6	16.5	7.7	2.3	5.1
Whey powder	1.2	0.4	0.7	0.1	2.2	0.3	0.9	0.5	2.4	0.5	1.1	0.5
White sugar	60.6	30			8.1	4.5			61.5	30.9		
Whole milk powder	1.2		0.1	0.5	4.9		0.4	2.1	5.1		0.4	2.2

Subset analysis, tables

TABLE 10.5 Macroeconomic subset analysis. Percentage difference from the baseline in the two subsets (EU producer prices and consumption).

	Oil		GDP		Exchange rate	
	Low	High	Low	High	Low	High
Prices						
Beef and Veal	0.2	3.3	-0.1	2.8	-2.8	6.5
Biodiesel	-8.8	13.2	-6.3	11.1	-1.1	7
Ethanol	2.8	-4.2	0.3	-1.7	-3.6	2.4
Maize	-1	7.1	-0.4	5.4	-2.9	9.3
Other Oilseeds	-2	7.5	-1.2	5.6	-3	8.7
Other coarse grains	-0.1	7.3	0.4	5.7	-1.9	9.3
Pork	-1	5.5	-0.8	4.4	-3.5	8.4
Poultry	-0.8	5.5	-0.5	4.3	-3.1	8.1
Soybean	-0.4	7.1	0	5.4	-3	9.6
Wheat	-0.2	7.3	0.2	5.6	-2.7	10
Consumption						
Beef and Veal	-0.2	0	-0.2	0.1	0.1	-0.3
Biodiesel	-1.6	2.4	-0.8	1.8	0.4	0.4
Ethanol	0.7	-1.2	0	-0.6	0	-0.6
Maize	0.4	-0.3	0.2	-0.2	0.2	-0.1
Other Oilseeds	0.3	-0.5	0.1	-0.4	0	-0.3
Other coarse grains	-0.2	-0.4	-0.2	-0.3	-0.3	-0.3
Pork	-0.1	0	-0.1	0.1	0	-0.1
Poultry	-0.1	-0.1	-0.2	0	0	-0.2
Soybean	-0.2	-0.3	-0.1	-0.2	0.2	-0.5
Wheat	-0.1	-0.1	-0.1	-0.1	0.1	-0.3

Note: Low and high values of the international oil price, GDP, and the exchange rate (in domestic currency per USD): 20th and 80th percentiles, respectively of the simulated values in 2040. The numbers represent the percentage difference between the baseline values and the averages across stochastic simulations in each subset for each of the commodities included in the table.

TABLE 10.6 Wheat yield subset analysis. Percentage difference from the baseline in the two yield subsets (Yields, producer prices, export, import, consumption, production, main wheat exporters).

	Yields	Prices	Consumption	Production	Imports	Exports
Low yields						
Argentina	-8.1	1.1	-0.1	-2.6	0	-2.1
Australia	-15.3	0.9	-0.1	-5.8	0	-4.6
Canada	-5.9	0.5	-0.1	-4.7	0	-3.6
European Union	-3.9	2.7	-0.7	-7.7	1.2	-5.7
Russia	-7.1	5.1	-0.8	-15.8	0	-13.5
United States	-2.5	-2.7	0.1	-2.5	0.1	-0.9
Kazakhstan	-9	2.6	-0.1	-2.1	0.1	-1.6
Ukraine	-7.3	5.1	-0.1	-2.6	0	-2.3
High Yields						
Argentina	11.8	-7.5	0.2	4.5	0	3.6
Australia	11.4	-7.4	0.3	10.3	0	8.4
Canada	5.4	-6.9	0.4	5.6	0	4.2
European Union	4.1	-9.5	1.6	10	-1	7.3
Russia	10.2	-8.2	1.1	24	0.4	21.3
United States	2.6	-2.3	0.1	2.7	-0.1	0.9
Kazakhstan	7.4	-8.5	0.2	3.8	-0.1	3
Ukraine	5.8	-9.8	0.2	4	0	3.6

Note: Low and high yields: 20th and 80th percentiles, respectively of the simulated values in 2040 for each of the countries included in the table. The numbers represent the difference between the baseline values and the averages across stochastic simulations in each subset. Yields and prices are in percentage differences. Consumption, production, imports, and exports are in million tonnes.

TABLE 10.7 Macroeconomic subset analysis. Percentage difference from the baseline in the two subsets (EU imports and exports).

	Oil		GDP		Exchange rate	
	Low	High	Low	High	Low	High
Import						
Beef and Veal	1.8	6.2	1	6.3	3.5	4
Biodiesel	-0.2	2.8	1.3	1.3	2.9	-1.2
Ethanol	-7.9	17.5	-0.4	8.8	18.6	-13.2
Maize	1.8	-1.3	1.2	-0.8	1.6	-1.6
Other Oilseeds	1	-1.5	0.4	-1	-0.1	-0.6
Other coarse grains	-0.7	1.1	-0.7	0.8	-1.6	1.8
Pork	-0.2	0.8	-0.3	0.7	-0.3	0.9
Poultry	0	0.1	0	0.1	0.1	0
Soybean	-0.2	-0.3	-0.1	-0.3	0.2	-0.7
Wheat	-0.6	-0.1	-0.4	-0.2	-0.2	-0.4
Export						
Beef and Veal	-0.2	0.4	-0.2	0.2	-2.2	2.5
Biodiesel	0.1	-1.1	-0.5	-0.5	-1.1	0.5
Ethanol	8.1	-6.9	3.5	-2	-7.7	12.5
Maize	-0.5	0.4	-0.3	0.3	-0.5	0.5
Other Oilseeds	-2.5	4.3	-1.1	2.8	-0.3	2.4
Other coarse grains	0.7	3.9	0.9	3.1	1.4	3.2
Pork	0.3	-0.5	0.4	-0.7	-0.9	0.7
Poultry	0.5	-2.4	0.1	-2	-3.6	2
Soybean	0	0	0	0	0	0
Wheat	1.2	0.5	0.9	0.5	0.3	1.2

Note: Low and high values of the international oil price, GDP, and the exchange rate (in domestic currency per USD): 20th and 80th percentiles, respectively of the simulated values in 2040. The numbers represent the percentage difference between the baseline values and the averages across stochastic simulations in each subset for each of the commodities included in the table.

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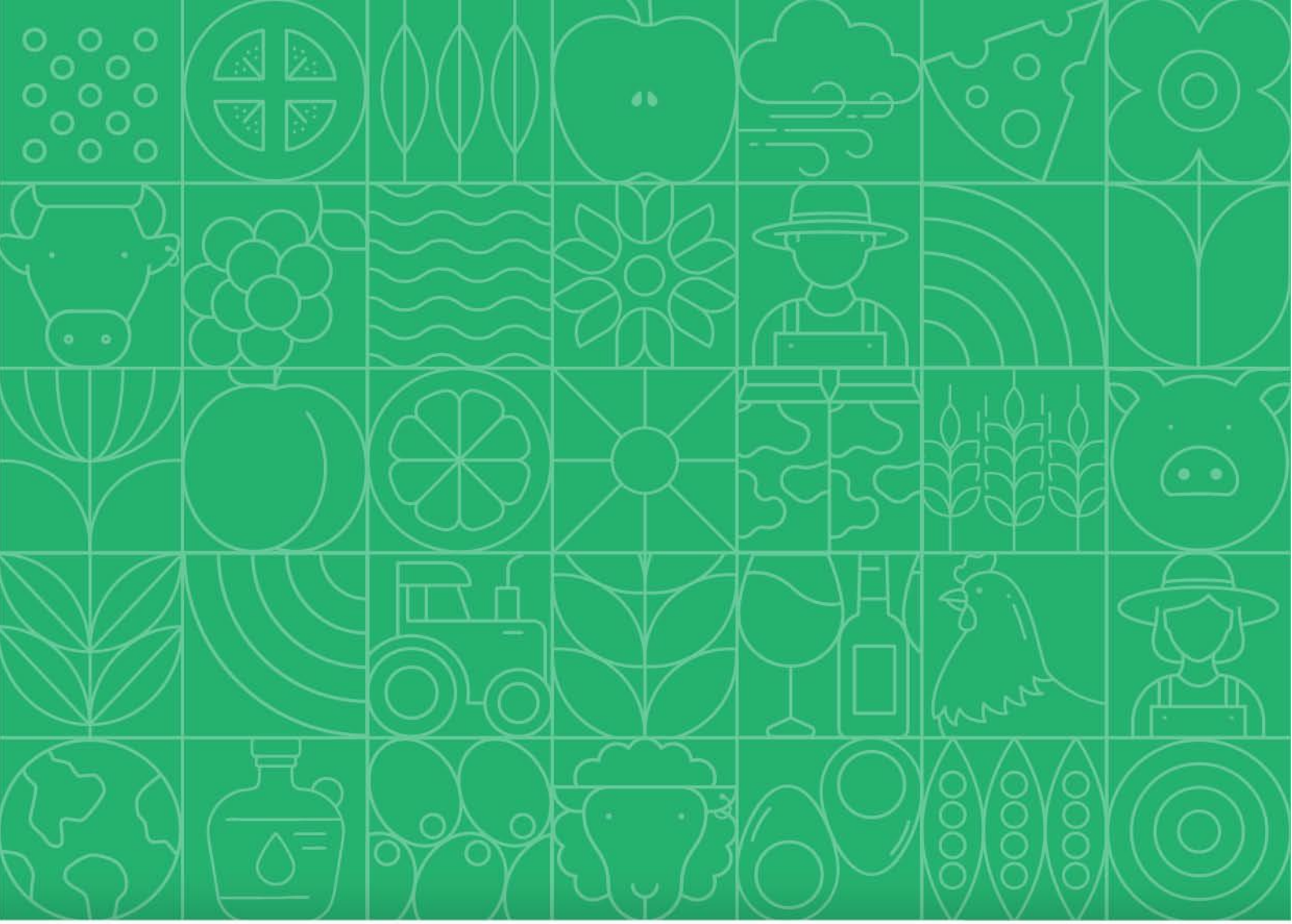

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