



California Almonds

Technical Information

Since ancient times, almonds have been prized throughout the world for their delicious taste, crunchy texture and, increasingly, for their exceptional nutritional value.

California is the world's largest producer of almonds. With its ideal growing conditions, including a mild climate (hot dry summers and cool rainy winters), rich soil and abundant sunshine, this area produces about 80% of the global almond supply, exporting to nearly 90 countries. To ensure a consistent, high-quality, wholesome product year-round, state-of-the-art equipment and specialized techniques for growing, harvesting, processing and packaging are used.

The California Almond industry respects the environment and keeps consumer health in mind, with food safety and quality assurance programs in the orchard and in processing and packaging.

California Almonds are highly versatile and available in numerous varieties and forms suitable for diverse product applications. Use this guide to help determine the most suitable variety, size, form and grade of almond for your needs.



What We Do

Treehouse sources or grows premium almonds, processes them to meet food producers’ exacting standards, and delivers them to clients worldwide. We stand out in the industry for our tightly integrated ecosystem — from the fields, to our facility, to the customers — which enhances efficiency and crop traceability. Our team’s obsession with quality has led us well beyond government standards to create what are arguably the finest, most refined almond ingredients and almond products on the planet.



Bloom

Bee-friendly, control of orchard floor



Growing

Sustainable practices, conserving water



To Your Factory

Customized ingredients, on time, documented

Processing

Precision process protects almond integrity



USDA Grades of Shelled Almonds

The USDA grades for shelled almonds represent voluntary minimum quality standards, with tolerances for a range of factors that determine their suitability for different applications.



x

No limit established

Also included in "Other Defects"

Includes max. 2% under 20/64 inch

Includes max. 5% under 20/64 inch, % also included in "Chip & Scratch"

USDA GRADES	WHOLE KERNELS	MINIMUM DIAMETER (INCHES)	DISSIMILAR	DOUBLES	CHIP & SCRATCH	FOREIGN MATERIAL	PARTICLES & DUST	SPLIT & BROKEN	OTHER DEFECTS	SERIOUS DEFECTS	UNDER SIZE
U.S. Fancy	—	—	5%	3%	5%	0.05%	0.1%	1%	2%	1%	—
U.S. Extra No. 1	—	—	5%	5%	5%	0.05%	0.1%	1%	4%	15%	—
U.S. No. 1 (Supreme)	—	—	5%	15%	10%	0.05%	0.1%	1%	5%	15%	—
U.S. Select Sheller Run	—	—	5%	15%	20%	0.1%	0.1%	5%	3%	2%	—
U.S. Standard Sheller Run	—	—	5%	25%	35%	0.2%	0.1%	15%	3%	2%	—
U.S. No. 1 Whole & Broken	30%	20/64 UOS**	5%	35%	x	0.2%	0.1%	x	5%	3%	5%
U.S. No. 1 Pieces	x	8/64	x	x	x	0.2%	1%	x	5%	3%	5%

*US No. 1 is commonly referred by industry as Supreme. However, Supreme is not a USDA grade.
**UOS = Unless Otherwise Specified (effective 3/24/1997).





Understanding USDA Shelled Grades

Because they are a natural product, almonds can vary within grades and across shipments. Treehouse works only with the three almond grades below, striving for superior quality in all instances. We work with our customers to deliver almonds that meet their specifications, based on their application.



U.S. Fancy

The highest grade—typically appropriate for products where the visual appeal of the almond is critical to the application.



U.S. Extra No. 1

Similar to U.S. Fancy—ideal for food applications where the appearance of the almond is very important.



Supreme (U.S. No. 1)

Mid-quality grade—good for almonds applications with minimal sorting/processing that are incorporated with other ingredients. Also good for further processing.



U.S. Select Sheller Run

Mid-quality grade—good choice for applications where the almonds with minimal sorting/processing can be incorporated with other ingredients.



U.S. Standard Sheller Run

Good grade for further processing, such as blanching, dicing, grinding or paste, particularly where a higher level of split and broken kernels is not a concern.

USDA Grading Parameters

Here is a summary of the factors that impact almond grades of all varieties and sizes.



Dissimilar

Different varieties of almonds in one load. Used for whole almond applications or for further processing, such as blanching and roasting.



Doubles

Two kernels developing in one shell. One side of a double kernel is flat or concave.



Chip & Scratch

Loss of kernel skin as a result of mechanical processing. Greater than 1/8" (3.2mm) in diameter is defined as injury; if affecting, in aggregate, greater than 1/4" (6.4mm) in diameter it is defined as defect.



Foreign Material

Pieces of shell, hulls or other foreign matter that will not pass through a round-opening screen measuring 8/64" (3.2mm) in diameter.



Particles & Dust

Fragments of almond kernels or other material that will pass through a round-opening screen measuring 8/64" (3.2mm) in diameter.



Split & Broken

Seven-eighths or less of complete whole kernels that will not pass through a round-opening screen measuring 8/64" (3.2mm) in diameter.



Other Defects

Any defect that materially detracts from the appearance of the individual kernel or the edible or shipping quality of the almonds. The defects include gum, shrivel, brown spot and discolored.



Serious Defects

Any defect that makes a kernel or piece of kernel unsuitable (includes decay, rancidity, insect injury and damage by mold).



Microbiological

Microbiological standards for raw almonds are typically defined between the buyer and the supplier. The chart below reflects commonly quoted parameters in the almond industry.

MICROBIOLOGICAL PARAMETERS	
Aerobic plate count	<50,000 cfu/g
Coliforms	<1,000 cfu/g
E. Coli	<10 cfu/g or <3MPN/g
Yeast and molds	<5,000 cfu/g
Salmonella	Negative/25g or /375g
Staphylococcus	Negative/g
Streptococcus	<100 cfu/g

Chemical

Chemical standards for raw almonds are typically defined between the buyer and the supplier. The chart below reflects commonly quoted parameters in the almond industry.

















































CHEMICAL PARAMETERS	
Moisture	3.5–6%
Free Fatty Acids	1.5%
Peroxide Value	5 meq/kg



Almond Varieties Offered by Treehouse

California orchards produce roughly 50 different almond varieties, with 12 of those being the most popular. Almond varieties can be distinguished by characteristics such as size, shape and suitability for blanching. Below are the varieties that Treehouse Almonds brings to its customers.



NONPAREIL								
	Shell Soft shell, light color, high suture opening	Nut Medium, flat shape, smooth surface	Classification Nonpareil type	Characteristics Long and flat		Treehouse Insight Idyllic snack almond. Color & shape offer the best visuals.		
18/20	20/22	23/25	25/27	27/30	30/32	32/34	34/36	36/40
								
MONTEREY								
	Shell Hard shell, smooth surface, low suture opening	Nut Large, long narrow shape, deeply wrinkled surface	Classification California type	Characteristics Long and flat		Treehouse Insight Its size & shape produces premium sliced, slivers & almond halves. Ideal for roasted whole almonds as well.		
18/20	20/22	23/25	25/27	27/30	30/32	32/34	34/36	36/40
								
CARMEL								
	Shell Soft shell, good shell integrity, fair suture opening	Nut Medium, narrow shape, slightly wrinkled surface	Classification California type	Characteristics Long and flat		Treehouse Insight Its size & shape produces premium sliced, slivers & almond halves. Ideal for roasted whole almonds as well.		
18/20	20/22	23/25	25/27	27/30	30/32	32/34	34/36	36/40
								
BUTTE / PADRE								
	Shell Semi-hard shell, light color, smooth surface, low suture opening	Nut Small, short plump shape, wrinkled surface	Classification California type, Mission type	Characteristics Short and plump/ round		Treehouse Insight A favorite for blanching & chocolate manufacturers.		
18/20	20/22	23/25	25/27	27/30	30/32	32/34	34/36	36/40
								
FRITZ								
	Shell Semi-hard shell, good shell integrity, low suture opening	Nut Small, medium plump shape, fairly wrinkled surface	Classification California type, Mission type	Characteristics Short and plump/ round		Treehouse Insight Its amaretto flavor profile makes it a great input for flours, butters & diced almonds.		
18/20	20/22	23/25	25/27	27/30	30/32	32/34	34/36	36/40
								
INDEPENDENCE								
	Shell Soft shell, light color, high suture opening	Nut Medium, flat shape, smooth surface	Classification Nonpareil type, California type	Characteristics Long and flat		Treehouse Insight The Nonpareil look-alike. Good for snacking applications & an option for sliced, slivered & almond halves inputs.		
18/20	20/22	23/25	25/27	27/30	30/32	32/34	34/36	36/40
								



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