

---

# Organic agriculture in Republic of Croatia



Josip Juraj Strossmayer University of Osijek  
Faculty of agrobiotechnical sciences Osijek  
Monika Marković, Associate professor

---

# Agenda

01 Introduction

02 Agricultural production in  
Republic of Croatia

03 Organic production in Republic  
of Croatia

# Republic of Croatia

## Horvátország

Population: 2020 estimate 4058 mil.

Area: 56,594 km<sup>2</sup>

European Union member state (2013)

Climate: Humid, subhumid and perhumid

Rich in soil and freshwater resources

2.9 mil. ha of arable land



# Osijek Eszék

Continental (eastern) Croatia - Slavonia

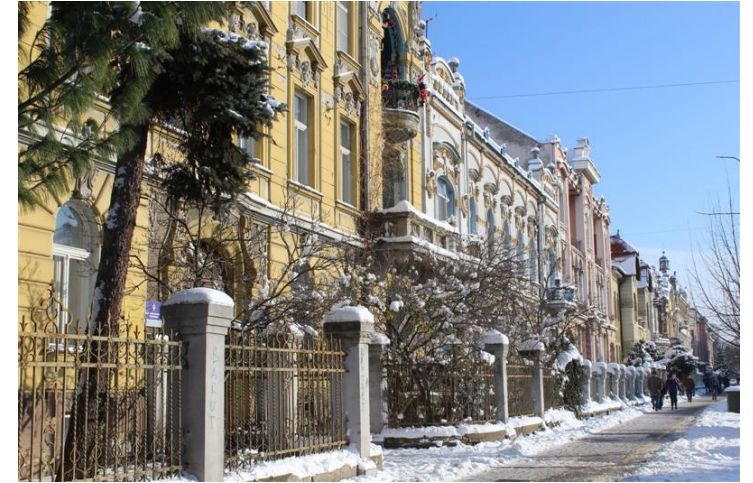
Located in Pannonian basin

Belongs to the Danube basin and the  
Black Sea catchment area

Population: 2020, 96 848

Promenade 3.6 km

Tvrđa, Baroque citadel from 18 century  
(tentative list for consideration as a  
nominee for a World Heritage Site)



# Josip Juraj Strossmayer University of Osijek

Constitution year 1975



**12 Faculties** (Agrobioechincal sciences, Law, Economics, Food technology, Civil Engeneering, Electrical Engenering, Computer science and Information technology, Education, Humanities and soical sciences, Medicine, Dental medicine and public health)

**4 Departments** (Biology, Chemistry, Mathematics and Physics, Cultural studies)

**Academy of Arts**

## Student number on UNI and FAZOS

	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019
UNI	17.608	17.123	17.002	17.310	17.232	15.996
FAZOS	1.390	1.423	1.385	1.553	1.484	1.364

# Faculty of agrobiotechnical sciences Osijek

Constitution date 18 October 1960

6 departments

**BsC:** Agroceconomics, Plant production, Horticulture, Mechanization, Zootechnique

**MsC:** Agroceconomics, Plant production (4 studies), Organic agriculture, Mechanization, Zootechnique, Vegetable and flower growing, Fruit growing, viticulture and vine production

**PhD:** Agroceconomics, Agrochemistry, Plant breeding and seed science, Plant protection, Animal breeding, Animal feed, Hunting and cynology, Technical systems in agriculture



# Faculty of agrobiotechnical sciences Osijek



Graduate Study Programme in English: **Digital Agriculture**

A study with two majors:

**1. Crop Production**

**2. Animal Production**



## 02 Agricultural production in Republic of Croatia



Year 2020:

**Agriculture's share** in GDP is 3.22 %

**Family farm:** 173 776

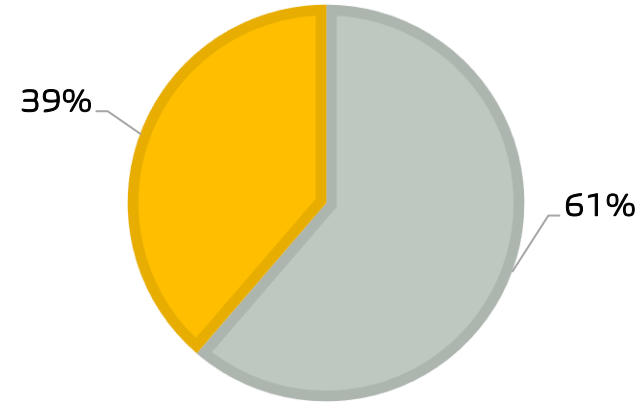
**Company:** 4400

2.9 mil ha of agricultural land

**Used arable land:** 863 000 (2.2% lower than in 2016)

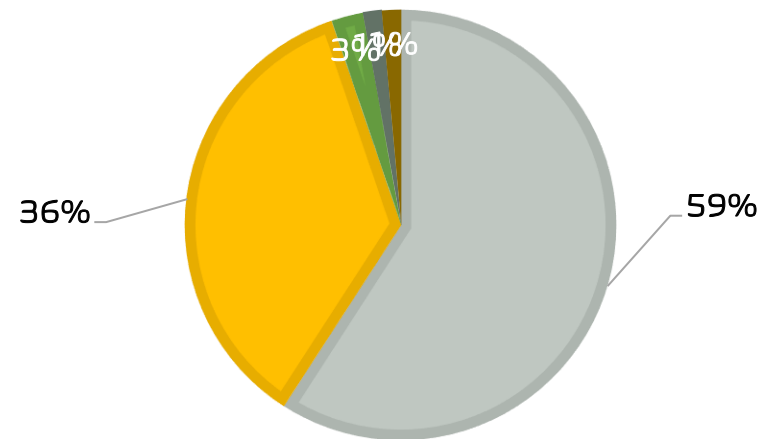
Plant vs. animal production % (2021)

■ Plant production ■ Animal production

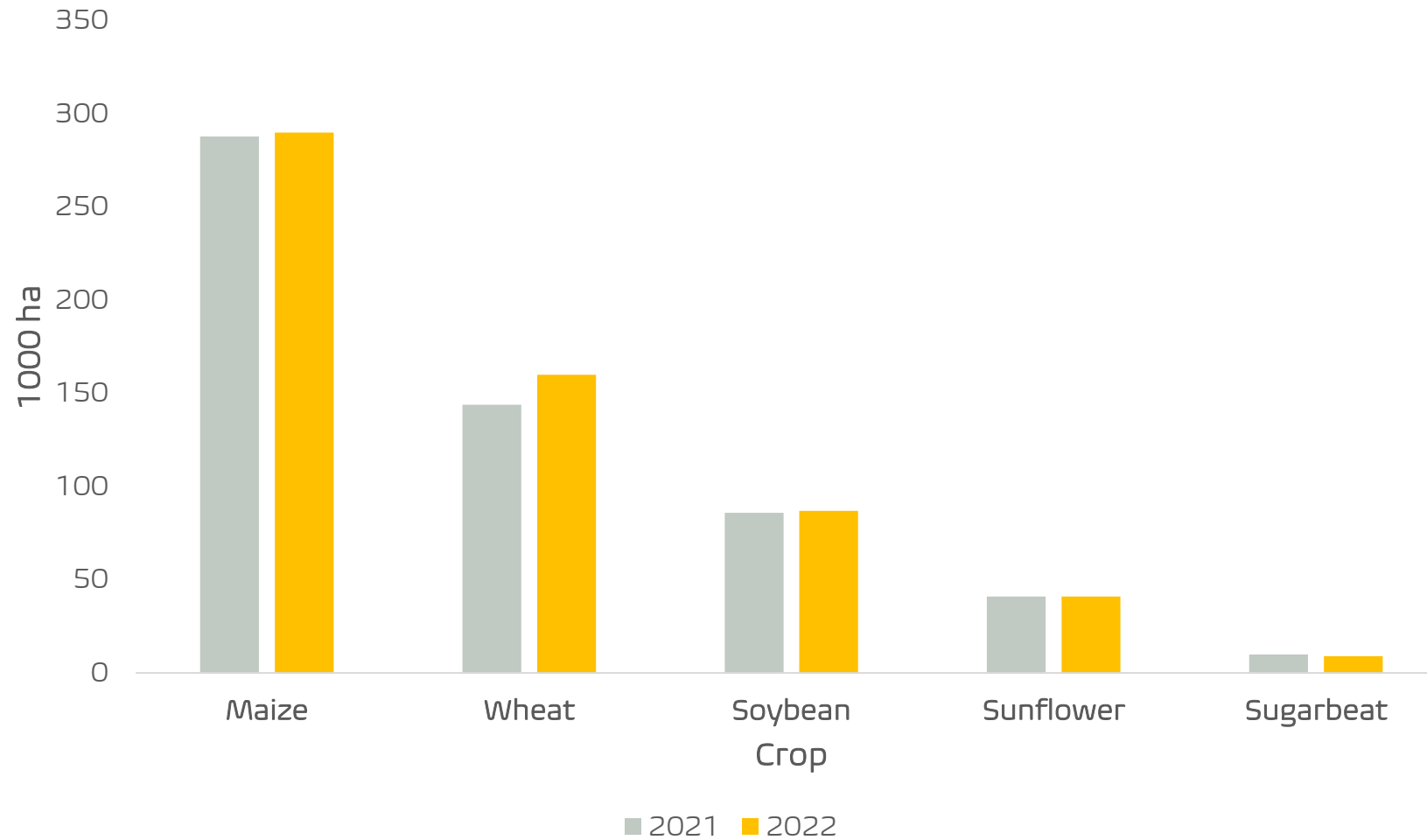


Utilized agricultural area by categories % (2020)

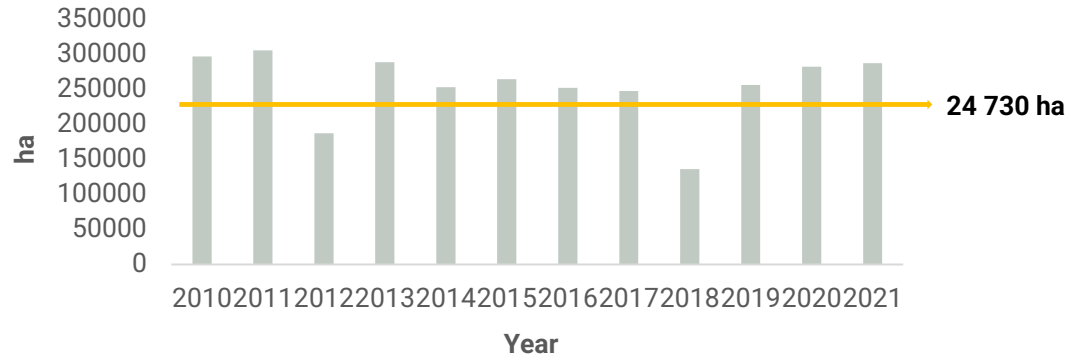
■ Arable land and gardens ■ Meadows and pastures ■ Orchards ■ Vineyards ■ Olive growers



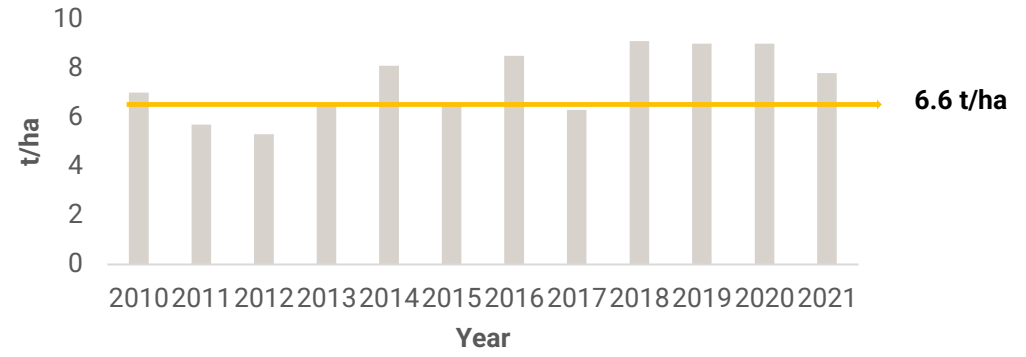
## The growing area for the most significant crops, 1000 ha (2021 and 2022)



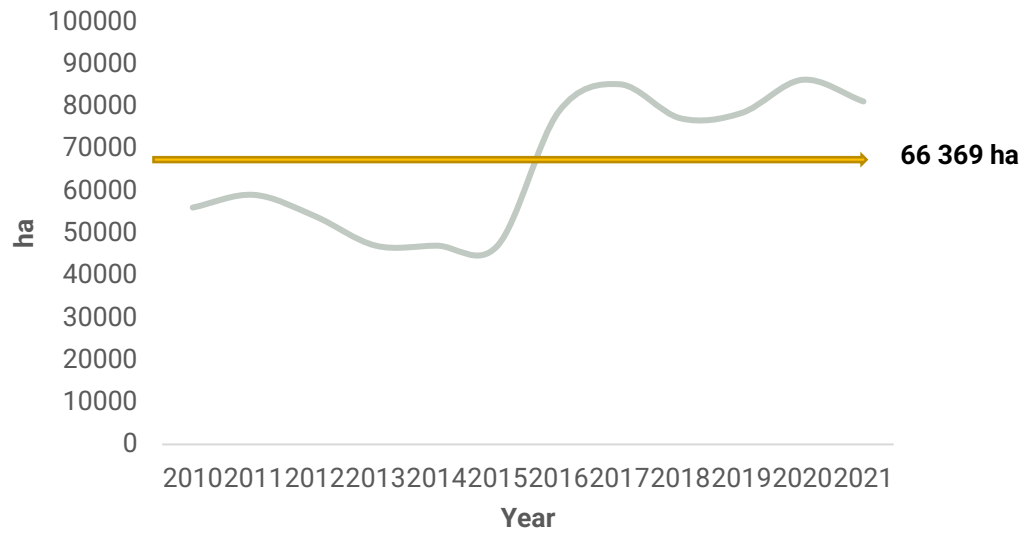
Maize growing area (ha)



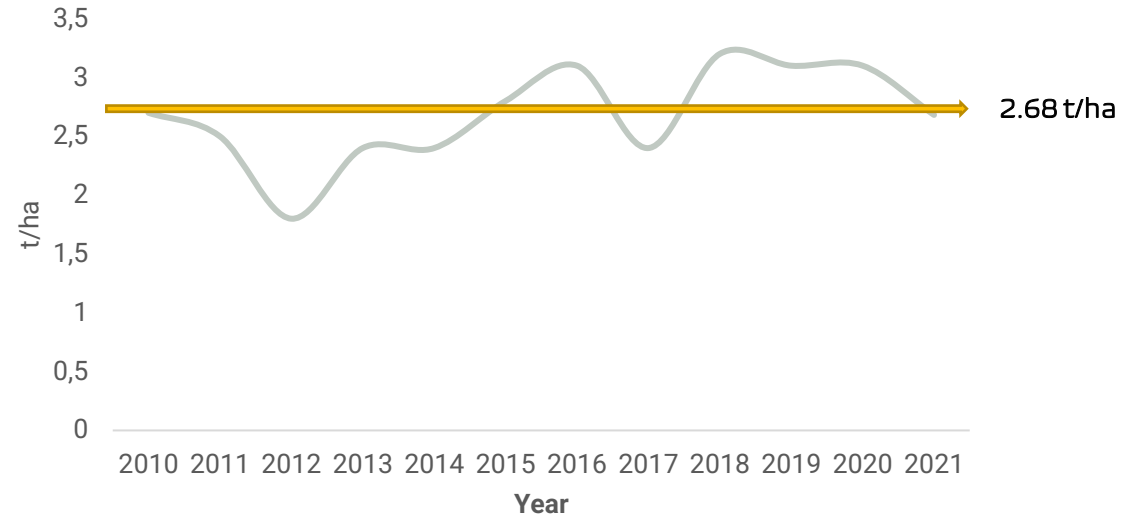
Maize yield (t/ha)



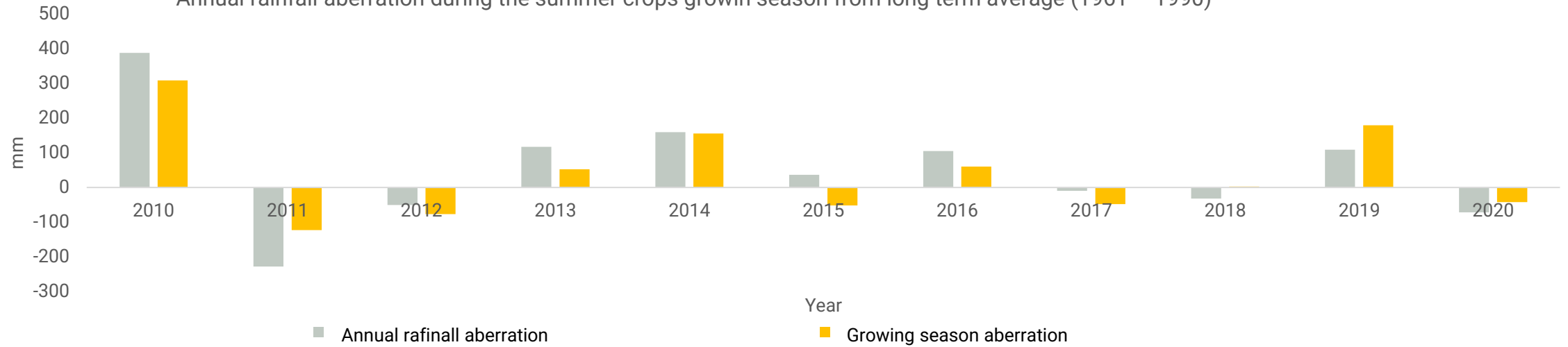
Soybean growing area (ha)



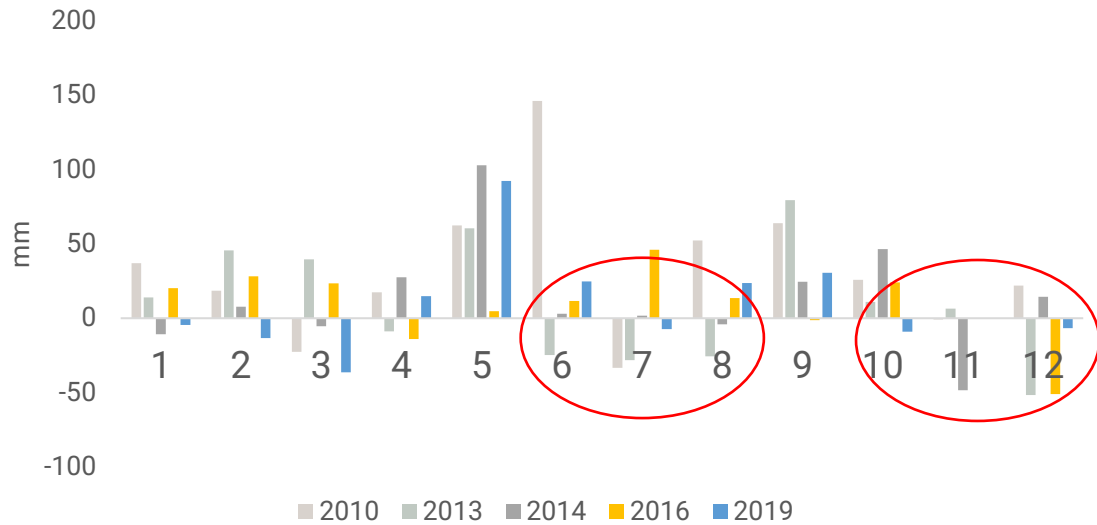
Soybean yield (t/ha)



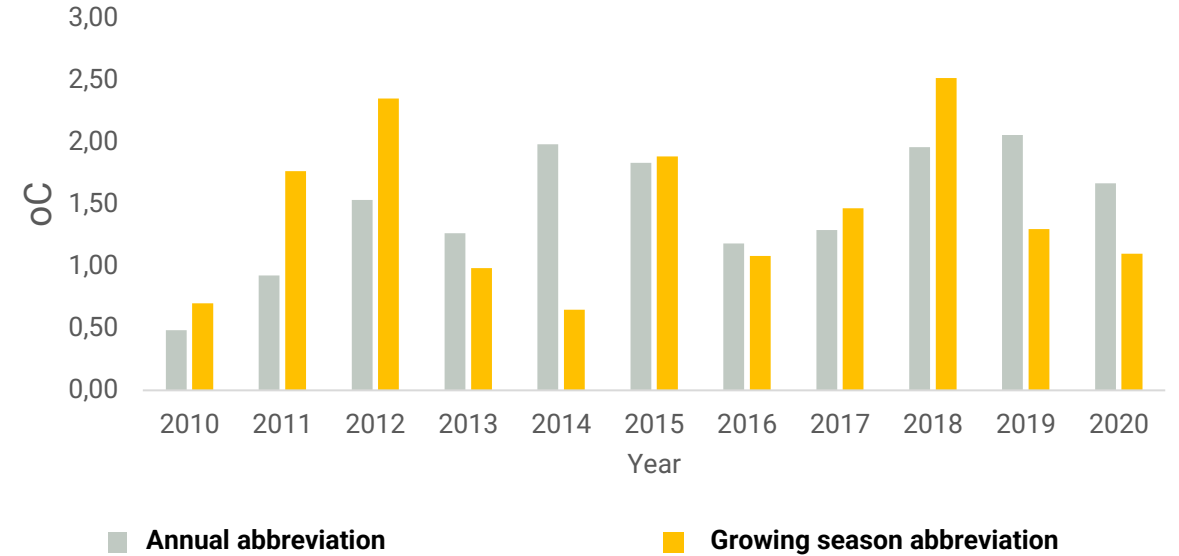
Annual rainfall aberration during the summer crops growin season from long term average (1961 – 1990)



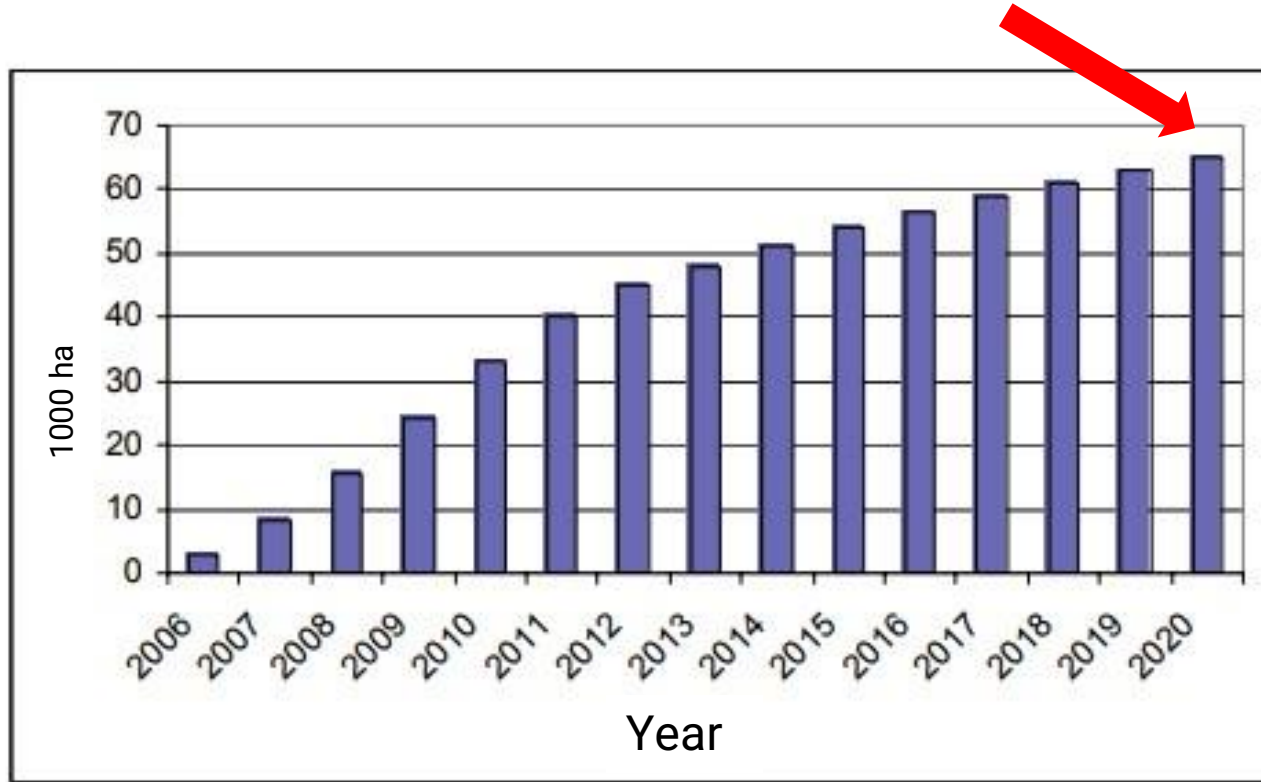
Raifanll aberration during wet growing seasons



Air temperature abbreviation (°C)



# NAPNAV (2005)



2016

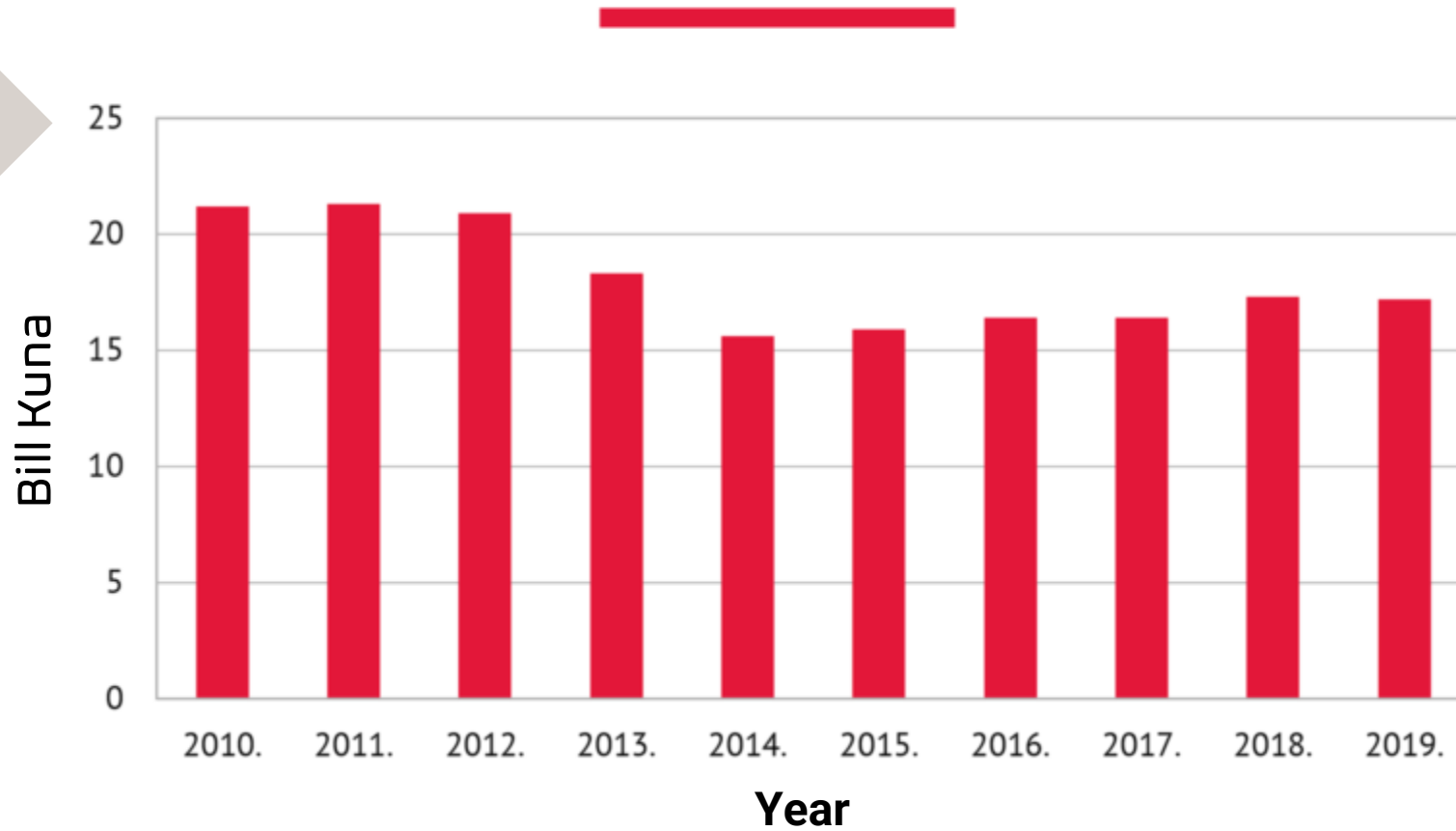
Area equipped for irrigation  
29 670 ha

Area actually irrigated  
16 070 ha

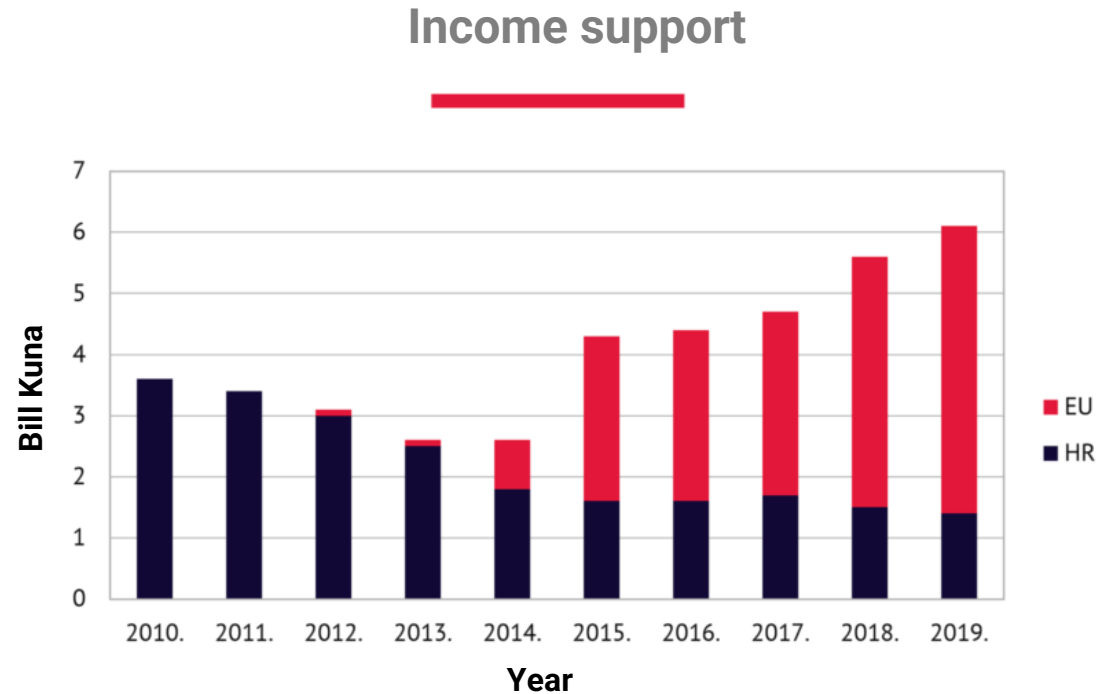
European Commission (2019)

## Income from agricultural production in Republic of Croatia

3.33 bill Euros



**The Rural Development Program** currently funds a total of 18 (out of 20) measures in support of all 6 EU rural development priorities, and all 3 cross-cutting objectives for innovation, environment, and climate change mitigation and adaptation.



The four largest rural development measures in budgetary terms under the RDP are:

- investments in physical assets (28.7%),
- payments in areas facing natural or other specific constraints (13.5%),
- basic services and village renewal (11.2%),
- and farm and business development (11%).

## 03 Organic farming in Republic of Croatia



- In general, growth in alternative **production systems**, such as local, organic or other types of certified production systems, **is expected to continue to be higher than that of conventional ones in EU and CRO**
- Consumption of organic food products **continues to grow** rapidly in the EU.
- In the EU, the retail market for organic food **increased from EUR 10 billion to EUR 27.1 billion between 2004 and 2015**, representing average annual growth above 15%
- Today, the EU is the **second largest market** for organic products in the world after the United States.
- The largest EU markets for organic products in 2015 were **Germany** (EUR 8.6 billion), **France** (EUR 5.5 billion) and the **UK** (EUR 2.6 billion).

## THE ORGANIC FOOD MARKET

### WHO CONSUMES THE MOST ORGANIC FOOD?

Retail sales (€) in 2018



## ORGANIC FARMING IN THE EU-28

(2018)

### ORGANIC AGRICULTURAL LAND\*

**13.4**

million hectares

**7.5%**

of land used for agriculture

Four countries together account for **55.5%** of the EU's total organic area



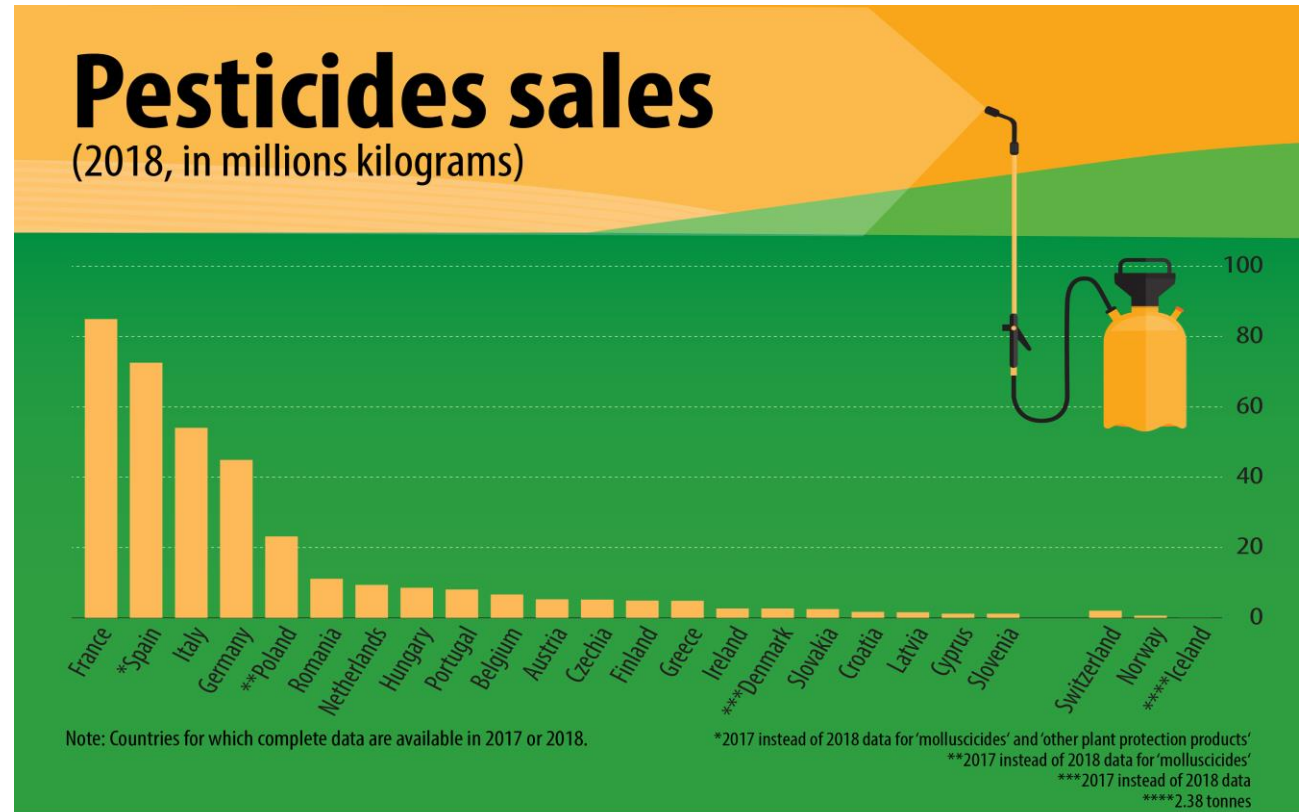
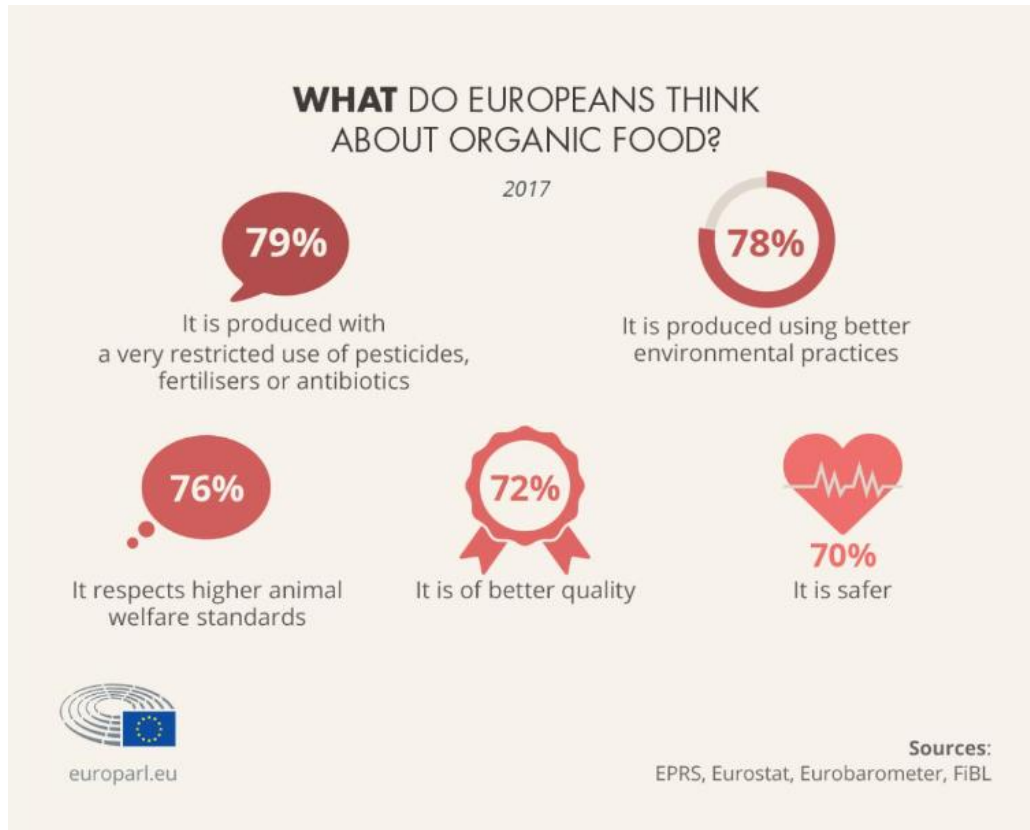
# Organic

- Food
- Drink (juice, tea, milk, wine)
- Cosmetics
- Supplements
- Clothing and footwear
- Furniture



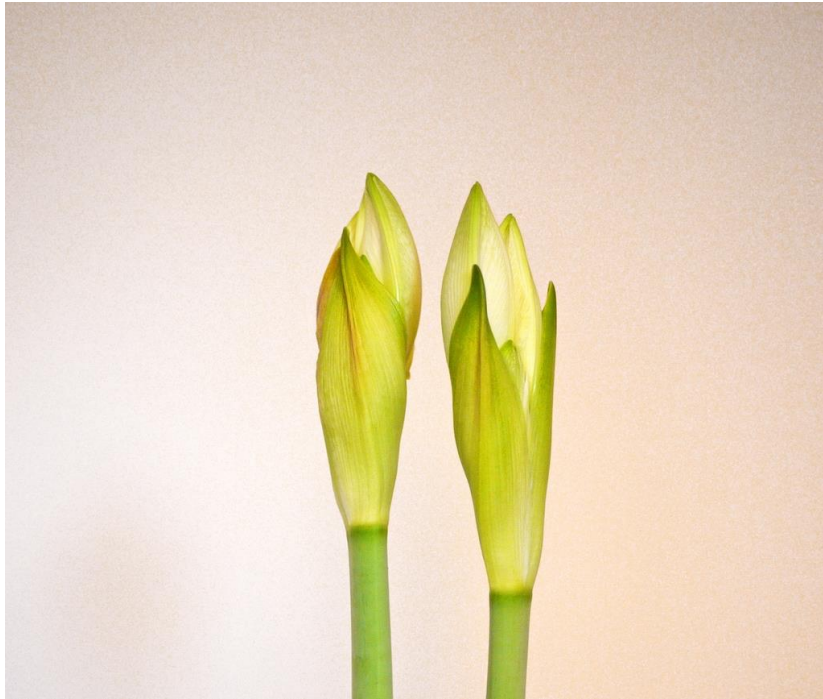
- The rapid rise in consumer demand for organic products in the EU so far **considerably outpaces supply**.
- Croatia is well-positioned to **help bridge the current supply gaps** in key EU export markets for organic products.

**The country's smaller scale farms, low rates of pesticide use, and low labor costs lend themselves well for more labor-intensive organic production systems.**



---

# Croatian Parliament – Ministry of Agriculture



## **Goals:**

In February, the Croatian Parliament adopted the Agricultural Strategy 2030, which aims to:

- increase the value of agricultural output from the present HRK 20 billion to 30 billion annually.
- This target is based on average annual growth of between 4.0% and 4.5%

## **Organic farming:**

- Key role in preserving natural resources
- Sustainable agriculture
- Biodiversity
- Ecosystems.

# WHAT IS ORGANIC FARMING?

Organic production is an overall system of farm management and food production that combines best environment practices, a high level of biodiversity, the preservation of natural resources and the application of high animal welfare standards

## KEY PRINCIPLES



The use of chemical pesticides and synthetic fertilisers is banned



Antibiotics are severely restricted



GMOs are not allowed



Crops are rotated



The EU's organic logo guarantees EU rules on organic farming have been respected



europarl.eu

Sources:

EPRS, European Commission

- Growing in soil (seedlings, flowers, spices)
- Planting material must be grown in organic manner
- Green barrier - sufficient distance from conventional cultivation
- Producers undergo training for at least 6 hours
- Special storage for organic products

---

# How to start organic production?



## Planting/sowing

- New crop
- Transition from conventional farming to organic (transition period, 3 or more years)

## Registered organic farmers

- With the control agency or body (public or private) - responsible for verifying that the operator acts in compliance **with organic rules (EU)**
- Yearly inspections and set of checks

## Organic food certification (logo)

- Producers, processors and traders

---

# Control agency or body



## Public agency

- legal entities that have undergone a long-term rigorous system of authorization (accreditation) by the Ministry of Agriculture
- They must have a contract with a laboratory that conducts analyzes of chemical agents in the soil or in the products
- they must have an official Internet site with published all important information for environmental subjects
- The most important thing that authorization proves is the existence of detailed written procedures and forms for conducting controls, keeping records and recording non-conformities.
- Its supervision is carried out by the agricultural inspection.



- Organic farmers can apply for **other forms** of income support under the **common agricultural policy (CAP)**. These include **direct payments and payments specifically for young farmers**.
- Organic farmers **automatically qualify for greening payments**. Greening payments were designed to encourage farmers to make environmentally sound decisions and the automatic payment for organic farmers reflects the many benefits that organic farming has for the environment.

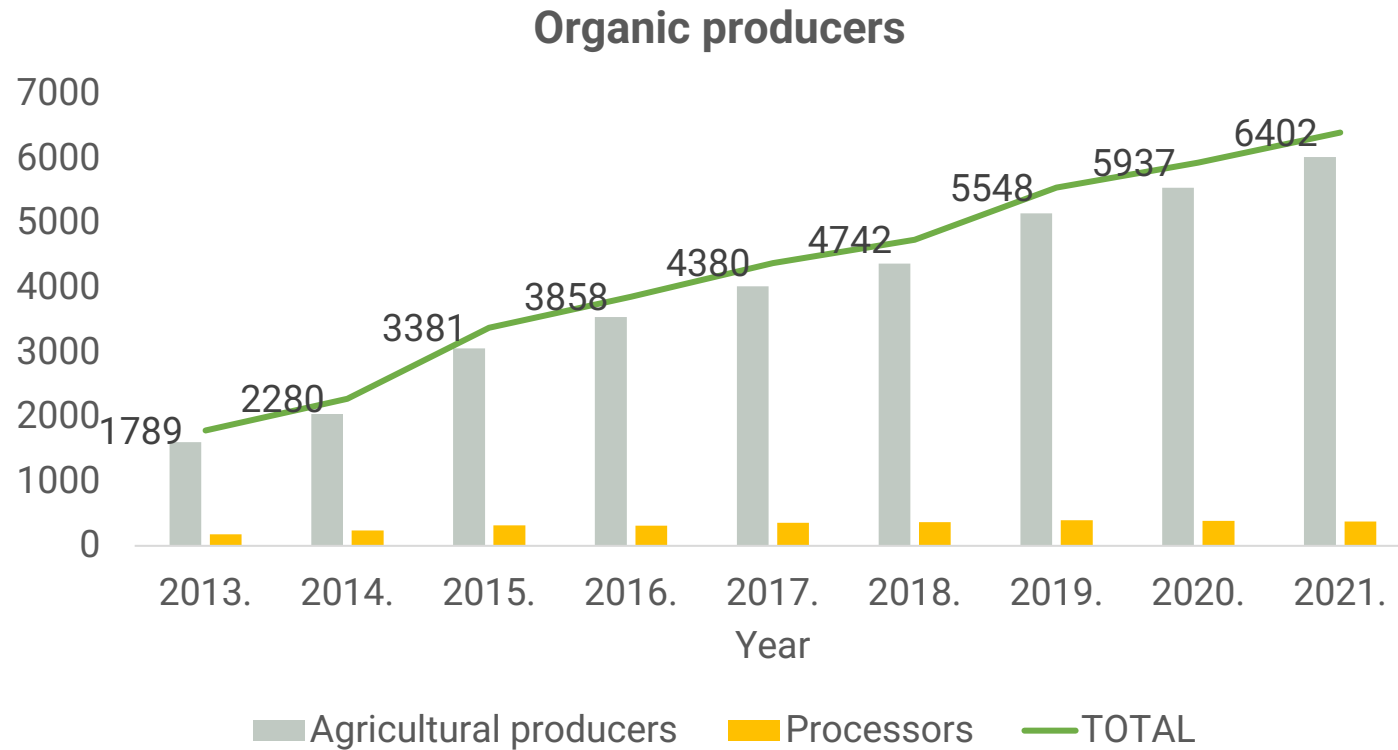


# Rural development program – Support for organic farming (M 11)

	<b>Field crops</b>	<b>Vegetables</b>	<b>Permanent crops</b>			<b>Medows</b>
<b>€/ha</b>			<b>Nuts</b>	<b>Walnuts</b>	<b>Other</b>	
New producers	347.78	576.94	750.74	461.36	868.18	309.94
Existing producers	289.82	480.78	625.62	384.47	723.48	258.28

## The number of organic producers

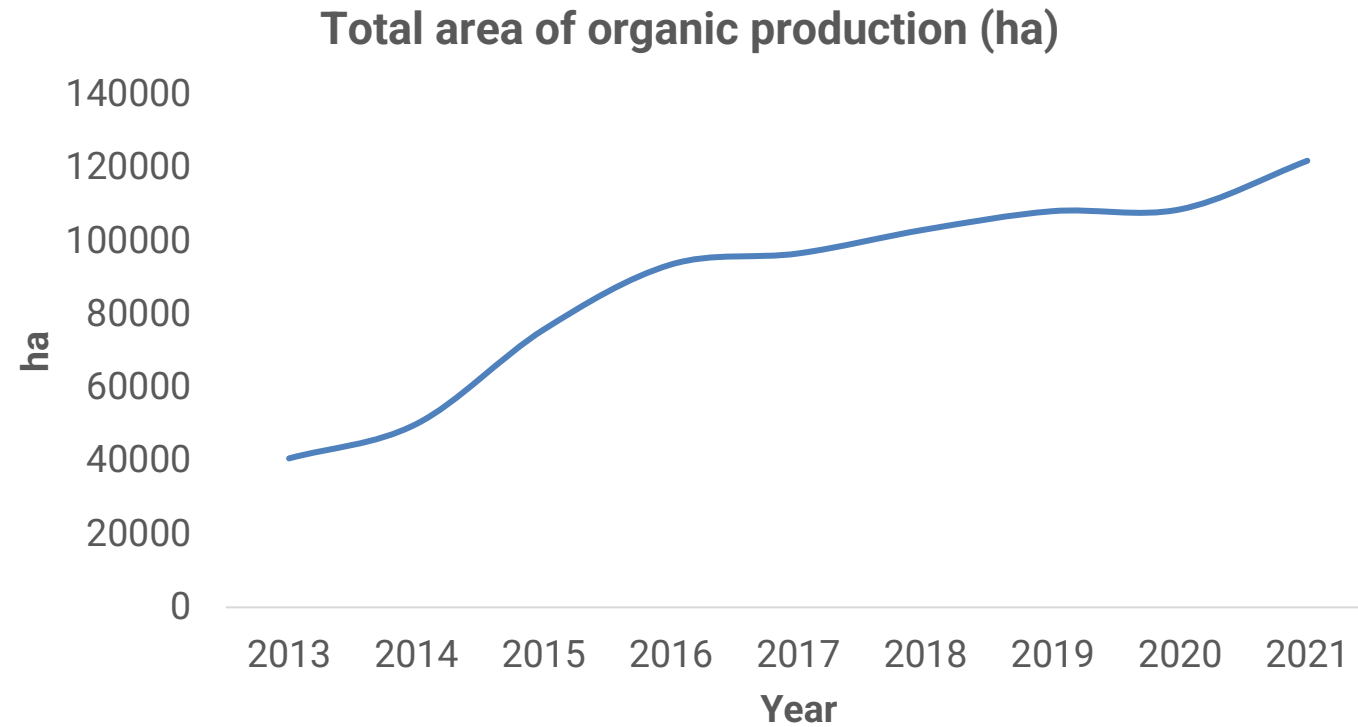
Source: Croatian Bureau of Statistics



## Area (ha) of organic farming by category

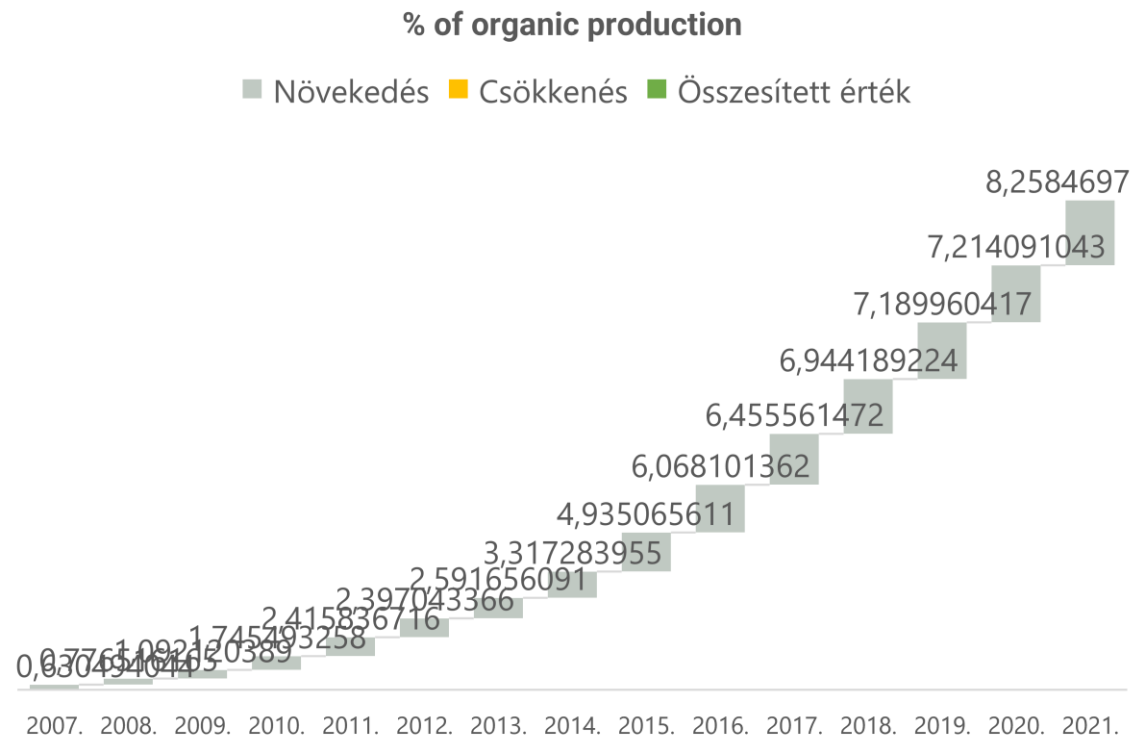
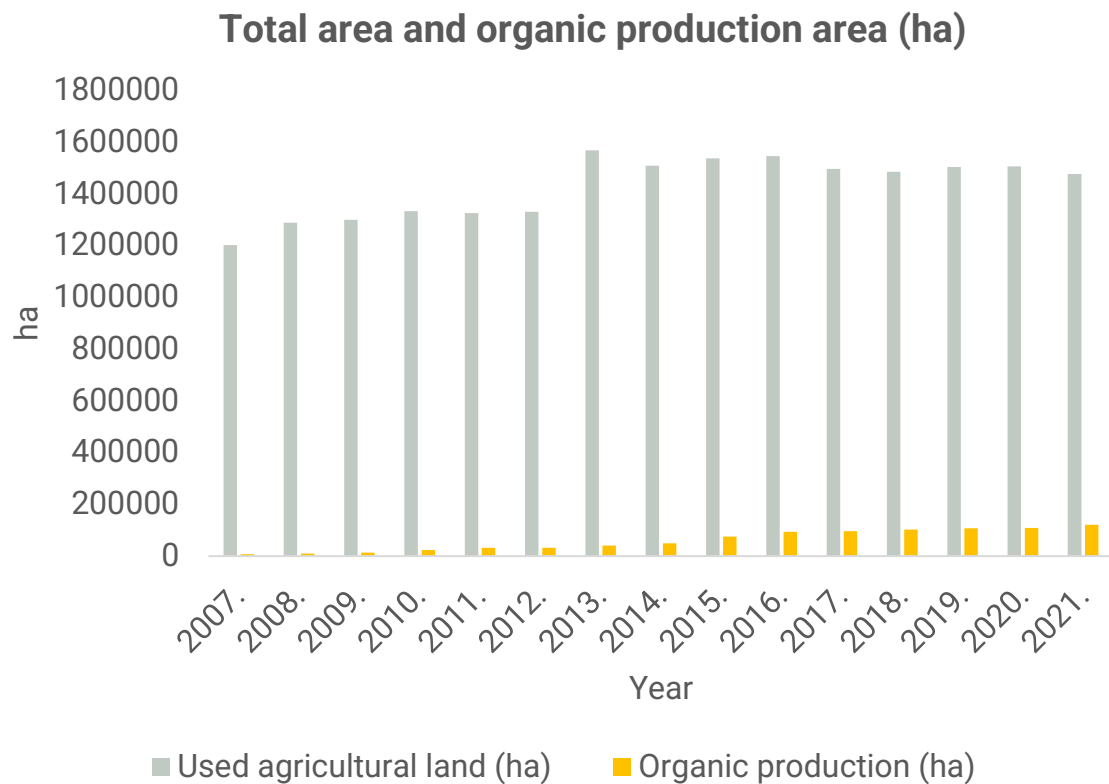
Source: Croatian Bureau of Statistics

Area (ha)	2013	2014	2015	2016	2017	2018	2019	2020	2021
Crop fields and gardens	21013	27459	34281	44147	44083	50281	52587	40203	51270
Medows	14279	16403	33613	39089	40745	39575	40648	28515	53942
Orchards	5368	6192	7924	10358	11790	13310	14934	10513	16712



# Area (ha) of arable land and organic production

Source: Croatian Bureau of Statistics



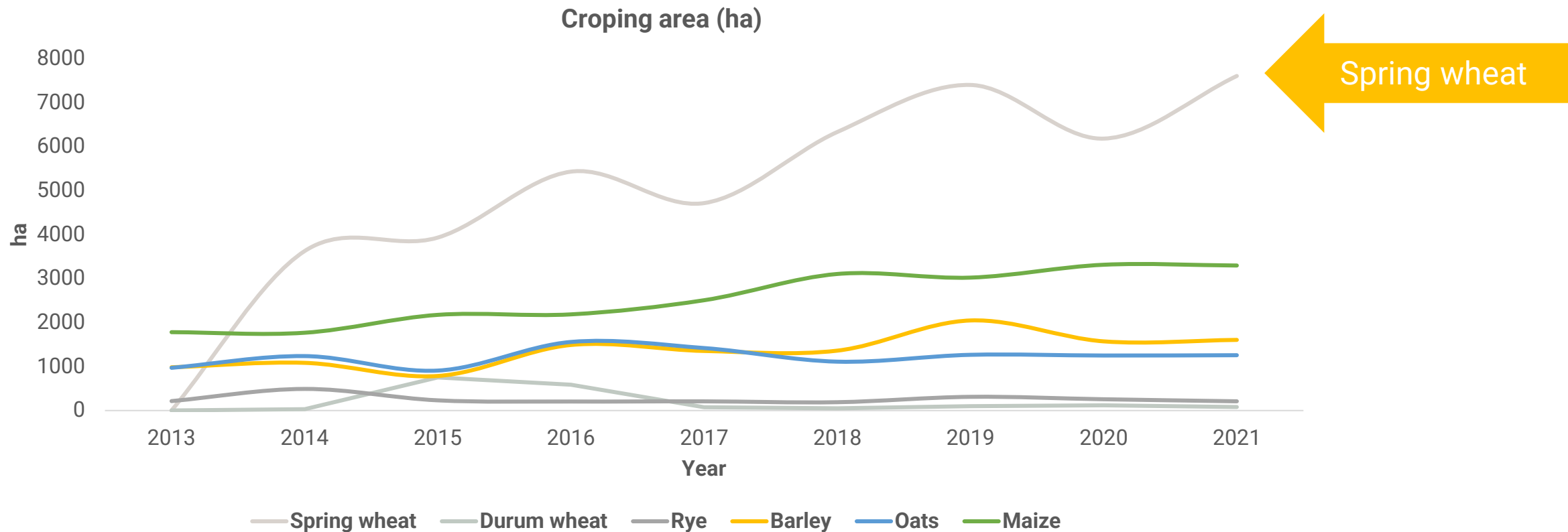
## Average (2007 – 2021):

Used agricultural land: 1427469.5 ha

Organic production: 61196.6 ha

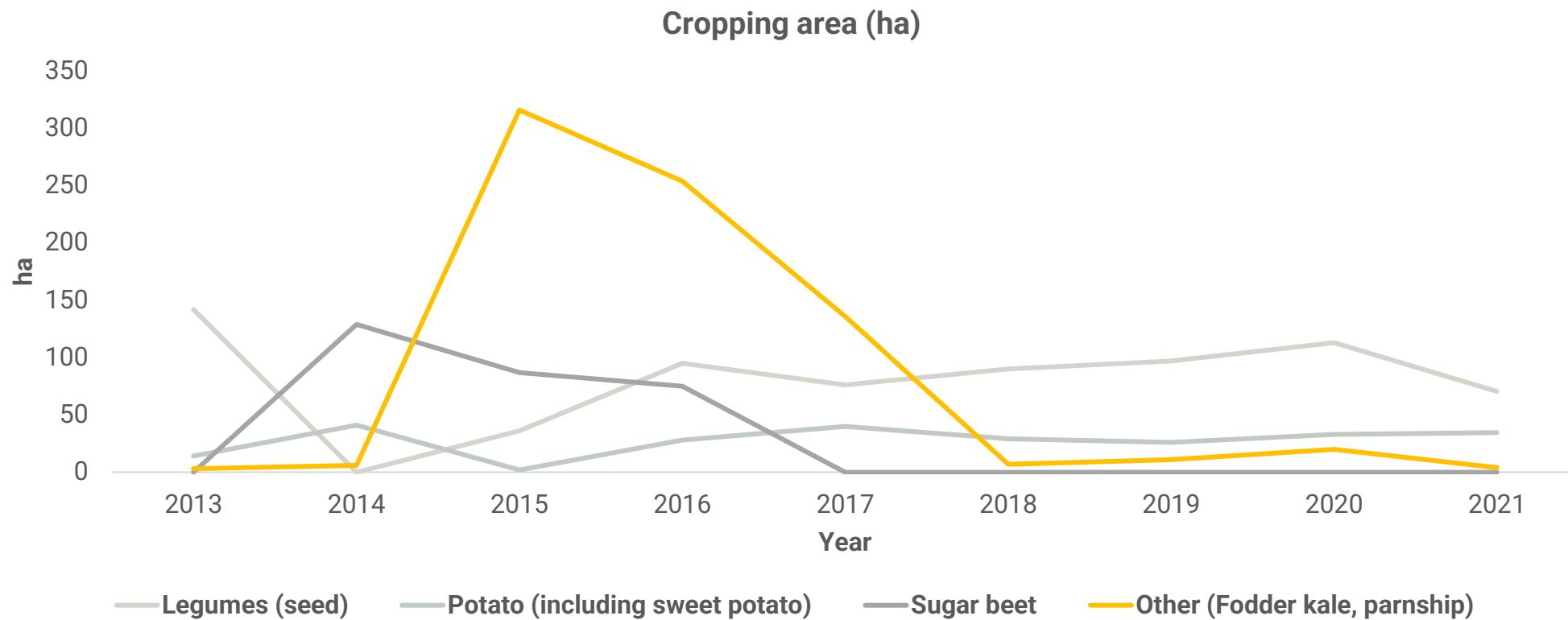
# Cropping area (ha) of the cereals

Source: Croatian Bureau of Statistics



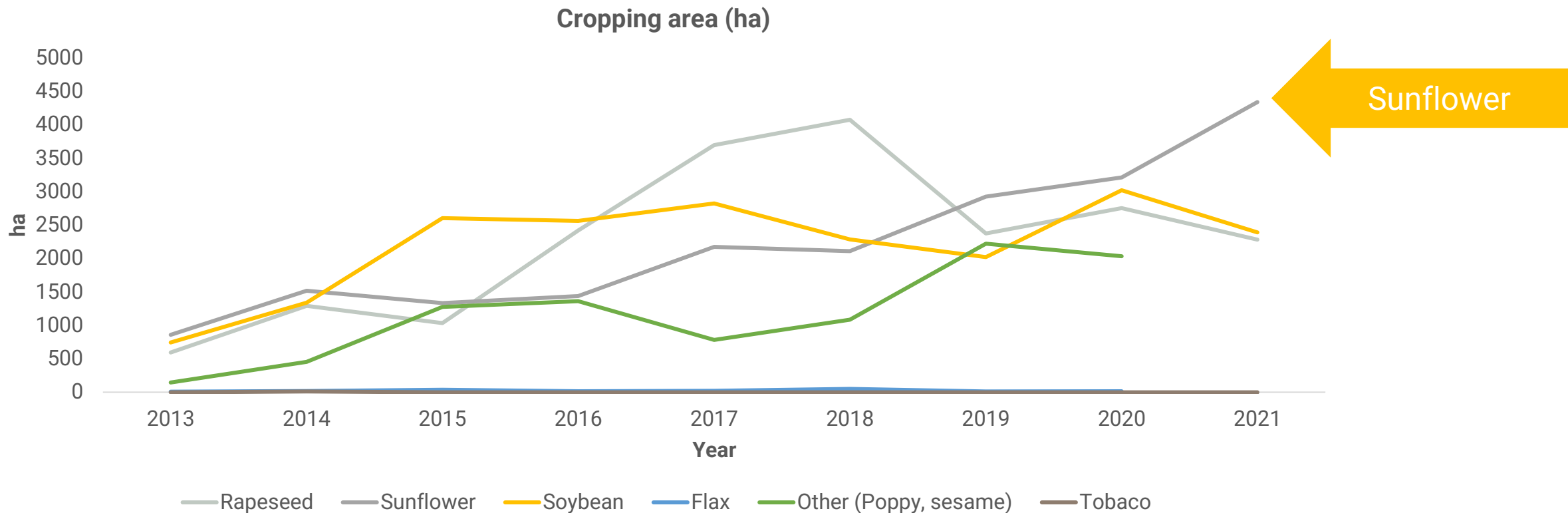
# Cropping area (ha) of the legumes and rooted crops

Source: Croatian Bureau of Statistics



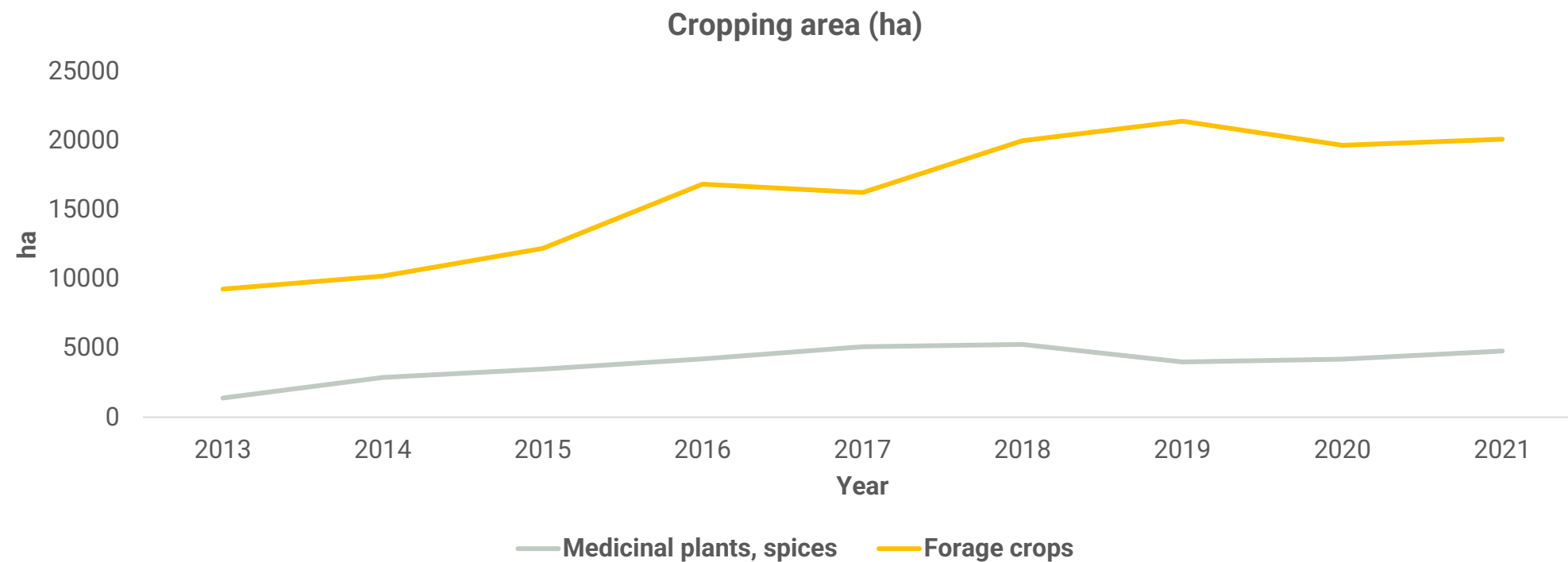
# Cropping area (ha) of the industrial crops

Source: Croatian Bureau of Statistics



## Cropping area (ha) of the forage, medicinal plants and cpices

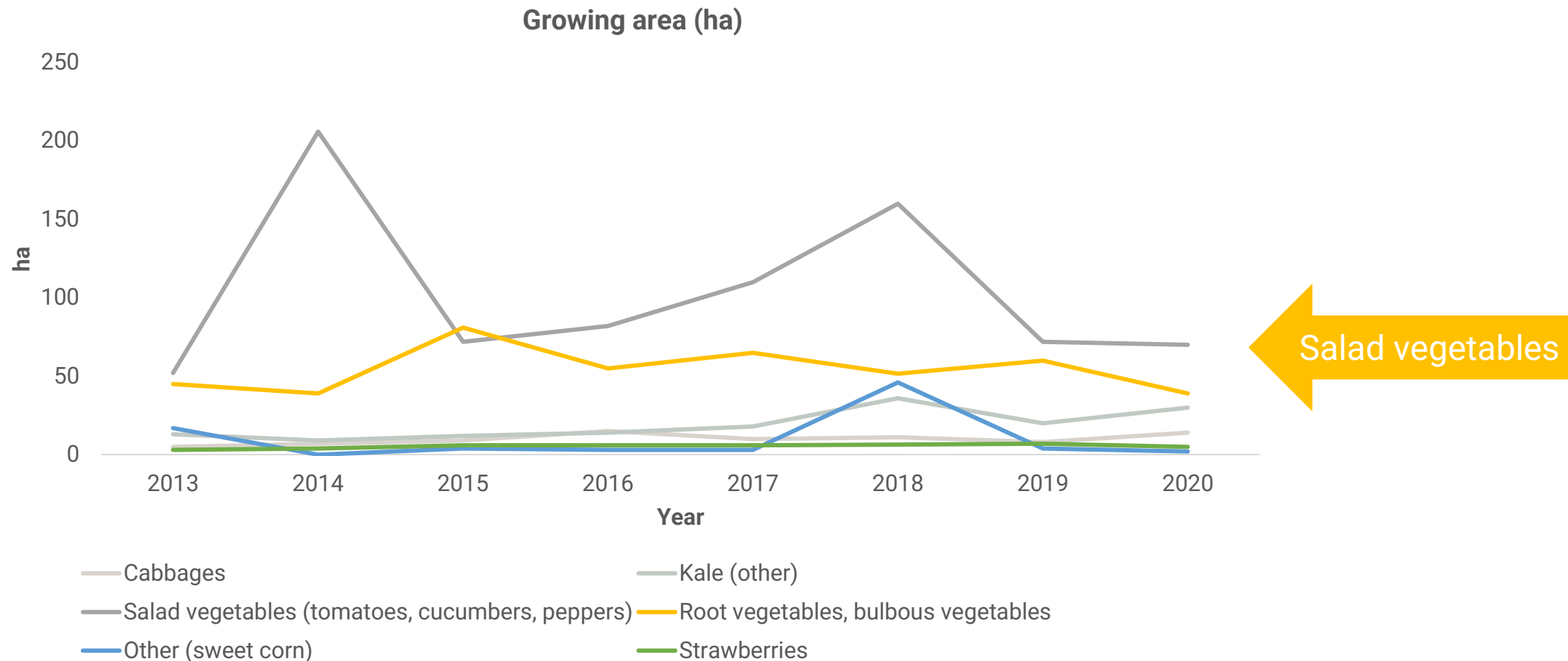
Source: Croatian Bureau of Statistics





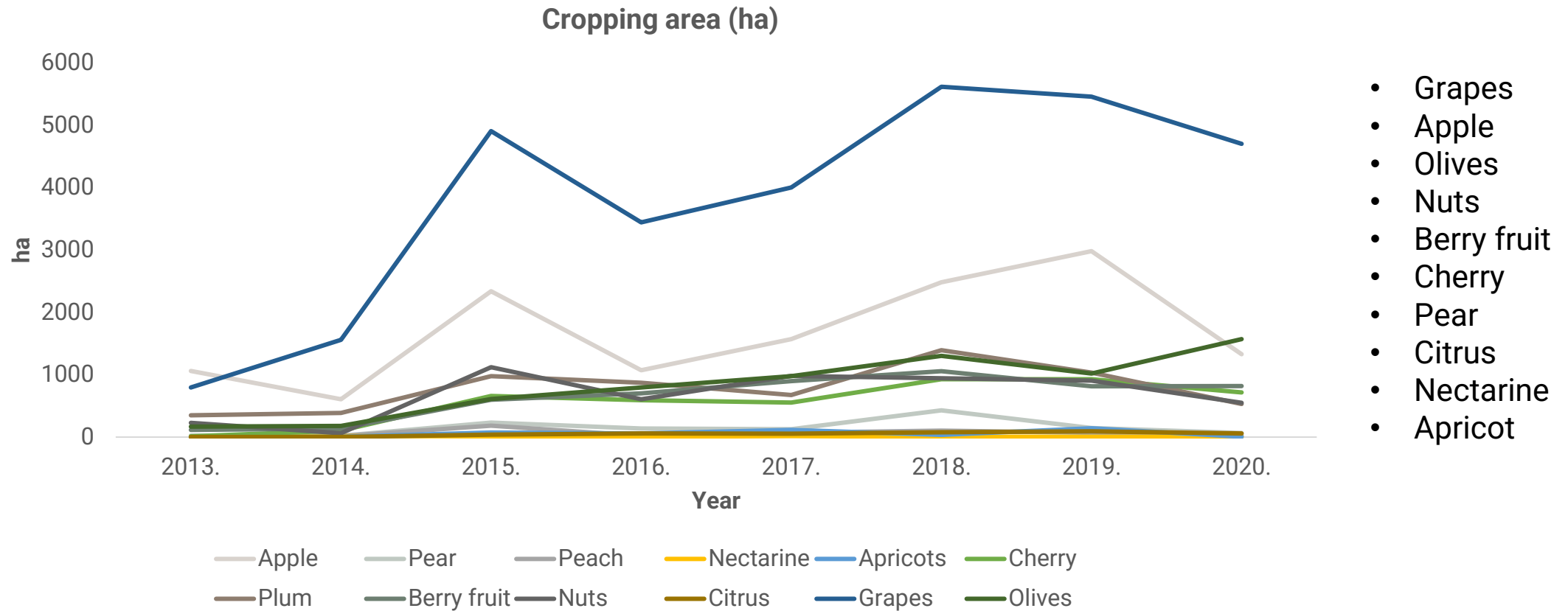
# Cropping area (ha) of the vegetables

Source: Croatian Bureau of Statistics



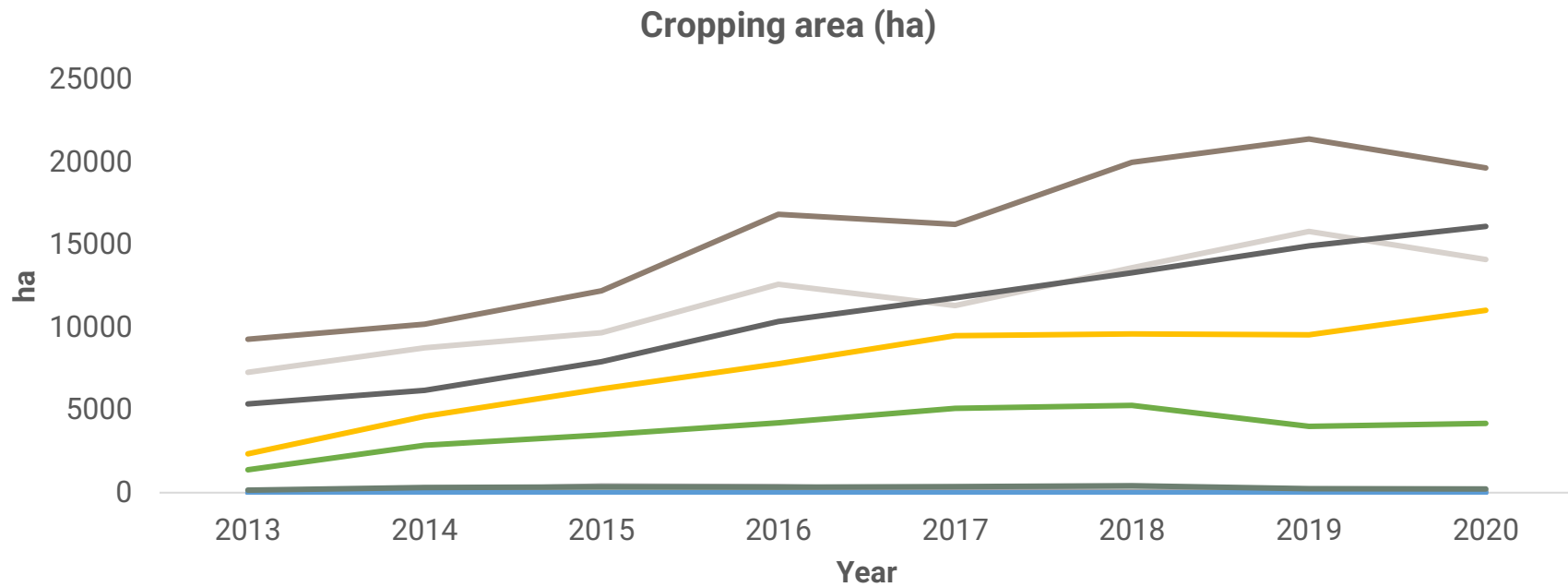
# Cropping area (ha) of permanent crops

Source: Croatian Bureau of Statistics

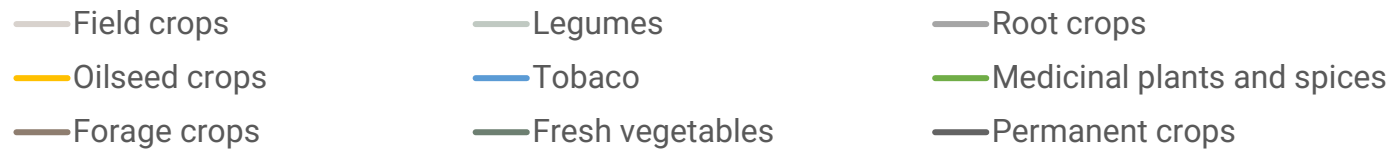


# Cropping area (ha) in total

Source: Croatian Bureau of Statistics



- Forage crops
- Permanent crops
- Field crops
- Oilseeds crops
- Medicinal plants and spices
- Fresh vegetables
- Tobacco



# What about the future organic production?

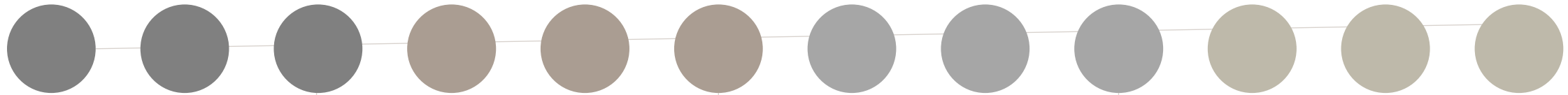
EU aims to increase organic production by 25%

2019

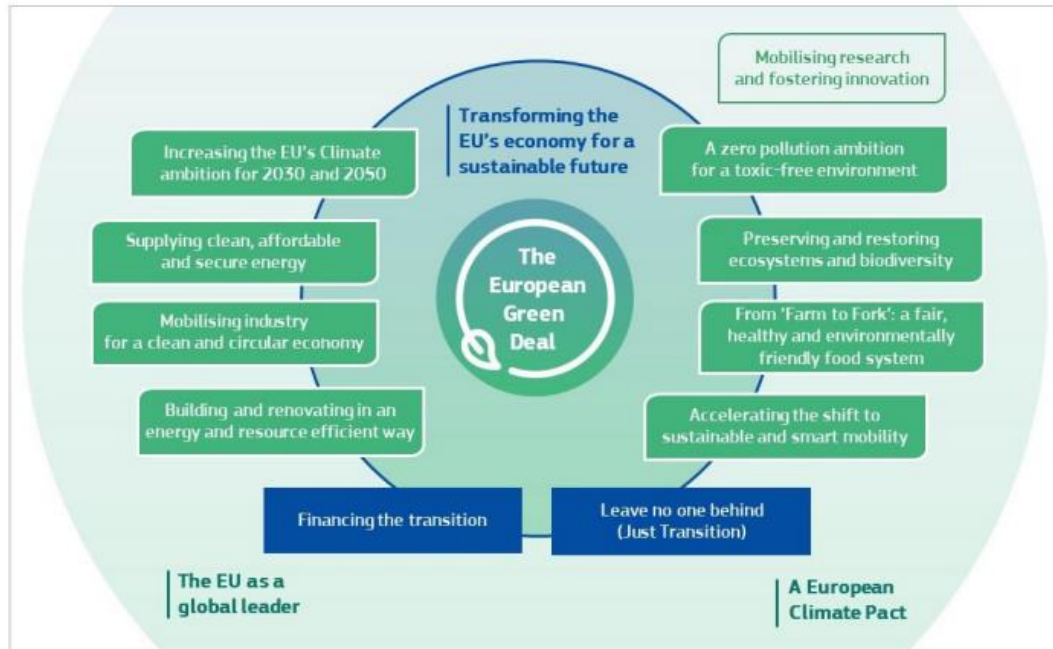
2020

2020/2021

2030 - 2050



European green deal



**Farm to fork**  
aims to make food systems  
fair, healthy and  
environmentally-friendly.

- Measures
- Policies
- Clear vision

**First climate law**  
Climate neutral by 2050

# What are the main problems?

