Everything you get with a handful of *Almonds*

Getting the most out of every drop

33% **reduction** in water used to grow each almond between **1990s–2010s**[1]

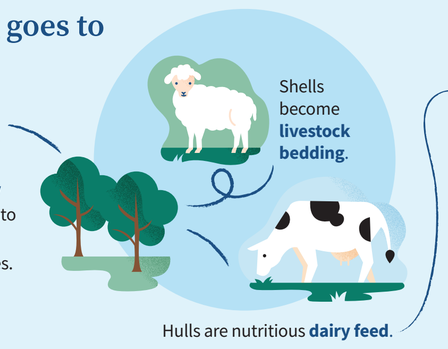
15% more reduced between **2018–2022**, part of a 20% reduction goal by **2025**[2]

Four crops for every *drop*

Water used to grow almonds actually grows four products: the kernel you eat, which grows in a shell, protected by a hull, on a tree productive for approximately 25 years.

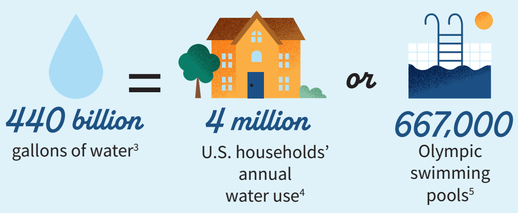
Nothing goes to *waste*

Trees store carbon and are **transformed into electricity** or ground up into the soil at the end of their lives.



Reducing the water needed to grow other feed *crops*

Hulls can replace alfalfa hay pound for pound in up to 20% of dairy feed formulations, reducing the acreage needed to grow it by 386,000 acres and **saving 440 billion gallons of water**.[3]



Building biodiversity

Growing more than *almonds*

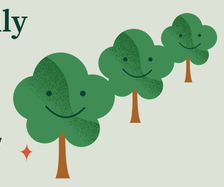
42% of California almond orchards (685K acres) **maintain cover crops** between tree rows.[11]

86% of all U.S. **bee-friendly certified farms** are almond farms.[14]

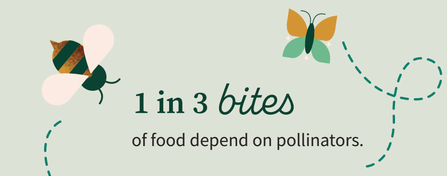
Helping honey *bees*

Bees get their first food of the year in almond orchards as they collect nutritious pollen[15] and nectar.[16] Beekeepers report their **hives consistently leave stronger** than when they arrived.[17]

Environmentally friendly *pest management*



California almond farmers are on track for a **25% increase** in environmentally friendly pest management practices by 2025.[2]



1 in 3 *bites* of food depend on pollinators.

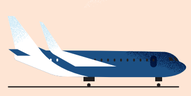
Climate smart farming

Almond trees store a lot of *carbon*

Compared to other fruit and nut trees grown in California, almonds store one of the **highest amounts of carbon per acre**—18 metric tons annually. When you look at carbon stored in all of California's almond trees (1.63 million acres), this nets out to 30 million metric tons.[6]

30 million metric tons of carbon[6]

That's equivalent to the annual emissions of:



3,134 Boeing 737s[7]

or

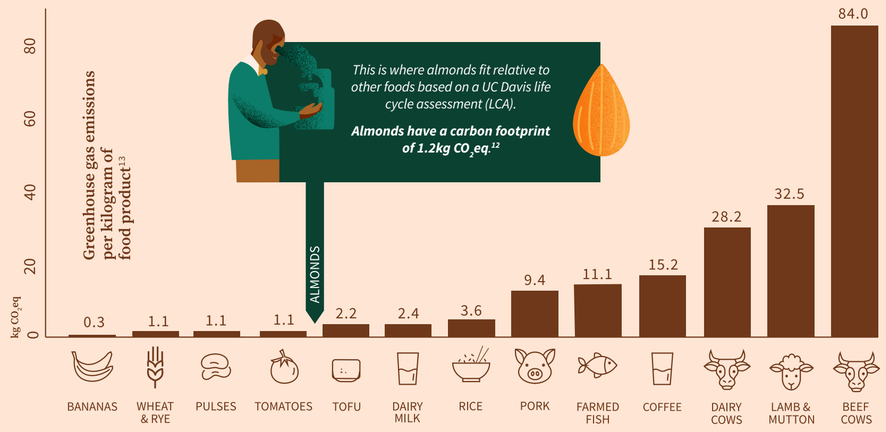
24.5 million gas-powered passenger vehicles[8]

or

29 coal-fired power plants[8]

A low-carbon *footprint*

Almonds have a lower carbon footprint than many other foods.



Whole orchard *recycling*

Farms that recycle their orchards capture 2.4 tons of carbon per acre,[9] each one **equal to living car-free for a year**.[10]

25-year lifespan
Almond orchards are a **no-till environment** for their 25-year lifespan.

Back to the soil
At the end of their productive lives, whole trees are ground up and incorporated back into the soil, extending their sequestration.

On-farm adoption
Since this practice was **introduced in 2017**, nearly half of almond farmers replanting orchards have used this approach.[11]

Whole orchard recycling helps farmers too, increasing:[9]

- Soil and organic matter by *42%*
- Water holding capacity by *32%*
- Orchard cumulative yields over 5 years by *19%*

Health and nutrition

One portion of almonds provides[18]:

6 grams of protein	50% of daily vitamin E	77 milligrams magnesium	13 grams unsaturated fats	13% of daily fiber
Equivalent to[18]:				
4.8x as much quinoa	**16.9x** as much cooked asparagus	**3.8x** as many cooked black beans	**3.9x** as much avocado	**5.7x** as many bananas
or	or	or	or	or
2.3x as many chickpeas	**12.5x** as much raw spinach	**9x** as much tofu	**6.3x** as much salmon	**13.3x** as much pineapple

No food waste here

America throws away nearly 60 million tons of food every year— that's almost **40% of the entire U.S. food supply**.[19] Less than 1% of almonds are thrown out thanks to their **two-year shelf life**.[20]

Almonds are a shelf-stable food which means they are **shipped around the world by boat**. Cargo ships produce **50x less CO_2 per kilometer** than travel by plane.[21]

Why California?

Family farms
There are 7,600 almond farmers in California: **90% are family farms,** and 70% of orchards are 100 acres or less.[22]

Ideal climate
California is **1 of only 5 Mediterranean climates** on Earth, essential to growing almonds.

High standards
California's growing environment is one of the **most regulated globally**, with strict laws protecting the environment, worker and food safety.

1. University of California, 2010. Food and Agriculture Organization of the United Nations, 2012. Almond Board of California, 1990-94, 2000-14. **2.** California Almond Stewardship Platform. Almond Orchard 2025 Goals MidPoint, SureHarvest. November 2022. **3.** UC Davis, Department of Agricultural and Resource Economics. Sample Cost Study Alfalfa Hay and Organic Alfalfa Hay, 2020. **4.** United States Environmental Protection Agency. How We Use Water, 2023. The average US household uses 109,500 gallons annually. **5.** Phinizy Center for Water Sciences, 2023. An Olympic-size swimming pool holds about 660,000 gallons. **6.** California Air Resources Board. An Inventory of Ecosystem Carbon in California's Natural & Working Lands. 2020. **7.** Reuters. Boeing jets emissions data highlights industry's green challenge. April 2021. Assumes industry average 25-year operable lifespan. **8.** U.S. Environmental Protection Agency. Greenhouse Gas Equivalencies Calculator. July 2023. **9.** Emad Jahanzad, et al. Orchard recycling improves climate change adaptation and mitigation potential of almond production systems. PLoS ONE. March 2020. **10.** Seth Wynes, et al. Climate mitigation gap: education and government recommendations miss the most effective individual actions. Environmental Research Letters. 2017. **11.** California Almond Stewardship Platform. November 2023. **12.** Alissa Kendall, et al. Lifecycle Based Assessment of Energy and Greenhouse Gas Emissions in Almond Production. Part 1: Analytical Framework and Baseline Results. Journal of Industrial Ecology. 2015. Almond LCA captures emissions through brownskin almond processing. **13.** Joseph Poore, et al. Reducing food's environmental impacts through producers and consumers. Science. June 2018. Emissions are measured in kilograms of carbon dioxide equivalents (kg CO_2eq). Data captures emissions from land use change, farms, animal feed and processing. **14.** Pollinator Partnership. January 2023. **15.** Ramesh Sagili, Oregon State University, Department of Horticulture. **16.** JP Tauber, et al. Colony-level effects of amygdalin on honeybees and their microbes. Insects. 2020. **17.** Ellen Topitzhofer, et al. Assessment of Pollen Diversity Available to Honey Bees in Major Cropping Systems During Pollination in the Western United States. Journal of Economic Entomology. 2019. **18.** United States Department of Agriculture, Agricultural Research Service. USDA National Nutrient Database for Standard Reference, Release 28. 2015. **19.** United States Food and Drug Administration. Food Loss and Waste. February 2023. **20.** Jean Buzby, et al. Food Loss Data Help Inform the Food Waste Discussion. United States Department of Agriculture, Economic Research Service. June 2013. **21.** Joseph Poore, et al. Reducing food's environmental impacts through producers and consumers. Science. June 2018. **22.** United States Department of Agriculture. Census of Agriculture.

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