





# SUMMARY

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# CONTEXT

## HISTORY

The **lemon** is a **citrus fruit** grown from the lemon tree, a thorny evergreen belonging to the Rutaceae family. This tree flourishes in **temperate and tropical** climates, and is grown in **many countries throughout the world**.

The lemon tree, **originally from China or India**, has been growing in Asia for **over 2,500 years**. In the **10th century**, the Arabs brought it to the **Mediterranean basin**: east toward Greece and west toward Spain. Lemons were practically unknown to the Greeks and Romans, and it was not until the **Middle Ages** that they began to be consumed regularly.

Appreciated for its **medicinal virtues**, in the **16th century** it completed its world tour, arriving on the coast of Florida.



## PRODUCTION



Global lemon production has been increasing over the last decade. In 2022, the global lemon production reached **9,700,000 tons<sup>1</sup>**.

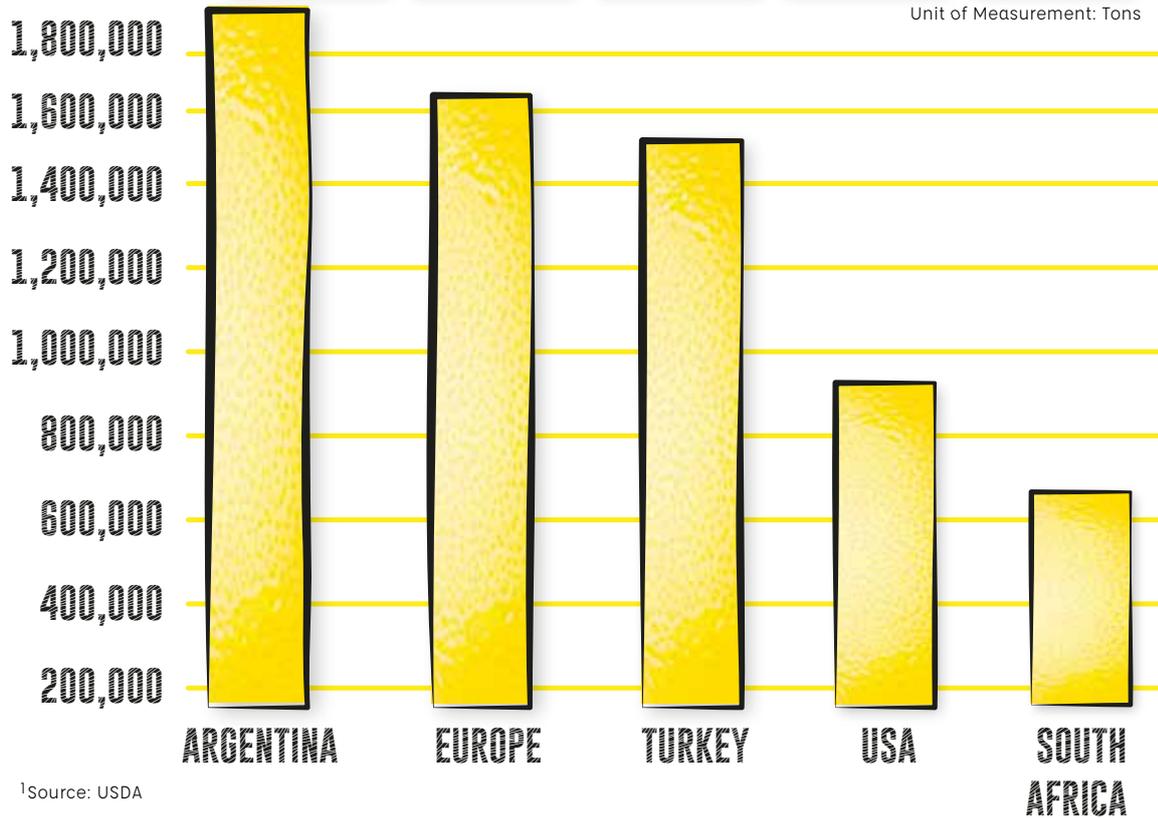
Argentina, Spain, the United States, Turkey, Italy, and South Africa are the **main lemon producing countries**.

Europe is a very important player in lemon production worldwide. In fact, in recent years, average lemon production has exceeded **1,500,000 tons per year**.

<sup>1</sup>Source: World Citrus Organisation (WCO).

# GLOBAL LEMON PRODUCTION

	EUROPE	ARGENTINA	TURKEY	USA	S. AFRICA
FRESH	1,254,000	409,000	1,450,000	609,000	585,000
INDUSTRY	375,000	1,491,000	50,000	329,000	65,000
PRODUCTION	1,629,000	1,900,000	1,500,000	938,000	650,000



<sup>1</sup>Source: USDA

Unit of Measurement: Tons

## LEMONS ARE MAINLY INTENDED FOR FRESH AND INDUSTRIAL USE

Lemons are primarily destined for **fresh** consumption, i.e., for **culinary use**.





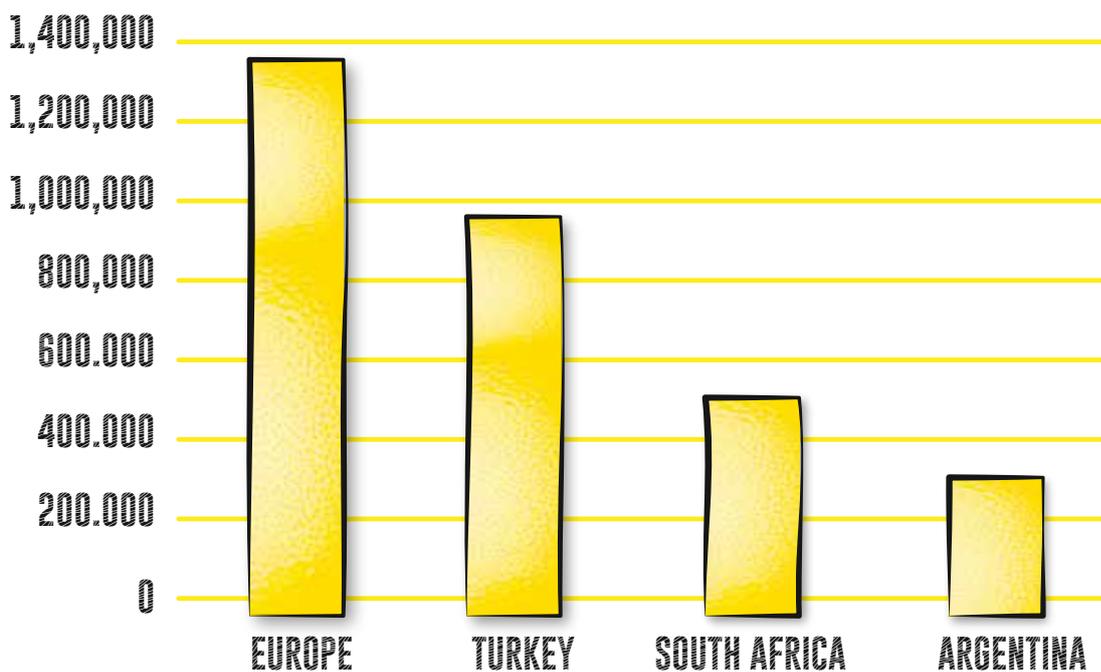
**FRESH  
LEMON**

# GLOBAL SALES OF FRESH LEMON



Fresh lemon  
**3,244,000 t**  
Average world  
production marketed

**1,629,000 tons**  
Europe is at the forefront of fresh  
lemon sales worldwide. Spain is the  
main producer, with 626,000 tons



<sup>1</sup>Source: USDA

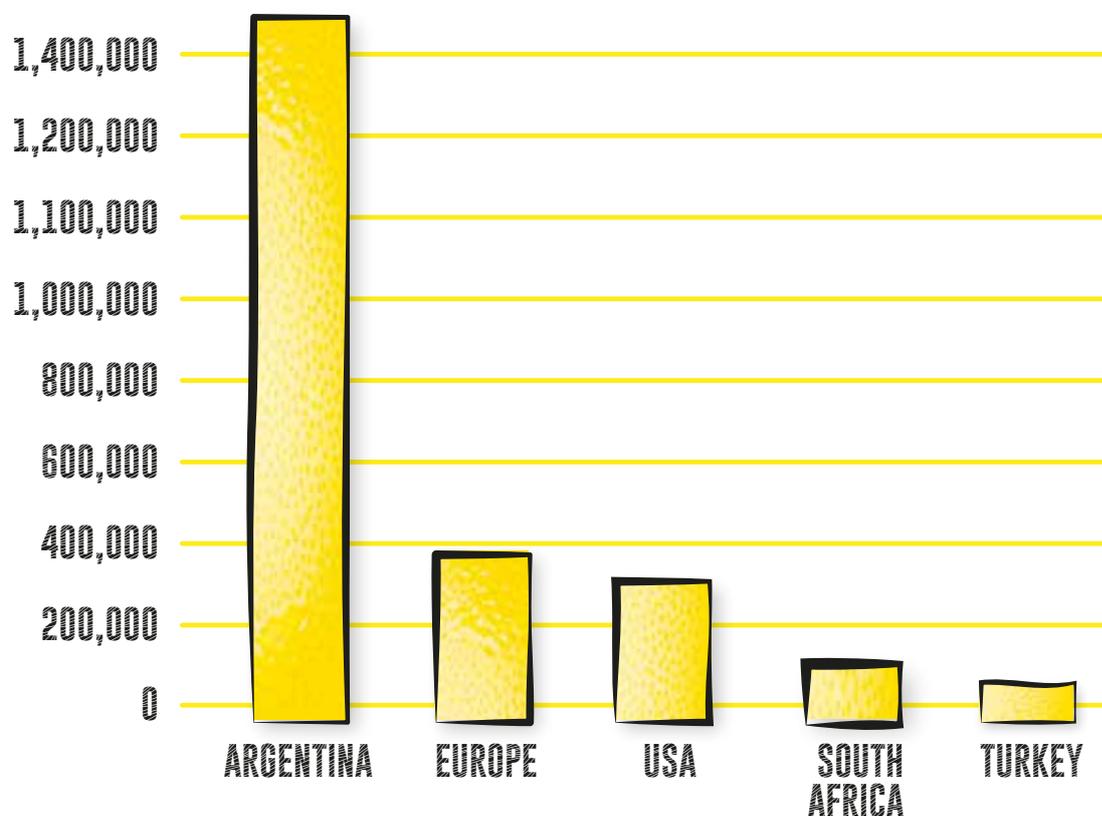
Unit of Measurement: Tons

# PROCESSED LEMON



# GLOBAL PRODUCTION

# OF PROCESSED LEMON



<sup>1</sup>Source: USDA

Unit of Measurement: Tons

In recent years, the industry has increased the use of **processed lemons** for:

- **Natural juices and concentrates**
- **Extraction of essential oils**, pulp, lemon zest, pectin and/or flavonoids
- **Manufacturing feed**, aromatics, household products
- **Obtaining natural citric acid** to produce natural preserves.

European production of processed lemons is **290,000 tons**.



## 255,000 t

Spain is the world's second largest producer of processed lemons

# LEMON CONSUMPTION

LEMONS ARE  
ON TREND

IN THE USA AND CANADA  
EVEN MORE

**6,900,000 t**

The **consumption** of fresh lemon **worldwide in 2022**

**24%**

an **increase** compared to 2018

**2,2 kg**

person/year in the world

**1,478,000 t**

The **consumption** of fresh lemon in the **USA and Canada in 2022**

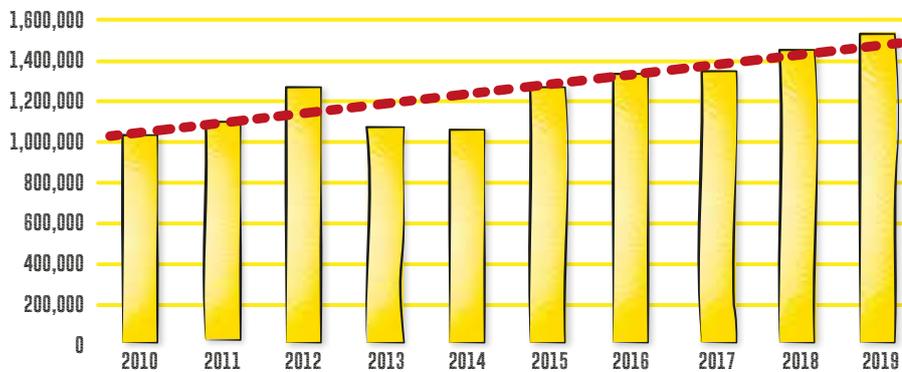
**2.18 kg**

person/year in the **United States**

**1.82 kg**

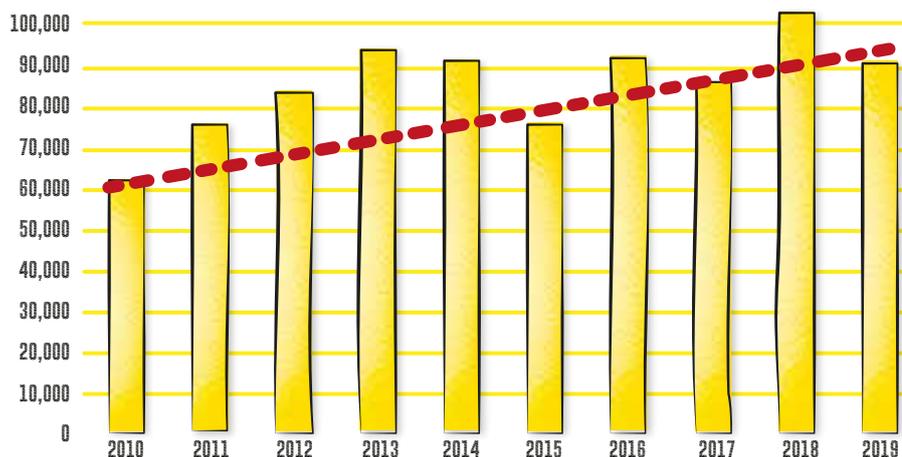
person/year in **Canada**

## CONSUMPTION UNITED STATES



As far as the **United States** is concerned, consumption has **increased by 41%** in the period between 2010 and 2019, reaching an average volume of some **1,546,228 tons**.

## CONSUMPTION CANADA



Lemon consumption in **Canada** was on a clear upswing from 2010 to 2019, **increasing by 42%** with an average of **90,695 tons** per year.

 **LEMON** FROM SPAIN

 CAMPAIGN FINANCED  
WITH AID FROM  
THE EUROPEAN UNION

# CAMPAIGN

**ENJOY  
IT'S FROM  
EUROPE**  


EUROPE PROMOTES A HEALTHY FUTURE

# WELCOME TO THE LEMON AGE

WITH LEMONS FROM SPAIN



## CHALLENGES



Identify the **European and Spanish lemon** with the **Mediterranean diet**



Maintain a **leadership position** for the **European consumer**



Give visibility to the **value of the European production model**, such as freshness, certified quality assurance and sustainability



Position **European lemons** as consumer preference over lemons from **third countries**



Inform the **younger generations**, encouraging **new uses**



## WHAT?

A **fresh, new, young and modern** promotional and informational campaign for the European lemon

## WHERE?

In the **United States and Canada**

## WHEN?

During **2020, 2021 and 2022**

## TO WHOM?

Our target market is **Europeans between 25 and 45 years** old who are **interested in gastronomy**, food, restaurants, and a balanced, healthy diet

## HOW?

With the **#LEMONATTITUDE**



WHAT IS THE

## #LEMONATTITUDE?

IT'S AN ATTITUDE

that **brings out the best in Europe**

IT'S AN OUTLOOK

healthy, attractive, youthful, energetic, zesty, a **European lifestyle**

IT'S ABOUT BEING NATURAL

and upholding tradition while looking towards **the future.**

THE LEMON ATTITUDE

isn't just one attitude, it's many. It's **multicultural.**

IT'S ABOUT HARNESSING

the properties of lemon to make our **lives shine bright.**

IT'S BEING UP-TO-DATE

and **embracing a trend**, but not just any trend: a healthy trend.

IT'S ABOUT FLEXING OUR MUSCLES,

feeling proud of and satisfied with **our products and production.**

IT'S ABOUT "SQUEEZING"

the most out of the day instead of waiting for things to happen.

IT'S ABOUT BEING ACTIVE

IT'S ABOUT ENJOYING EUROPE

and flipping the switch from **"lemoff"** to **"lemON!"**



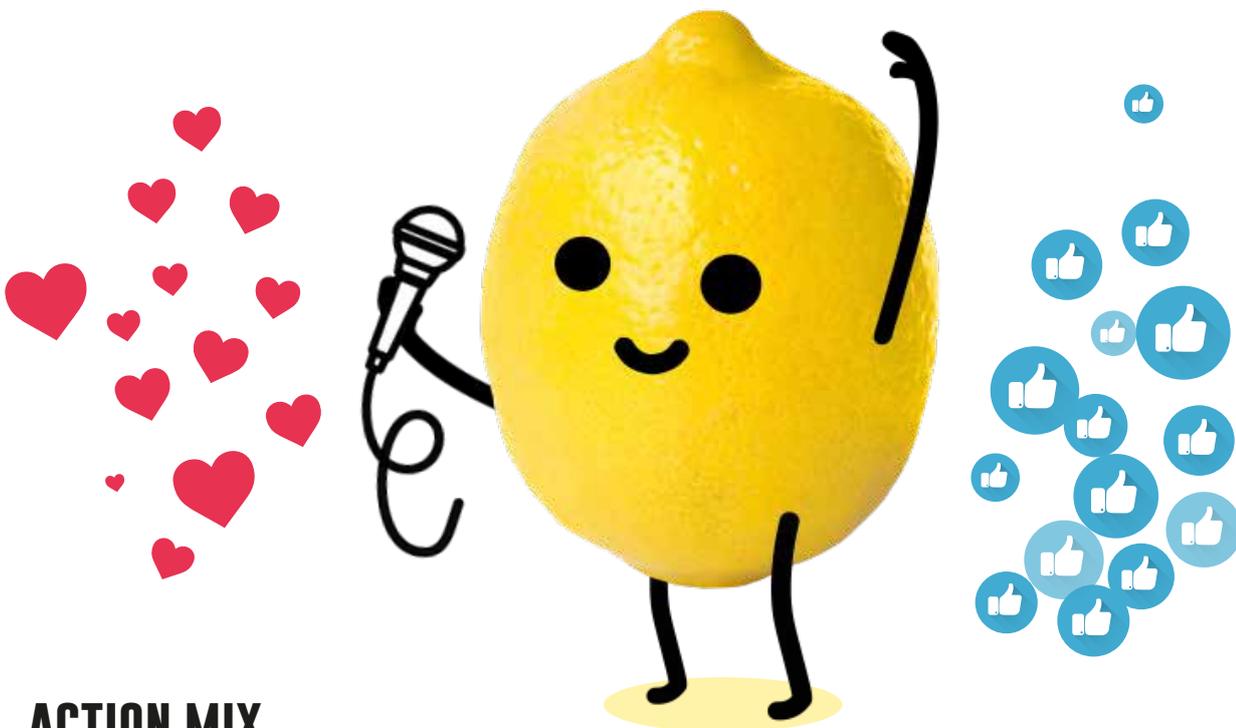
# PREPARE THE LIKES BECAUSE

# THE LEMONENCER

# HAS ARRIVED



A new age has arrived: the Lemon Age, brought to you by the **LEMONENCER**, the world's first lemon influencer.



## ACTION MIX

### DIGITAL

**LEMONENCER** will connect with the youngest audience in an innovative and creative way through **social media** and the **campaign website**

### ADVERTISING

We will amplify the campaign through **special actions** on various platforms creating special actions to achieve international coverage





# HEALTHY

Lemon is a source of



# Vitamin C

It is part of the **Mediterranean Diet**,  
the **healthiest diet in the world**  
according to the **World Health**  
**Organization (WHO)**.

## NUTRITIONAL COMPOSITION

	PER 100 g OF EDIBLE SERVING	AVERAGE UNIT 110 g
ENERGY (Kcal)	44	31
PROTEIN (g)	0.7	0.5
TOTAL FATS (g)	0.4	
CARBOHYDRATES (g)	9	6.3
FIBER (g)	1	0.7
WATER (g)	88.9	62.6
CALCIUM (mg)	12	8.4
IRON (mg)	0.4	0.3
IODINE (ug)	3	2.1
MAGNESIUM (mg)	18	12.7
ZINC (mg)	0.12	0.1
SODIUM (mg)	3	2.1
POTASSIUM (mg)	149	104.9
PHOSPHORUS (mg)	16	11.3
SELENIUM (ug)	1	0.7
THIAMINE (mg)	0.05	0.04
RIBOFLAVIN (mg)	0.03	0.02
NIACIN EQUIVALENTS (mg)	0.17	0.12
VITAMIN B6 (mg)	0.11	0.08
FOLIC ACID (ug)	7	4.9
VITAMIN C (mg)	50	35.2
VITAMIN A: Eq Retinol (ug)	2.3	1.6
VITAMIN E (mg)	0.5	0.4

# NUTRITIONAL PROPERTIES OF THE LEMON

The lemon is a product: fat-free, no saturated fat, very low in sodium, cholesterol-free, low in calories and high in **vitamin C**. Therefore, it is considered a healthy food

# HEALTHY PROPERTIES OF THE LEMON

The lemon has a high levels of **Vitamin C**, which:

supports **immune system** function

supports **nervous system** function

protects cells against **oxidative damage**

helps regulate **psychological function**

helps **regulate energy metabolism**

contributes to the normal **formation of collagen** for the normal functioning of **blood vessels • bones • cartilage • gums • skin • teeth**

helps **decrease fatigue and tiredness**

helps **regenerate the reduced form of vitamin E**

improves the **absorption of iron**



# SUSTAINABLE

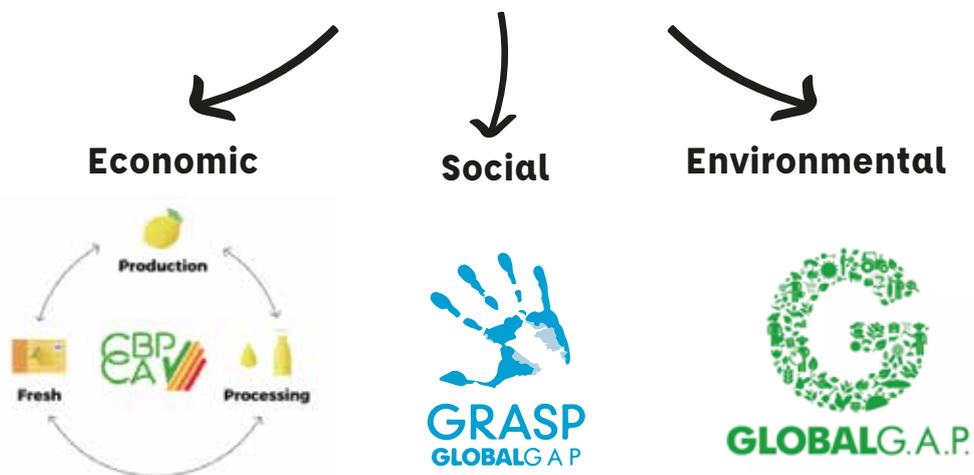
The European lemon is the **most sustainable lemon in the world**

Sustainability is the new paradigm, the word that is on the tip of everyone's tongue, **especially among consumers who are passionate** about sustainability and won't accept anything less.

Europe is the most sustainable lemon **producer in the world thanks to a model based on three key pillars:**

## LEMONS IN SPAIN

### Sustainability



In addition, the European lemon produced in Spain has a **Handbook on Corporate Social Responsibility**

# ECONOMIC SUSTAINABILITY

The social and economic responsibility of the European lemon sector is oriented towards the **creation and distribution of added value among employees and shareholders**, taking into account market conditions, **equity and justice**. This therefore leads to the production and distribution of useful and profitable goods and services for the community of which it is a part.

For this reason, all lemon purchases must be formalized through the **approved Standard Contract** that is in accordance with the demanding conditions set by Law 12/2013 of the Spanish Food Supply Chain and summarized in the Code of Good Business Practices in Food Contracting (CBPCA) issued by **Spain's Ministry of Agriculture, Fisheries and Food**.



CÓDIGO DE BUENAS PRÁCTICAS  
EN LA CONTRATACIÓN ALIMENTARIA

# ENVIRONMENTAL SUSTAINABILITY

The European lemon sector works to improve the environment with an eco-efficient and prevention approach that maximizes input and natural resources.



→ It has a "**Manual of Active Matters and Recommendations in Treatments for Lemon**" that is even more restrictive than the European regulations. Its main aims are to:

Inform the sector of the legal situation and adjust the product offer to the legal requirements of the different markets.

→ Recommend the most effective treatments that rationalize the work both in the field and in the preparation warehouses.

**119,094 acres (ac.)**  
**13,000,000 lemon trees**

→ **Positive net balance of CO<sub>2</sub>** → 311,250 tons of sequestered CO<sub>2</sub> → Ally against climate change, with a positive net balance of 311,250 tons of CO<sub>2</sub>. In other words, each kilo of lemon produced helps to trap 300 grams of CO<sub>2</sub>.

→ **Efficient water use** → 232.4 hm<sup>3</sup>/year

→ **Organic production:** 10,300 acres and an estimated production of 210,600 tons

Sustainability also requires **protecting and restoring the environment**, promoting the corresponding principles and values along the value chain in which the sector participates and minimizing environmental damage caused during the production processes.

→ The European lemon sector is proud to collaborate with the **ANSE Foundation** in a project related to the impact and coexistence of lemon plantations with the long-fingered bat, a species in danger of extinction.

→ Environmental sustainability of the European lemon sector is guaranteed by the GLOBAL G.A.P. Certification.

# SOCIAL SUSTAINABILITY

The responsibility for social sustainability of the European lemon sector is related to key aspects of **human resources management, health and safety at work**, training and performance of workers, quality management and other elements such as adaptation to change and the environment.

It also implies the shared and **subsidiary responsibility of investors, managers, collaborators and suppliers** to monitor and promote quality of life at work and the comprehensive development of all members of the sector.

The European lemon sector in Spain generates:



**22,670 jobs**  
**+50% positions held by women**

Growing: **4,000** jobs

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Harvesting: **8,400** jobs

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Handling: **9,000** jobs

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Industry and Other: **1,200** jobs

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Spain data. Ailimpo Source

In addition, there has been quite a significant generational change during the last few years, **the average age among managers of the cooperatives, producing companies, exporters and industry is under 45.**

Social sustainability is endorsed by **GRASP Certification.**





**QUALITY**

**THE EUROPEAN LEMON,  
THE HIGHEST QUALITY IN THE WORLD**

**The European lemon** differs from its competitors because it is part of the European production model, which has **the highest quality and food safety standards in the world**. A very demanding system of traceability **from the field to the table**, which guarantees that **the European lemon is a healthy, safe, top-quality food produced with low environmental impact**.

The quality of **the European lemon Fino and Verna** produced in Spain is guaranteed by several quality **seals**.



**ENJOY  
IT'S FROM  
EUROPE**





# SOURCED IN EUROPE

European producers are the locomotive in lemon production worldwide.

During 2022 they cultivated 1,620,000 tons, according to data from the World Citrus Organisation.

**The European lemon** is available **12 months a year**.

Lemon trees are **more sensitive to low temperatures than other citrus fruits**. The most important areas of production and distribution correspond mainly to semi-arid and arid subtropical regions with **minimum temperatures** above  $-4^{\circ}\text{C}$ . In other words, lemon trees are perfectly adapted to the **Mediterranean climate**.

Therefore, the **Mediterranean basin** is perfect for growing lemons. The **east and south of Spain** is one of the top global areas of production.

Spain, with an average production of around **1,000,000 tons**, accounts for **more than 60% of European production**. During the 2020-21 season, Spain hit its **historical record** for lemon production, with 1,400,000 tons.

You can't talk about European lemons without talking about Spain. This country is the biggest producer of fresh lemon in Europe. Its production during the 2021/2022 campaign was: 1,017,000 tons.

## Increase in organic production

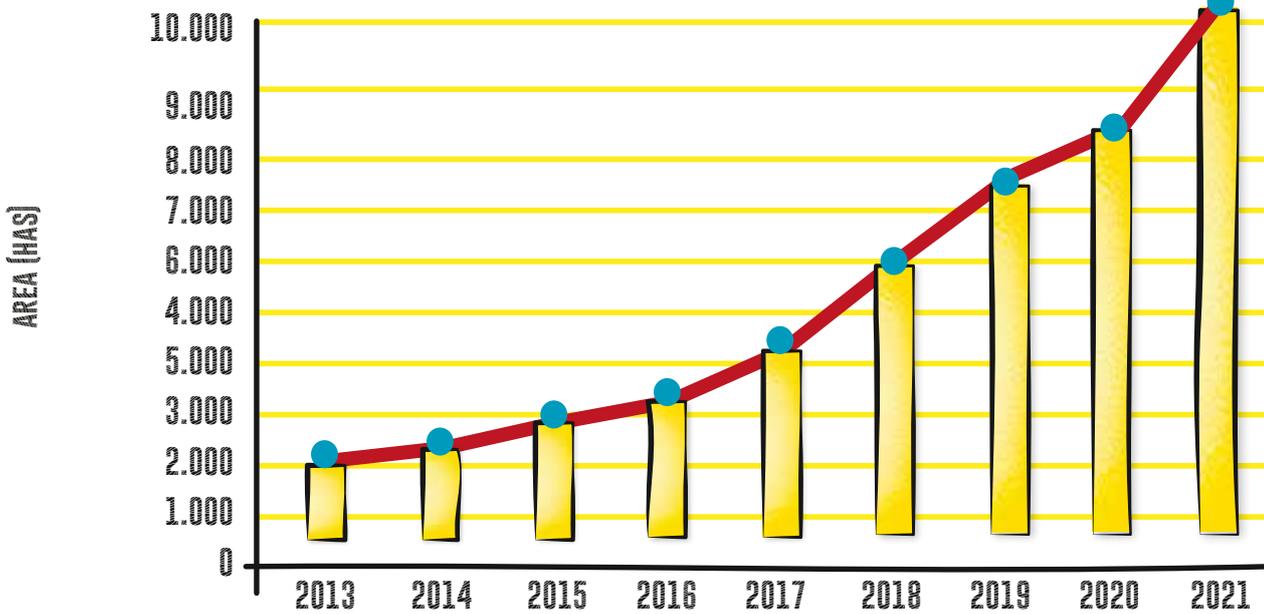
The European lemon is a global point of reference in the organic sector. In recent years it has experienced **an increase in production of 148%** (between 2012 and 2018). Spain is the main producer of organic lemons in Europe with 210,600 tons (2021).

\*Source: MAPA

**10,300 ac.**  
of organic lemon production area

**210,600 t**  
of organic lemon,  
produced in 2021

### EVOLUTION OF TOTAL ORGANIC LEMON AREA IN SPAIN (AC.)



Spain data. Source: MAPA

### IN SUMMARY

The **European lemon** is a global leader in both **fresh and processed lemons**. You don't have to look any further than the data to prove it:



**Europe's #1 organic producer** and one of the world's leading producers

**#1 globally in fresh lemon sales**

**#1 European producer**

**#2 global producer of fresh lemons**

**#2 global producer of processed lemons**

**688 million euros** in business value from Spain's lemon sector in 2010-2017

# PARTS OF THE LEMON

## FLAVEDO

is what is usually known as the **peel**. Its color ranges from green to bright yellow depending on its **ripeness**. It contains numerous **essential oil** glands that are responsible for its aroma. These glands, rich in terpenes, form an **effective barrier against attacks by insects and microorganisms**.

## ALBEDO

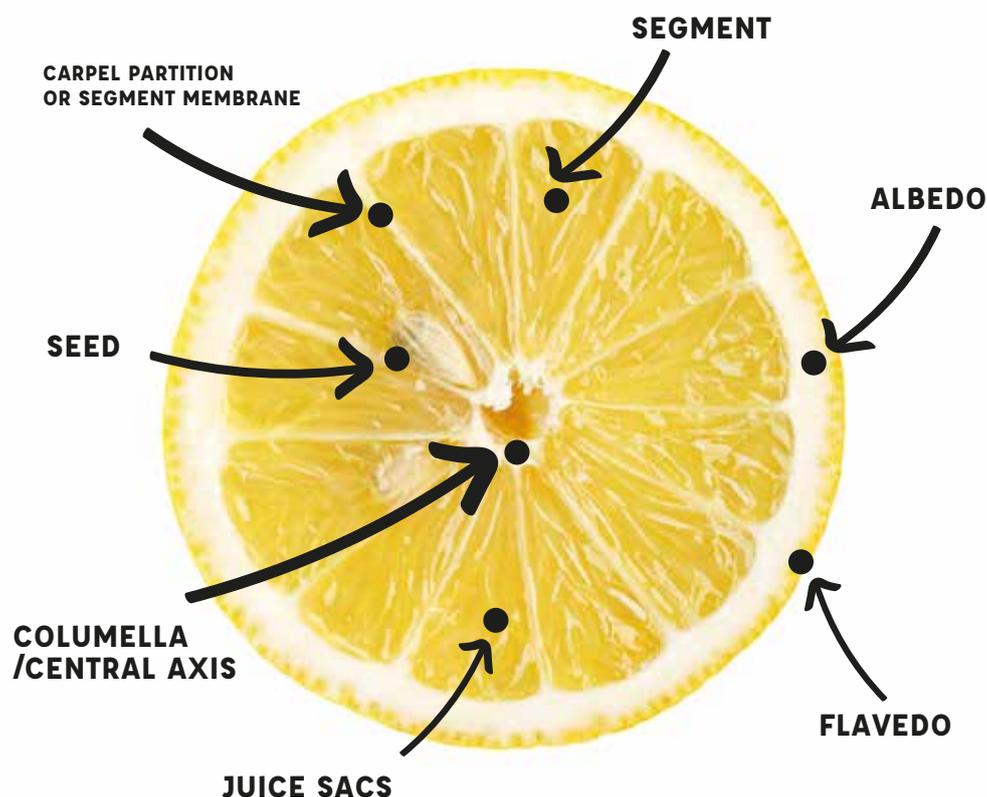
is the **white, spongy inner layer** of the fruit and the most important source of **pectin and carbohydrates**. Its thickness varies according to the **variety** and the **ripeness** of the fruit.

## ENDOCARPO

also known as **pulp**, is the **edible part**, representing **between 65% and 70% of the lemon's weight**. It is pale yellow in color. It is generally divided into segments that contain **elongated cells** (endocarpal hairs formed by small cavities -vacuoles- where **water, carbohydrates and citric acid** accumulate) wrapped in an internal epidermis (endocarp). This is what is known as the **juice sacs**. Each segment contains hundreds of little sacs, and occasionally there may be a seed.

## COLUMELLA/CENTRAL AXIS

The white, central part of the lemon. Its thickness depends on the variety. Mainly **it can be more or less thick**.



# EUROPEAN LEMON VARIETIES

Europe mainly grows **two varieties of lemons** that guarantee a **supply of lemons all year round**.



## FINO LEMON



## VERNA LEMON

# FINO LEMON

This is the **most common variety in Spain**, it is usually grown in meadows. **The main flowering period for this lemon tree falls between April and May**, and the fruit is harvested between **October and May**.

At the end of summer, the Fino lemon tree has a second flowering period that **produces late lemons, which are harvested the following summer**.

## BOTANICAL CHARACTERISTICS:

- **Spheroidal or ovoid** fruit, with a pointy, small nipple, fine skin and pale yellow color.
- Leaves larger than those of the Verna lemon trees. Prone to produce strong shoots with **robust thorns**.
- Medium to large sized tree, **vigorous and prolific**.



## CHARACTERISTIC OF COMMERCIAL AND INDUSTRIAL INTEREST

MEDIUM SIZE	RIND	SEGMENTS	JUICY PULP	JUICE
<ul style="list-style-type: none"><li>• Diameter: 54.2 mm</li><li>• Height: 68.9 mm</li><li>• Diameter/height ratio (D/H): between 1.03 and 0.65</li></ul>	<ul style="list-style-type: none"><li>• Very adherent, thin, with an average value of 3.91 mm.</li><li>• It represents more than 30% of the total weight of the fruit.</li></ul>	<ul style="list-style-type: none"><li>• It has between 7 and 13.</li></ul>	<ul style="list-style-type: none"><li>• pale yellow in color</li></ul>	<ul style="list-style-type: none"><li>• Represents 40% of the total weight of the fruit, with an acidity of about 72 grams of citric acid per liter.</li></ul>

# VERNA LEMON

The **second most important variety in Spain**, it is usually grown on hillsides bordering meadows and on newly converted land. It can have **up to three flowering periods**, and in areas with good weather, it **can bear fruit all year round**.

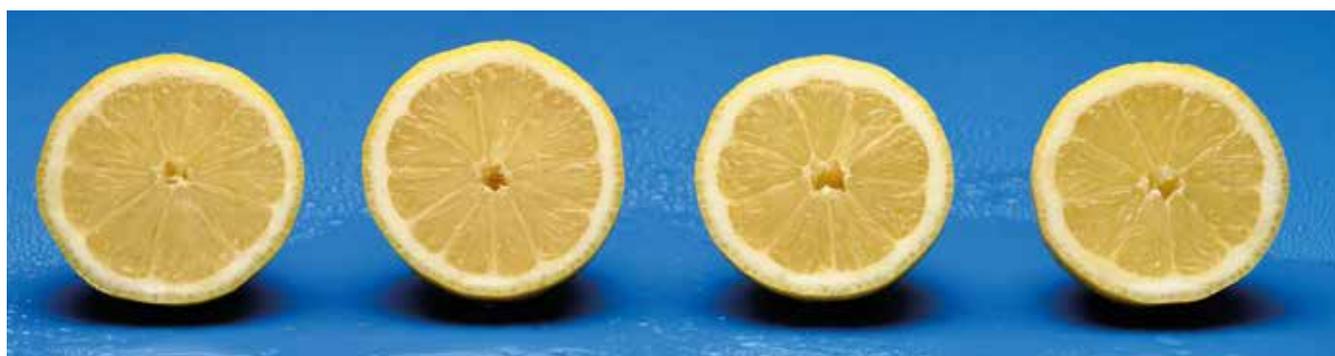
The first flowering period, which produces the so-called harvest fruit, takes place **between March and May**. These lemons are picked **between February and late July**.

The second flowering period falls **between spring and summer**. Its fruit is known as the **"second" or "Saint John's" fruit**.

The third flowering period takes place **between August and September**. The fruit is called the **"late lemon,"** and it is picked during **the summer of the following year**.

## BOTANICAL CHARACTERISTICS:

- Leaf with acute point and closed margins; **isolated petiole, joint-like connection with the blade**.
- **Hermaphrodite or staminate flower**, with pistil abortion; petals are violet on the outside border and white on the inside; stamens are free or united in bundles; they have an ovoid shape on a prominent disc; they are thick and deciduous.
- **Ovoid fruit**, with large nipple, the base of the fruit is prominent; **thin or rough skin**, yellow in color when the fruit is ripe, **with many oil glands**.



## CHARACTERISTICS OF COMMERCIAL AND INDUSTRIAL INTEREST

VARIABLE SIZE	RIND	SEGMENTS	JUCY PULP	JUICE
<ul style="list-style-type: none"><li>• Diameter, 60.6 mm;</li><li>• Height, 86.7 mm;</li><li>• Diameter/height (D/H) ratio, 0.7</li></ul>	<ul style="list-style-type: none"><li>• The thickness of the rind ranges from 3 to 11 mm.</li></ul>	<ul style="list-style-type: none"><li>• Has an average of 9 segments per lemon.</li></ul>	<ul style="list-style-type: none"><li>• The <b>"late lemons"</b> have thinner skin, less thick than lemons from the spring flowering.</li></ul>	<ul style="list-style-type: none"><li>• Juicy pulp, with an acidity of about <b>55 g of citric acid per liter</b>.</li></ul>

# VERSATILE

## A lemon is a treasure

### Lemons are used for many purposes:

- Fresh lemon
- Direct juice or concentrate
- Essential oils used in food, aromas, cosmetics and perfumery;
- Dehydrated peel for pectin to be used as an emulsifier, i.e., to give texture and creaminess to yogurt

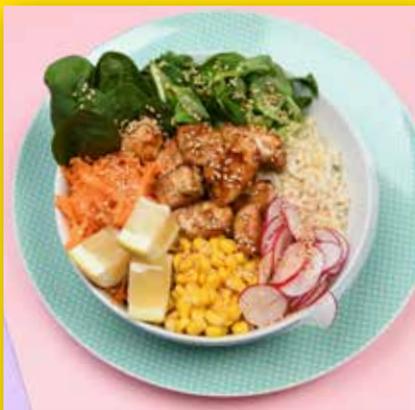
### A lemon is a treasure. Why?

Because the lemon has many multidisciplinary uses, thanks to its fresh, lemon juice, lemon oil and dehydrated peel.

## LEMONS & GASTRONOMY

Its **intense aroma**, its tart juice and flavorful peel **enhance any dish** and **quench any thirst!**

The lemon is a healthy food that offers **infinite gastronomic possibilities:**



### Food seasoning

Rice

Chicken

Soups

Salads

Fish and seafood

### Drinks

Soft drinks

Water with lemon

Smoothies

Limoncello

Cocktails

### Dessert ingredient

Creams

Cakes

Sponge cake

Ice cream

Yogurt

## LEMONS & CLEANLINESS

Lemons help to clean and refresh numerous materials:

It is antiseptic and antibacterial

It is practical because it cleans, cuts grease, removes stains, polishes, deodorizes...

It is eco-friendly, since it does not harm the environment

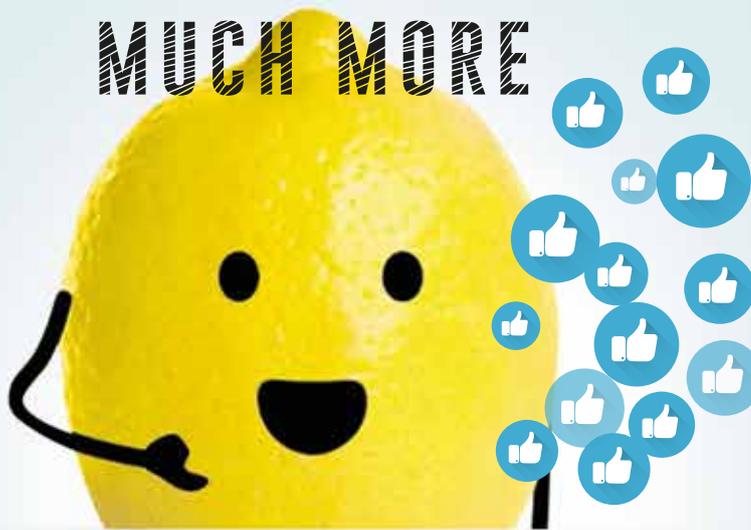


## LEMONS & COSMETIC USE

The **lemon** has also been famously known for its **cosmetic use for centuries**. Many people believe its active principle ingredients to be useful as a homemade alternative in **certain beauty treatments**.



DISCOVER  
MUCH MORE



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