



# 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 client — 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



## Processing

Precision process protect almond integrity



## To Your Factory

Customized ingredients, on time, documented





# 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.



 No limit established

 Included max. 2% under 20/64 inch

 Also included in "Other Defects"

 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. Extra 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.







# 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 clients 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

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



Supreme (U.S. No. 1)

Sometimes referred to as Supreme, and often used for whole almond applications or for further processing like blanching and roasting.



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

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

MICROBIOLOGICAL	
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

Almond Board of California does not have recommendations on chemical and microbiological standards for raw almonds. These standards are normally defined between the supplier and the buyer. The adjacent chart lists parameters commonly quoted in the industry.

CHEMICAL	
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								
	<b>Shell</b> Soft shell, light color, high suture opening	<b>Nut</b> Medium, flat shape, smooth surface	<b>Classification</b> Nonpareil type	<b>Characteristics</b> Long and flat	<b>Treehouse Insight</b> 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
								
MONTERREY								
	<b>Shell</b> Hard shell, smooth surface, low suture opening	<b>Nut</b> Large, long narrow shape, deeply wrinkled surface	<b>Classification</b> California type	<b>Characteristics</b> Long and flat	<b>Treehouse Insight</b> 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	
								
CARMEL								
	<b>Shell</b> Soft shell, good shell integrity, fair suture opening	<b>Nut</b> Medium, narrow shape, slightly wrinkled surface	<b>Classification</b> California type	<b>Characteristics</b> Long and flat	<b>Treehouse Insight</b> 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			
								
BUTTE / PADRE								
	<b>Shell</b> Semi-hard shell, light color, smooth surface, low suture opening	<b>Nut</b> Small, short plump shape, wrinkled surface	<b>Classification</b> California type, Mission type	<b>Characteristics</b> Short and plump/ round	<b>Treehouse Insight</b> A favorite for blanching & chocolate manufacturers.			
18/20	20/22	23/25	25/27	27/30	30/32	32/34	34/36	
								
FRITZ								
	<b>Shell</b> Semi-hard shell, good shell integrity, low suture opening	<b>Nut</b> Small, medium plump shape, fairly wrinkled surface	<b>Classification</b> California type, Mission type	<b>Characteristics</b> Short and plump/ round	<b>Treehouse Insight</b> 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								
	<b>Shell</b> Soft shell, light color, high suture opening	<b>Nut</b> Medium, flat shape, smooth surface	<b>Classification</b> Nonpareil type, California type	<b>Characteristics</b> Long and flat	<b>Treehouse Insight</b> 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		
								





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