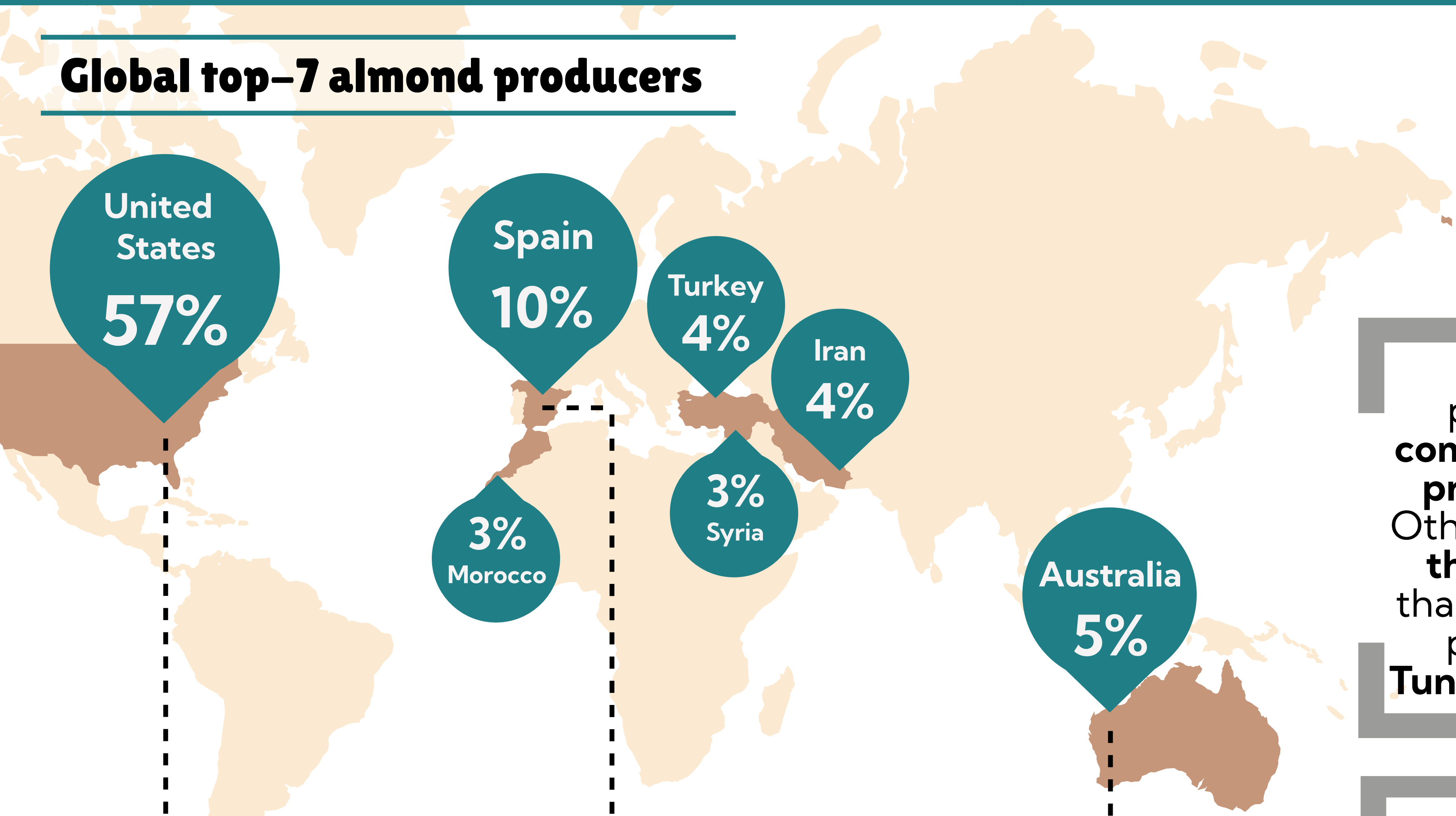


ALMONDS



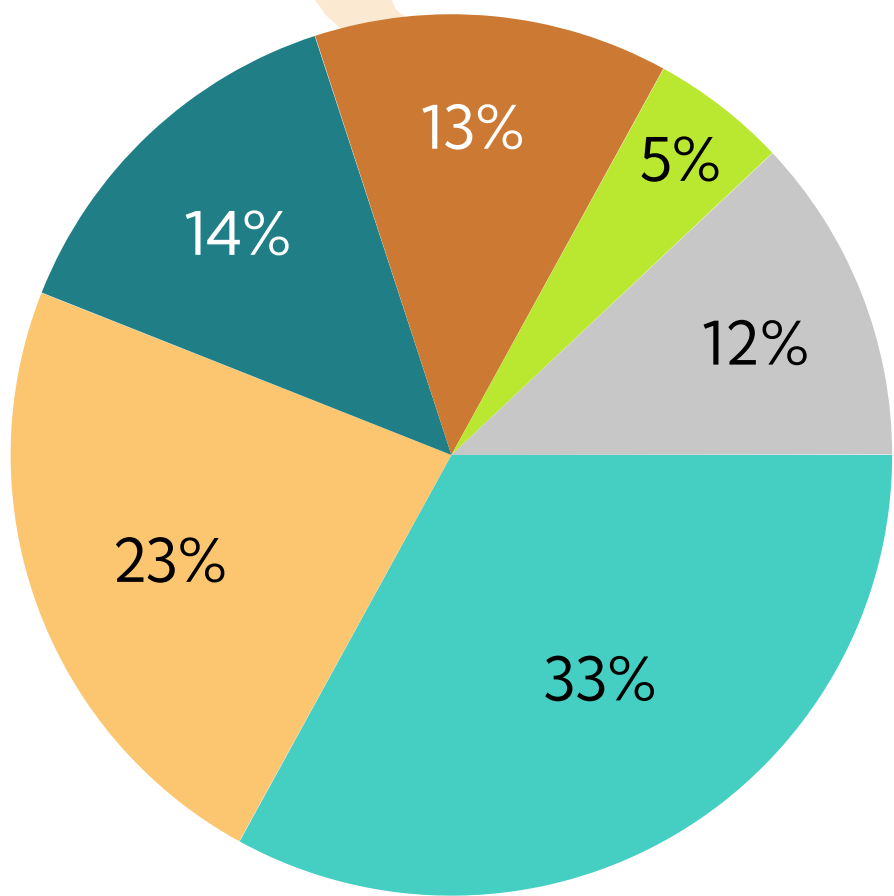
Production & Trade

Global top-7 almond producers

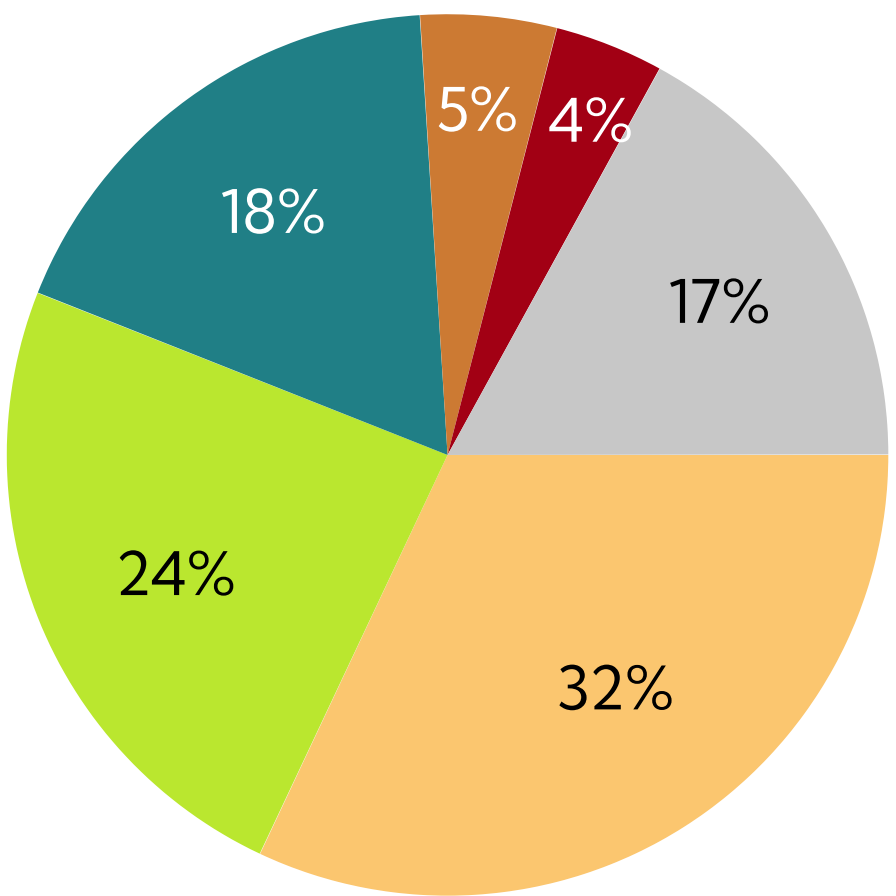


In **2020**, the top 7 producing countries comprised **87% of almond production worldwide**. Other countries with **more than 1% share** (but less than 2%) in global almond production are **Italy, Tunisia, Algeria, and China**.

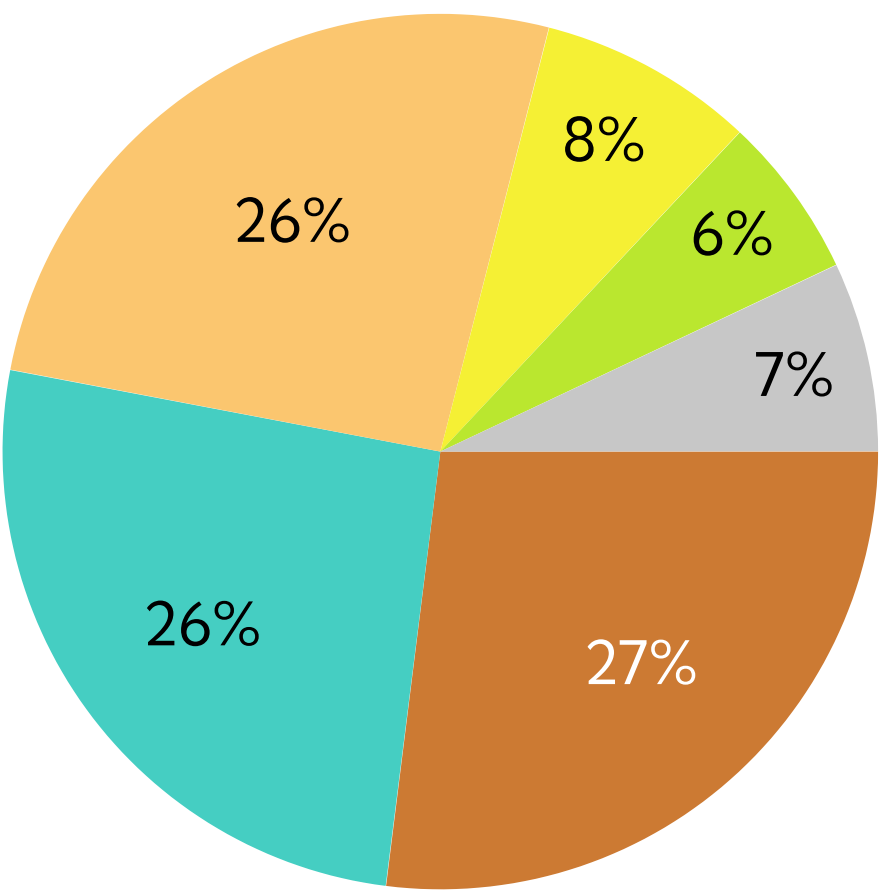
Top 5 EU27 + UK recipients of U.S. exports



Top 5 EU27 + UK recipients of Spain exports



Top 5 EU + UK recipients of Australia exports



- Denmark

France

Netherlands

Spain
- Germany

Italy

Portugal

Other EU27+UK countries

In the same year, the **US** was responsible for **more than half of the world's production of almonds**, making it the country's leading tree nut export in both value and volume.

In 2021, most **almond imports** to the **EU27 and the UK** originated from **the USA** (62% of total almond imports). The second largest exporter to the region is Spain, which is responsible for 17% of total imports.

In Europe, **Spain, Germany, France, and the Netherlands** are among the major importers of almonds. **Spain**, despite being a leading producer of almonds globally (10%), **also imports considerable amounts from the US and Australia**.

Besides **cultivation and harvesting**, almond production also requires **processing** (e.g. hulling and shelling) to obtain the nut meat. This stage occurs in processing facilities where **sustainability issues related, for instance, to air emissions** may still be found.





ALMONDS

Environmental Risks

Almonds have one of the **highest global water footprints** among vegetables and fruits. In almond farms, most freshwater is provided through **irrigation** and it constitutes about **70% of the total water footprint of almonds**. Multi-year droughts in California (2011–2017) have contributed to further **depletion of underground aquifers** and **increased energy consumption due to groundwater pumping** in almond farms in the region. Under increasing global droughts, almonds production may further escalate water stress.

**16,095
m³/ton**

is the water
footprint of
(shelled)
almonds

Water
Footprint



**50
billion**

commercial
honeybees
died in 2018–19
in the U.S.

In the U.S., **both pollution and water depletion** associated with almond production have been found to **endanger the survival of local fauna** (e.g., fish).

Since most almond tree varieties in California are not self-fertile, they **depend greatly on pollen transfer being done by pollinators** to produce almonds. Using commercial honeybees for this became common practice in the U.S., where **colonies are rented by almond farms and transported to California from all over the country** during pollination season. This has been considered the largest man-driven pollination event in the world.

Biodiversity
Loss



The commercial pollination industry has, however, contributed to the **significant decline of honeybee numbers in the U.S.** due to **higher exposure to pesticides** (on farm) and **diseases** (facilitated by the long-distance movement of the colonies).

Since the beginning of the 2000s, there were overall **increases in the use of pesticides, insecticides, herbicides, and fungicides** in the almond orchards of California. The intensification in the use of these chemicals has been linked to **soil and groundwater contamination** and **higher emissions of nitrogen oxides**.

**13+
million kg**

of 'active ingredients'
were sprayed in
almond orchards in
the U.S. between
2014 and 2018

Contamination



**1.90
kg CO₂eq**

is the carbon
footprint per kg
of almonds

Almonds have a **relatively low impact in terms of greenhouse gas emissions (GHG) and energy use**. GHG emissions are largely associated with almond production and processing, originating **mostly from fuel combustion and from soil and nutrient management practices** (e.g., tillage and fertilizer use).

Emissions



ALMONDS



Social Risks

Labor conditions

There is evidence that, **both in the U.S. and in Spain**, the agricultural sector is heavily reliant on **temporary, low-wage and, in many cases, irregular migrant labor**. These workers often endure **coercive and exploitative labor conditions** due to the inherent vulnerability of their migration status and dependence on provisions offered by employers (e.g., housing).

\$7,500 /year

is the median income of a migrant worker in the agricultural sector in the US.

Long working days, lack of overtime pay and sick leave, and low piece-rate wages (based on value per bin of fruits harvested over the course of a shift) are some of the reported labor issues found in almond operations in the U.S.

Health & Safety

122 $\mu\text{g}/\text{m}^3$

are daily levels of PM2.5 (fine dust) to which almond workers are exposed – 3x higher than the recommended standards of the U.S. Environmental Protection Agency

Workers in almond farms face **specific health challenges related to weather conditions** (high temperatures and heat waves) and **exposure to chemicals and dust**. According to reported accounts, exposure to extreme heat in Californian almond orchards has led workers to **heat exhaustion**, which is currently considered more problematic in the sector than pesticide exposure.

In addition, almond harvesting releases high amounts of dust, increasing the levels of harmful particulate matter (solid and liquid particles found in the air, such as fine dust) in the air. These are likely to **have a negative health impacts, particularly in terms of respiratory illnesses** (e.g., chronic cough, persistent wheeze, asthma symptoms).

Gender Issues

In the U.S., **increasing numbers of farmworkers are women**, who are **more vulnerable to sexual harassment and violence**. Incidents of this nature have been reported by women working in almond farms.

Gender discrimination is also reportedly present, namely among pregnant women and/or those who need to provide childcare. The **poor labour conditions** that are felt across the sector **affect women more stringently than men and contribute to a higher level of vulnerability of this group**.

28%

of workers in crop farms are women, most of whom are not born in the US and are part of an ethnic minority.