

# Unveiling the Organic Evolution: A Deep Dive into EU Food Trends

CAPSTONE PRESENTATION

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# Introduction

## Organic food

= food produced with **organic farming**



Overall system of farm management and food production that combines:

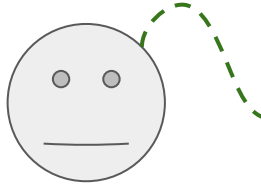
- best environment practices,
- high level of biodiversity,
- preservation of natural resources,
- application of high animal welfare standards.

Information source:

European Commission

([https://agriculture.ec.europa.eu/farming/organic-farming/organic-production-and-products\\_en](https://agriculture.ec.europa.eu/farming/organic-farming/organic-production-and-products_en))

# Business motivation and questions



Food producer in the EU

Should I produce **organic** or **conventional** food?

How is the **demand** for organic (vs. conventional) food developing in the EU?

How much higher **prices** can I get for organic (vs. conventional) food in the EU?

What **consumer expectations** should I fulfill if I want to produce organic food for the EU market?

# Hypotheses

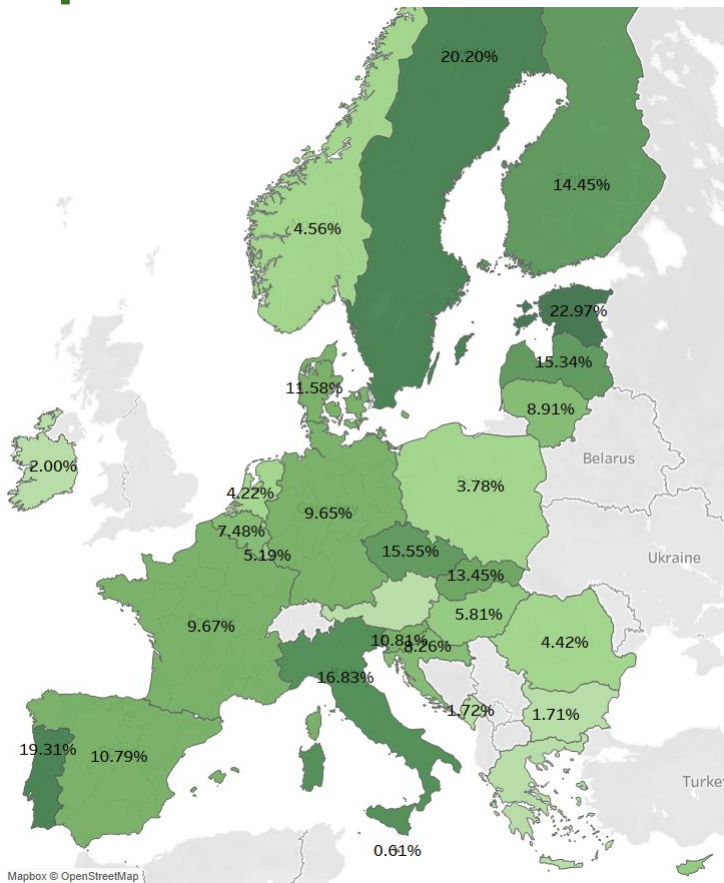
- 1) The **demand** for organic (vs. conventional) foods in the EU has *increased*.
  - ⇐ Increased health and environmental concerns
  - ⇐ Expanded chain of distribution for organic foods
- 2) The **growth** of the demand for organic (vs. conventional) foods has *weakened* after 2020.
  - ⇐ Negative effect of inflation on demand for more expensive products
- 3) **Prices** for organic (vs. conventional) eggs and milk in the EU are *decreasing*.
  - ⇐ Intensified competition due to growing number of organic food producers
  - ⇐ Price pressure from large retailers
- 4) **Motives** for buying organic foods (among those who buy them) include *health* and *environmental* concerns.

How is the **demand** for organic (vs. conventional) food developing in the EU?

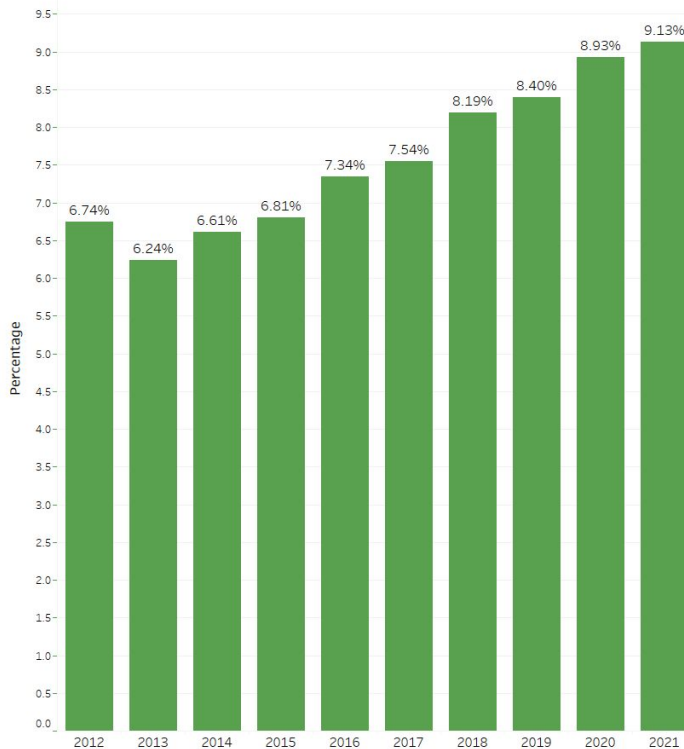
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graph LR; A[How is the demand for organic (vs. conventional) food developing in the EU?] --> B[Production]
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**Production**

# Percentage of agricultural area declared for organic production in EU: increase over time, especially since 2014



Percentage of area declared for organic production (% of total)



→ The total area has increased from **6.7%** in 2012 to **9.1%** in 2021.

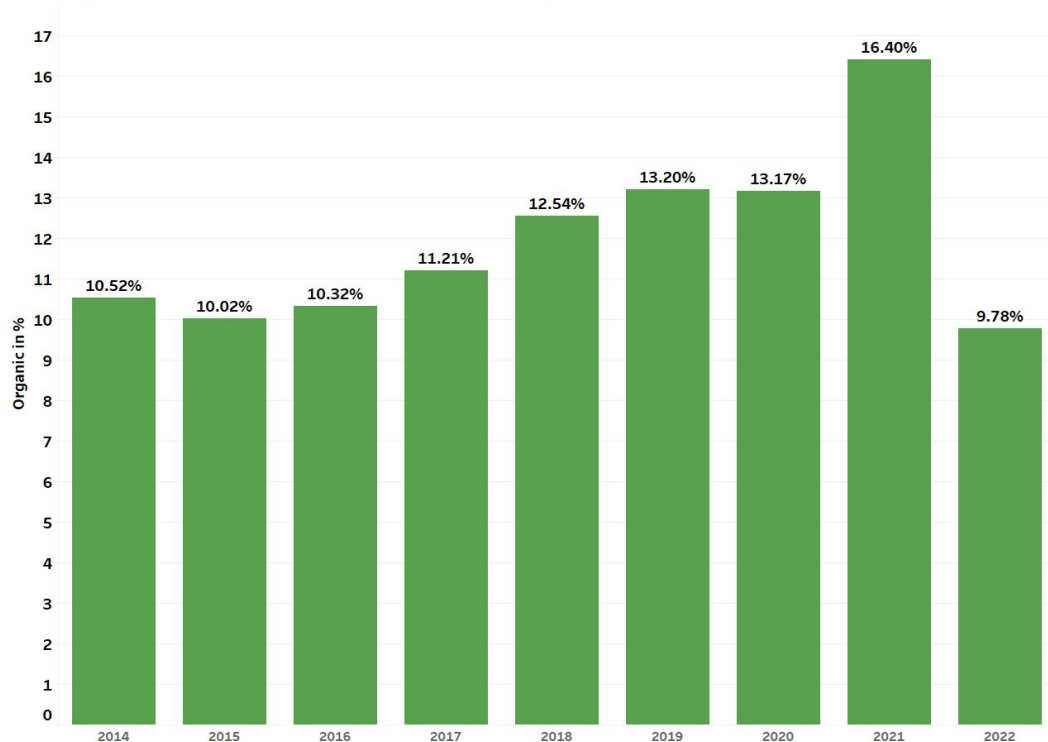
Number of companies in organic food production: increase from **310,434** in 2013 to **397,091** in 2021

**Data:** from Eurostat\*;  
EU 27 countries;  
N = 324 cases

\* [https://ec.europa.eu/eurostat/databrowser/product/view/sdg\\_02\\_40?category=t\\_agr.t\\_org](https://ec.europa.eu/eurostat/databrowser/product/view/sdg_02_40?category=t_agr.t_org)

# Share of organic food volume (relative to total production volume) increasing until 2021, then drop again

Organic production in % from total agriculture and animal production

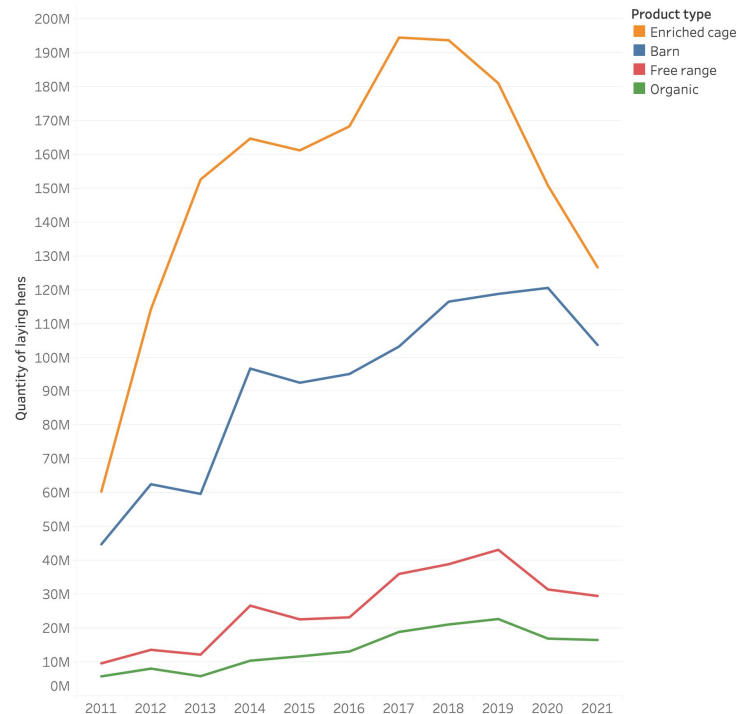
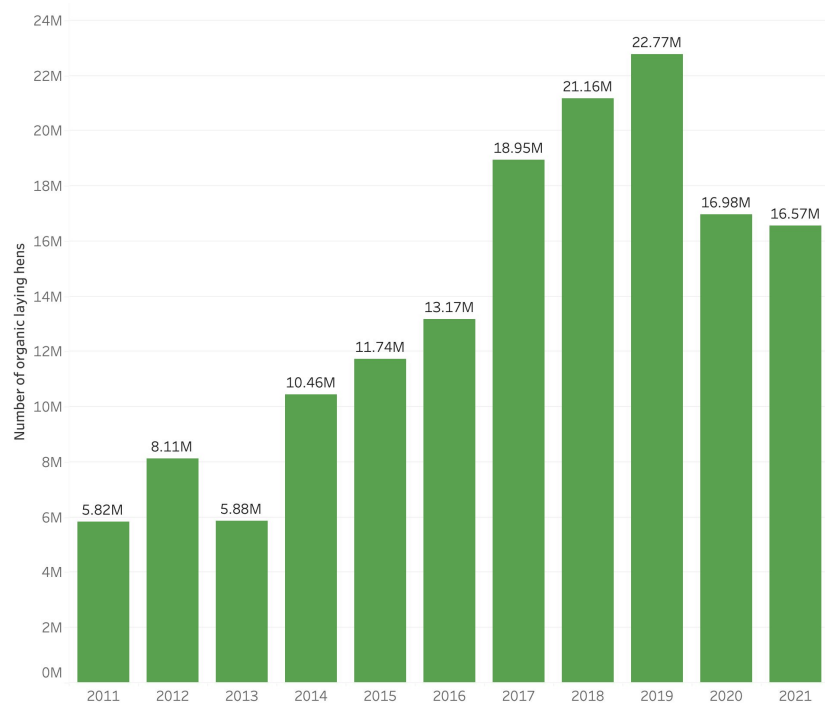


- The combined volume of organic and conventional food production in **2022** was **over 798 million tonnes**.
- **78.1 million tonnes (9.78%)** are organic products.

**Data:** from Eurostat\*;  
EU 27 countries;  
N = 968,385 cases

\* [https://ec.europa.eu/eurostat/en/data/database?node\\_code=org](https://ec.europa.eu/eurostat/en/data/database?node_code=org)

# Number of laying hens in EU: increase in organic hens (until 2019) and recent drop in conventional hens

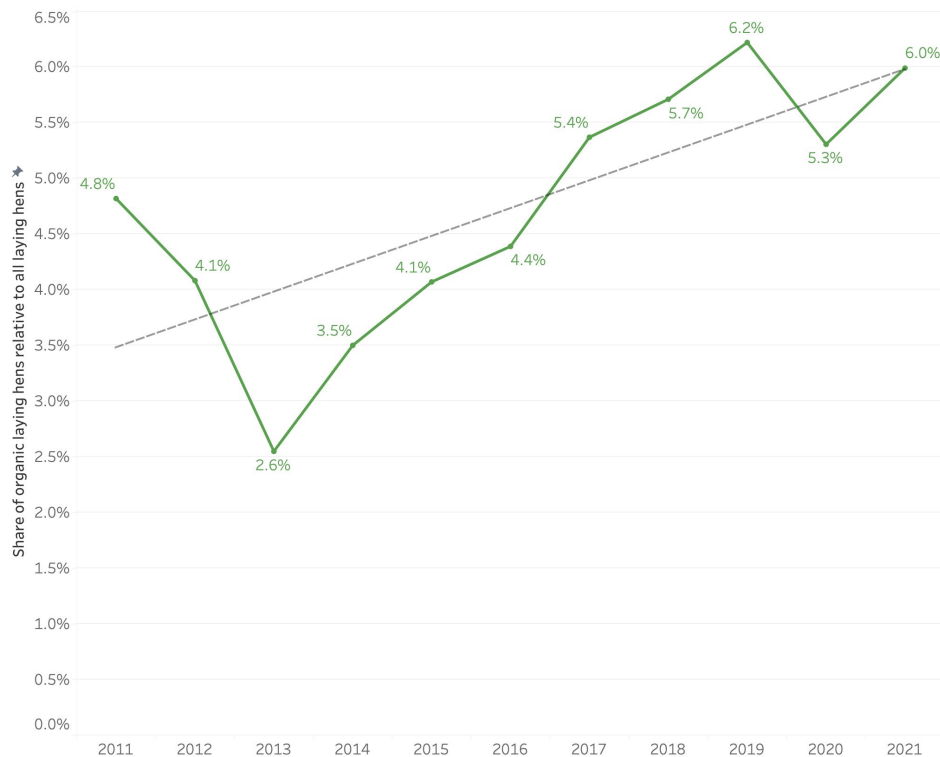


\* [https://ec.europa.eu/eurostat/databrowser/view/org\\_ltspec/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/org_ltspec/default/table?lang=en)

Data: from Eurostat\*;  
EU 27 countries;  
N = 991 cases



# Share of organic laying hens in EU: generally increasing, especially until 2019



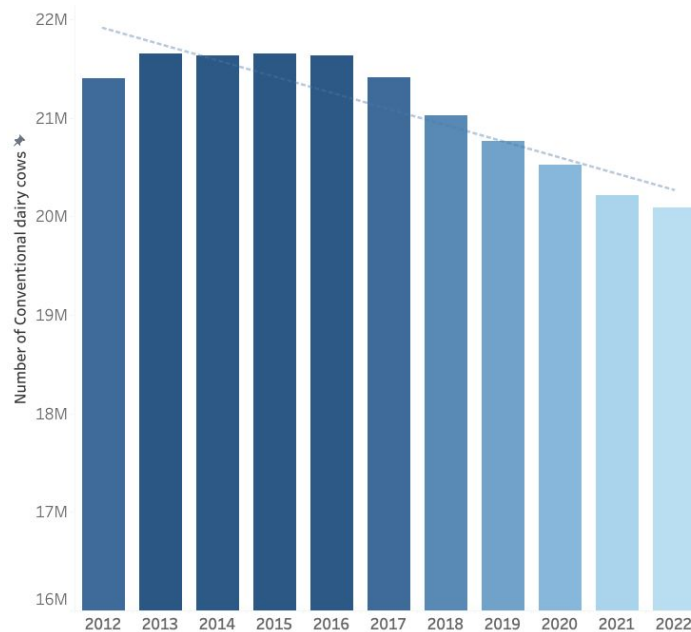
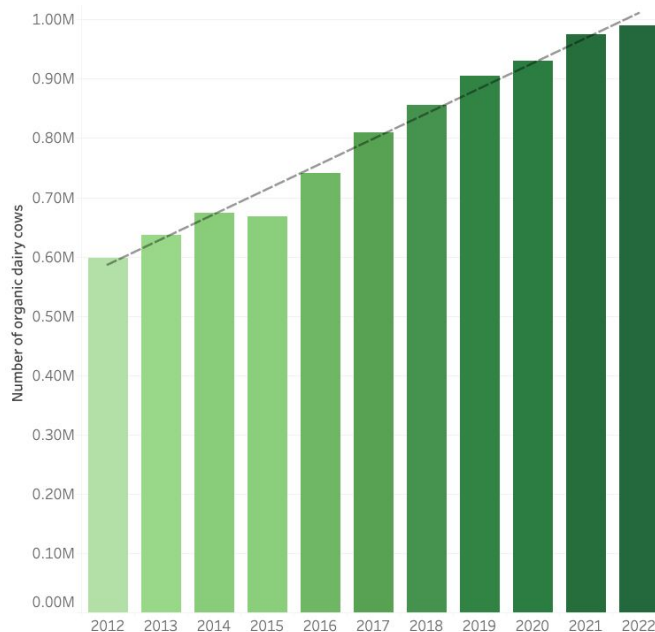
→ Between **2013** and **2019** the share of organic laying hens increased from **2.6%** to **6.2%**.

→ In **2021** the share of laying hens was **6.0%** of the total.

**Data:** from Eurostat\*;  
EU 27 countries;  
N = 991 cases

\* [https://ec.europa.eu/eurostat/databrowser/view/org\\_lstspect/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/org_lstspect/default/table?lang=en)

# Number of dairy cows in EU: increasing for organic and decreasing for conventional cows



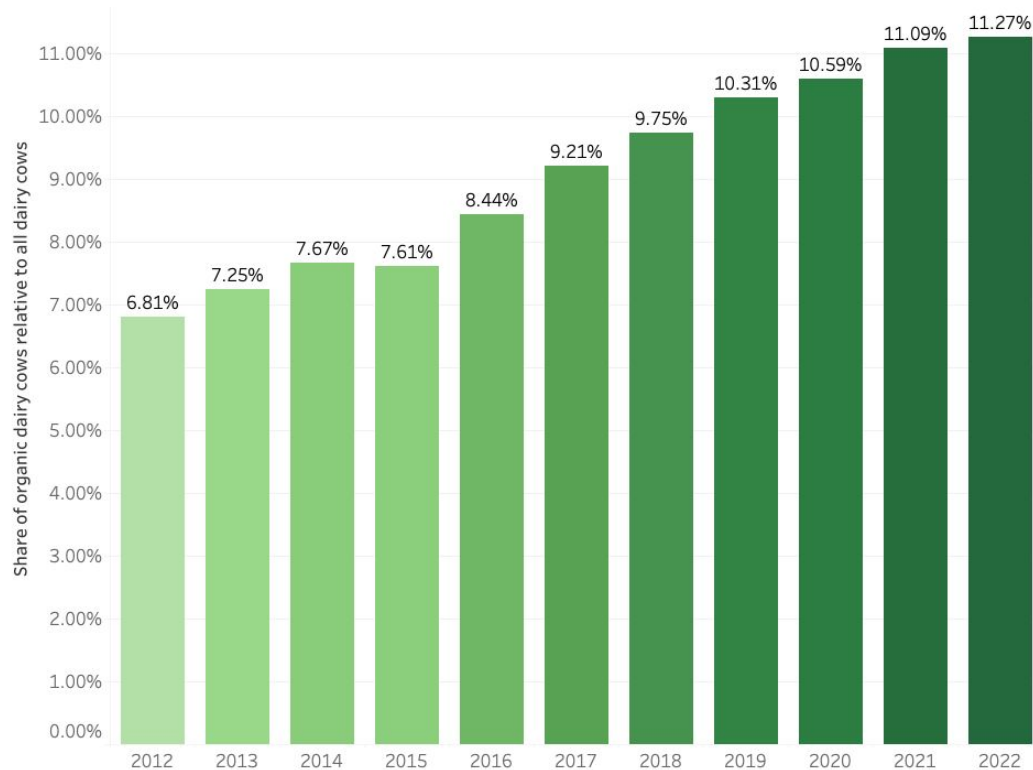
→ The number of **organic** dairy cows in EU **increased** by **0.39** million in ten years.

→ The number of **conventional** dairy cows in EU **decreased** by **1.32** million in ten years.

**Data:** from Eurostat\*; EU 27 countries except Malta and Slovenia;  $N = 297$  cases

\* [https://ec.europa.eu/eurostat/databrowser/view/org\\_lstspec/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/org_lstspec/default/table?lang=en)

# Share of organic dairy cows in EU: increasing each year



- In **2012** the share of organic cows was **6.81%** of the total.
- In **2022** the share of organic cows was **11.27%** of the total.
- Share of organic dairy cows in EU grew at an avg. rate of **0.45 pp** percent per year (**4.46 pp** in ten years).

**Data:** from Eurostat\*;  
EU 27 countries except Malta and Slovenia;  
N = 297 cases

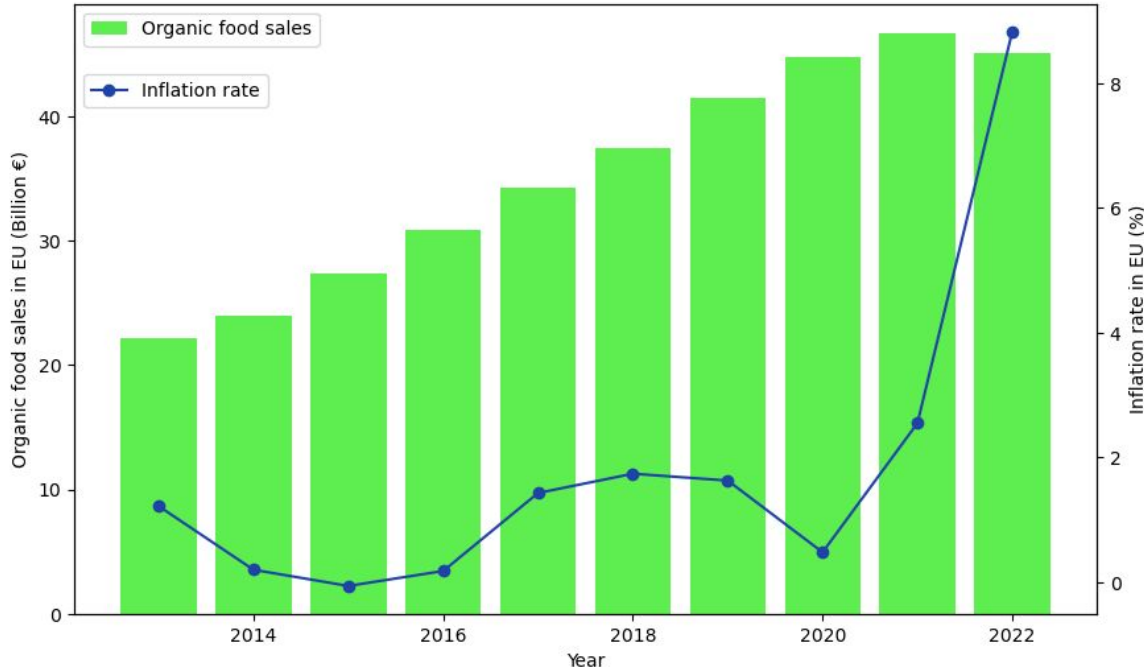
\* [https://ec.europa.eu/eurostat/databrowser/view/org\\_lstspec/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/org_lstspec/default/table?lang=en)

How is the **demand** for organic (vs. conventional) food developing in the EU?

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graph LR; A[How is the demand for organic (vs. conventional) food developing in the EU?] --> B[Sales]
```

**Sales**

# Sales of organic foods in EU: generally increasing



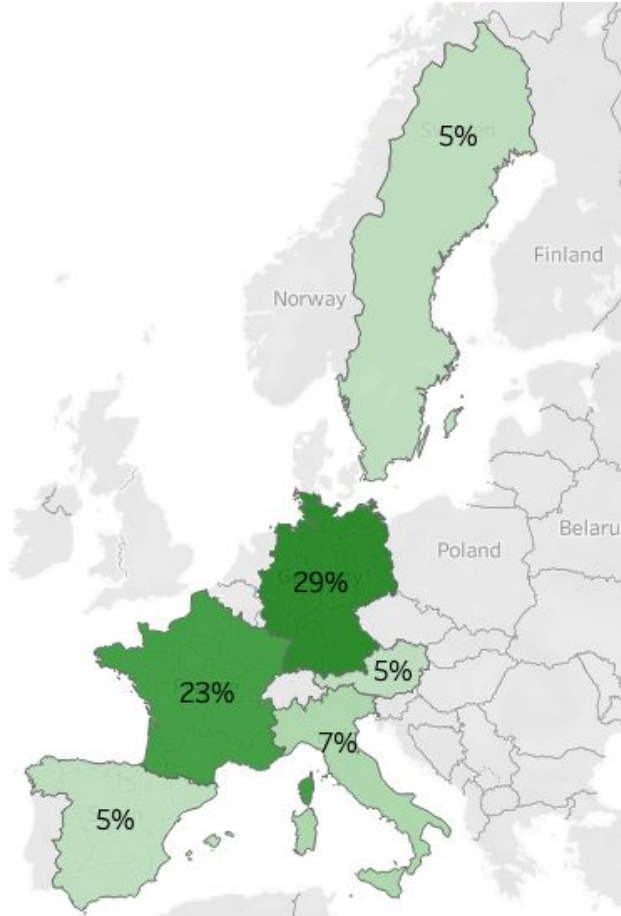
- Increase until 2020, then rather stagnation
- EU sales of organic foods from **22.1** billion € in 2013 to **45.1** billion € in 2022
- Surge in inflation appears to have **negative impact** on growth of organic food sales.

**Data:** from Statista\*;  
EU 27

**Inflation data:** from IMF\*\*;  
EU 27

\* <https://www.statista.com/statistics/541536/organic-retail-sales-value-european-union-europe-statistic/>

\*\* <https://www.imf.org/external/datamapper/PCPIPCH@WEO/OEMDC>



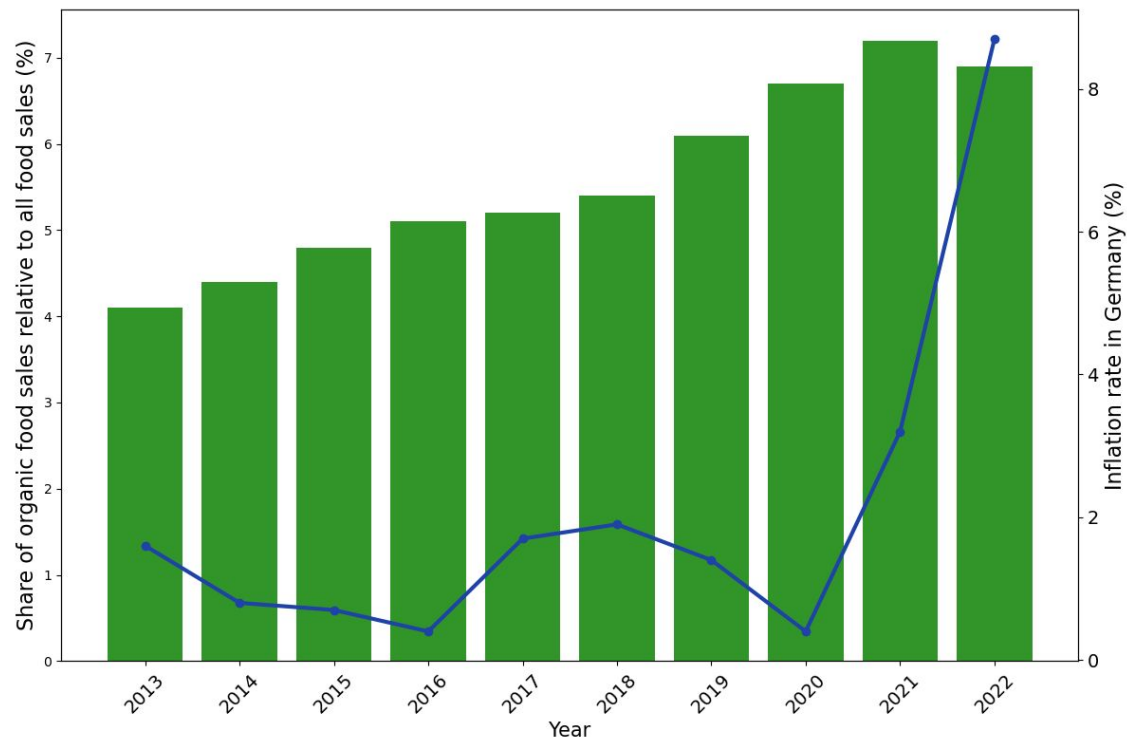
## Germany is the largest organic food market in the EU.

EU countries ordered by organic food sales  
(Top 6 ranking):

- 1) **Germany** →
- 2) France
- 3) Italy
- 4) Austria
- 5) Sweden
- 6) Spain

**Data:** from Statista\*

# Market share of organic foods in Germany: generally increasing



- Increase until 2020, then rather stagnation
- Market share of organic foods in 2022: **6.9%**
- Surge in inflation appears to have **negative impact** on growth of organic food market share.

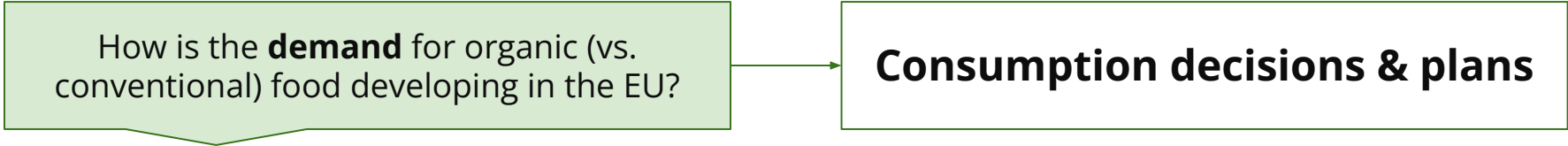
**Sales data:** from Statista\*;  
Germany

**Inflation data:** from IMF\*\*;  
Germany

\* <https://www.statista.com/statistics/1154312/organic-product-share-groceries-turnover-germany/>

\*\* <https://www.imf.org/external/datamapper/PCPIPCH@WEO/OEMDC>

How is the **demand** for organic (vs. conventional) food developing in the EU?



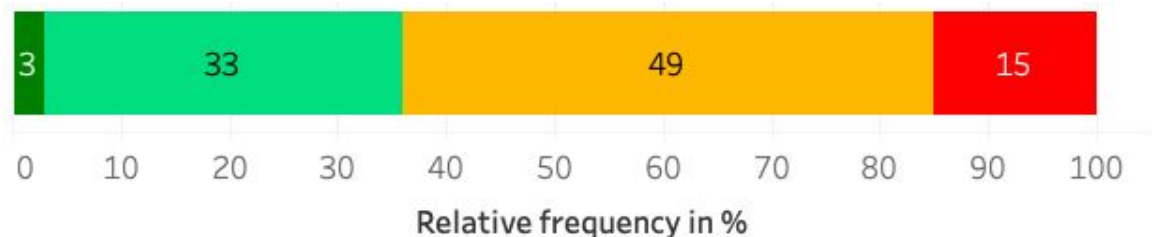
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graph LR; A[How is the demand for organic (vs. conventional) food developing in the EU?] --> B[Consumption decisions & plans]
```

**Consumption decisions & plans**



# A growing share of consumers in Germany plans to buy organic foods frequently.

## Current frequency of buying organic foods:

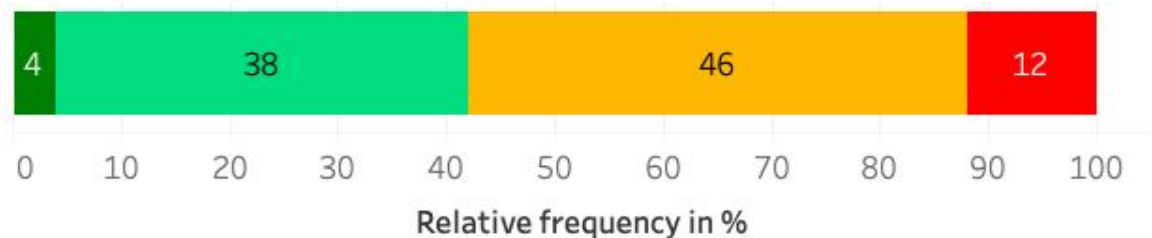


Σ Exclusively  
+ Frequently:

36



## Planned frequency of buying organic foods in the future:



42

+6

**Data:**  
from Eco Survey  
(Öko-Barometer) 2022  
by German Federal  
Ministry of Food and  
Agriculture\*;  
Germany, age ≥ 14;  
N = 1,014 respondents

# Hypotheses on demand supported

- 1) The **demand** for organic (vs. conventional) foods in the EU has *increased*.

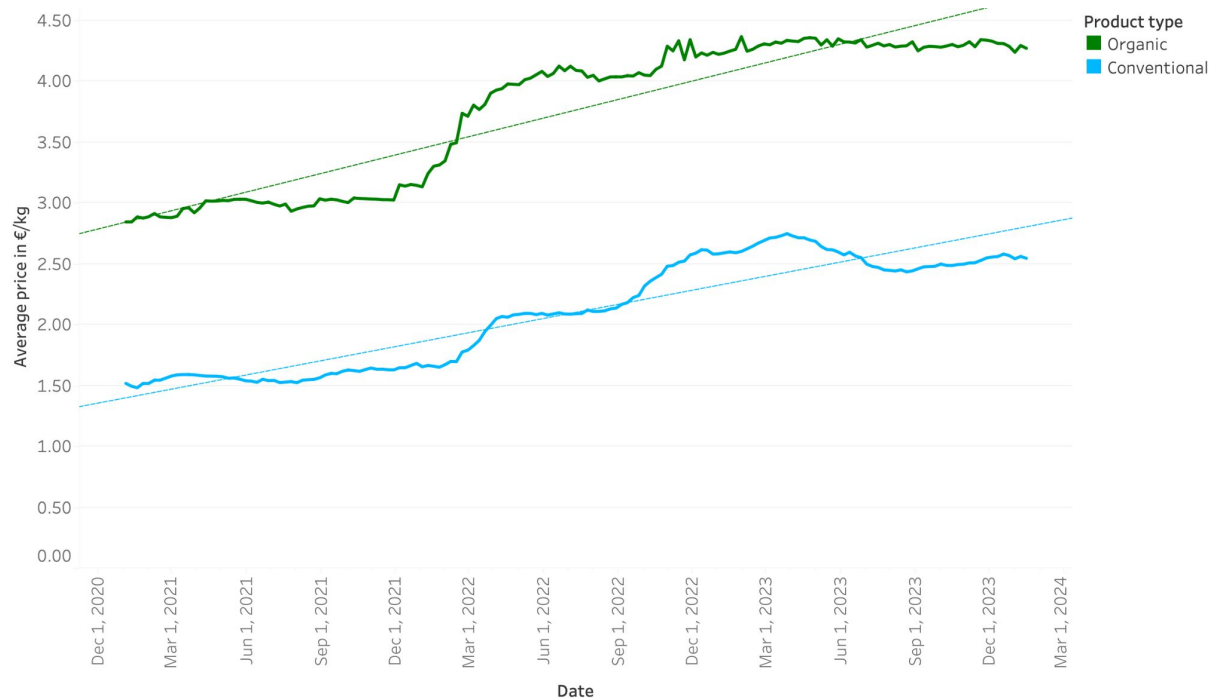
Production ✓ Sales ✓ Consumption decisions & plans ✓

- 2) The **growth** of the demand for organic (vs. conventional) foods has *weakened* after 2020.

Sales ✓ Market share ✓

How much higher **prices** can I get for organic  
(vs. conventional) food in the EU?

# Eggs prices in EU: general increase (organic and conventional), especially around the beginning of 2022

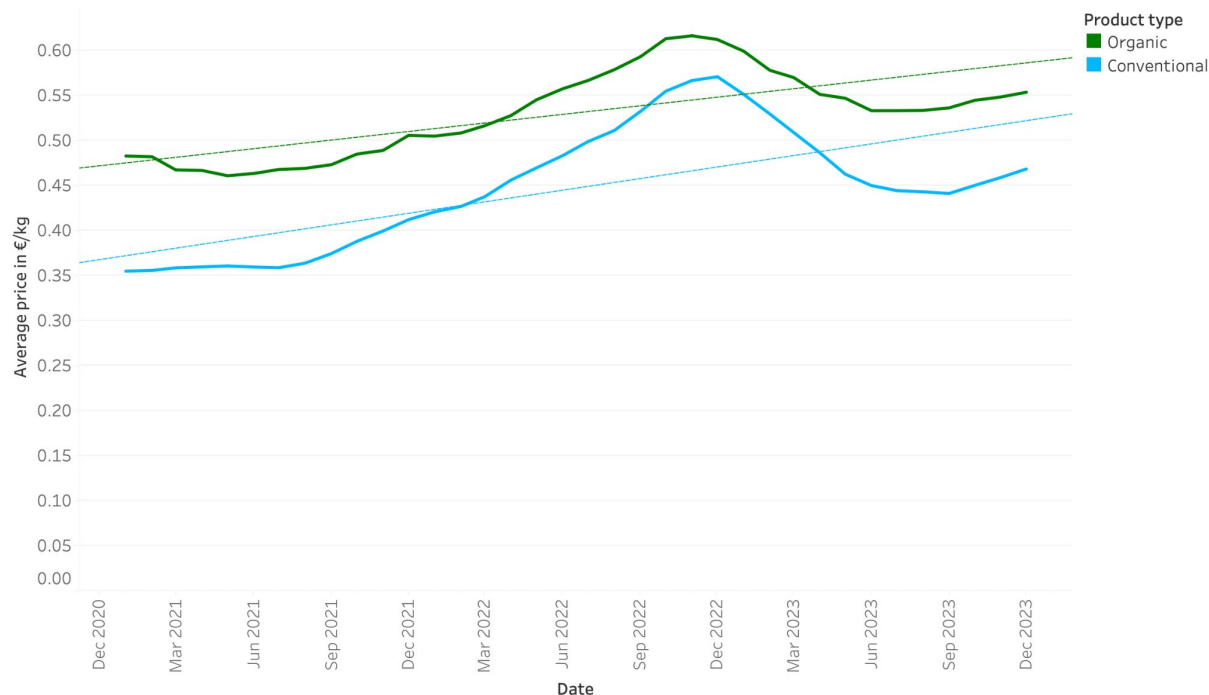


→ Avg. prices in Jan 2024:  
**4.27 €/kg** for organic eggs,  
**2.55 €/kg** for conventional eggs

**Data:** from API "Agri-Food Markets" by European Commission\*;  
EU 27 countries except Luxembourg;  
N = 11,968 cases

\* [https://agridata.ec.europa.eu/extensions/DataPortal/agricultural\\_markets.html](https://agridata.ec.europa.eu/extensions/DataPortal/agricultural_markets.html)

# Milk prices in EU: general increase (organic and conventional) until end of 2022, then drop and increase



→ Avg. prices in Dec 2023:  
**0.55 €/kg** for organic milk,  
**0.47 €/kg** for conventional milk

**Data:** from API “Agri-Food Markets” by European Commission\*;  
EU 27 countries except Luxembourg;  
N = 1,638 cases

\* [https://agridata.ec.europa.eu/extensions/DataPortal/agricultural\\_markets.html](https://agridata.ec.europa.eu/extensions/DataPortal/agricultural_markets.html)

# Price premia (i.e., relative price differences) for organic vs. conventional food: decreasing for eggs and milk



- Avg. yearly change of **eggs** premium: **-5.0 pp**
- Avg. yearly change of **milk** premium: **-5.1 pp**
- Price premia much higher for **eggs** (currently **68.1%**) than for **milk** (**17.8%**)

**Data:** from API “Agri-Food Markets” by European Commission\*;  
EU 27 countries except Luxembourg;  
N = 13,606 cases

\* [https://agridata.ec.europa.eu/extensions/DataPortal/agricultural\\_markets.html](https://agridata.ec.europa.eu/extensions/DataPortal/agricultural_markets.html)

## Hypothesis on prices supported

- 3) **Prices** for organic (vs. conventional) eggs and milk in the EU are *decreasing*. ✓

## Consumer motives for buying organic foods



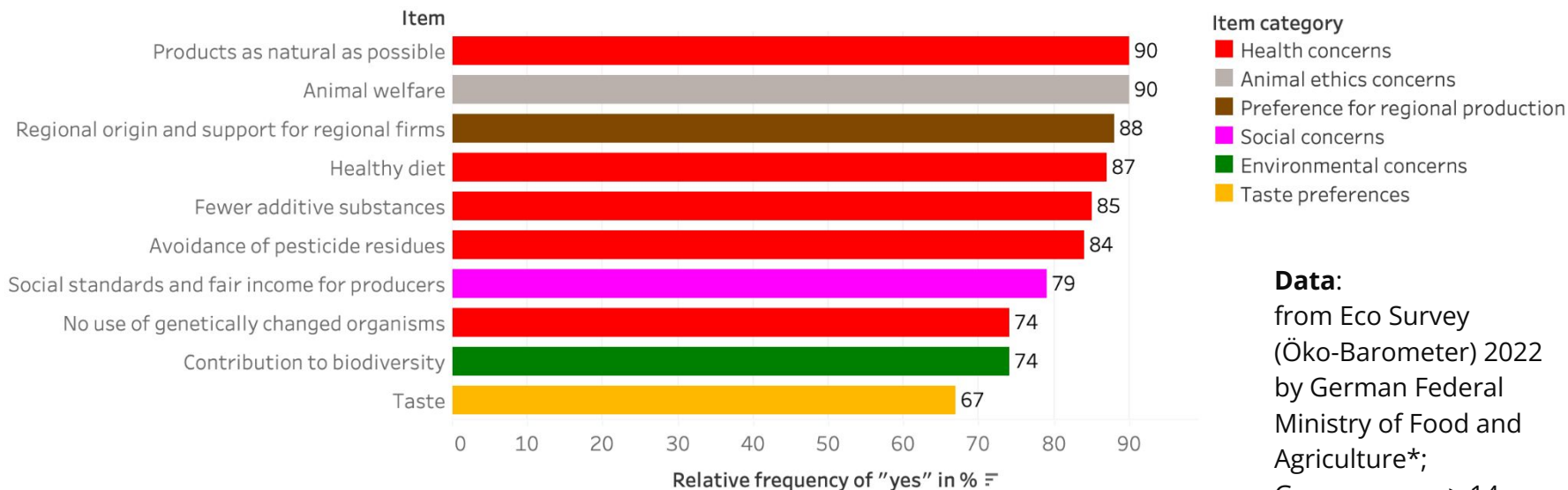
```
graph TD; A[Consumer motives for buying organic foods] --> B[What consumer expectations should I fulfill if I want to produce organic food for the EU market?]
```

What **consumer expectations** should I fulfill if  
I want to produce organic food for the EU  
market?



# Most consumers of organic foods in Germany care about health aspects and animal ethics.

## Reasons for buying organic foods (among people who buy organic foods at least occasionally):



**Data:**  
from Eco Survey  
(Öko-Barometer) 2022  
by German Federal  
Ministry of Food and  
Agriculture\*;  
Germany, age ≥ 14;  
N = 859 respondents

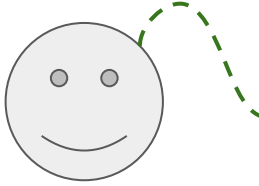
\* <https://www.bmel.de/SharedDocs/Downloads/DE/Landwirtschaft/Biologischer-Landbau/oeko-barometer-2022-tabellenband.html>

## Hypothesis on consumer motives supported

- 4) **Motives** for buying organic foods (among those who buy them) include *health* and *environmental* concerns. ✓

# Conclusions

Thank you for your attention!



Food producer in the EU

Should I produce **organic** or **conventional** food?

**Demand** perspective for organic foods generally **positive**  
(if inflation decreases again)

**Price** perspective for organic foods **challenging**, especially in case of milk  
**Profit** effects of organic production depend also on **costs**.

**Consumers** of organic foods are especially interested in **health aspects** and **animal welfare**.

⇒ Important to meet these expectations