



Natural,  
versatile,  
delicious

## CALIFORNIA WALNUT COMMISSION

As a non-profit organization of the state of California, the California Walnut Commission (CWC) represents the interests of the walnut industry. This encompasses over 4,800 California walnut farmers and nearly 100 processing, packaging and export companies.

As a point of contact for the food industry, CWC offers assistance in the processing of walnuts and guidance in developing new products.



California Walnut Commission

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## SPREADS with California Sunshine



PRODUCT INFORMATION FOR MAKING  
SPREADS WITH CALIFORNIA WALNUTS



## THE CRÈME DE LA CRÈME FROM CALIFORNIA – PERFECT IN SPREADS

California walnuts are grown in the sun and available all year. Their mild flavor makes them the ideal ingredient in spreads, and their premium quality allows them to be processed in versatile ways. Walnuts from California adhere to some of the strictest food safety regulations in the world and meet or exceed both USDA and State of California regulations.

Consumers in Europe regard walnuts to be a premium nut product at an acceptable price point. This makes them all but predestined for use in a range of products in the mid- to high-end segment of spreads.

Walnuts are nutrient-rich and add value consumers will recognize and appreciate. As the only tree nut that has a significant amount of the plant-based Omega-3, alpha linolenic acid, walnuts are extremely appealing to health-conscious consumers as well: The benefits in terms of cardiac health were officially confirmed by the EFSA health claim, and indicating this on the label can make spreads that feature walnuts especially attractive.



### STRICT STANDARDS IN QUALITY AND FOOD SAFETY

- Standardized agricultural and harvesting methods
- Regular monitoring by legal authorities in the US (including the USDA, FDA and CDFA)
- Rapid harvesting with automated harvesters, which means all of the nuts on a tree are gathered quickly
- Immediate stabilization: Gentle professional grade drying methods used within a few days of the harvest ensure freshness and quality
- Standardized drying methods bring moisture content to 8%

### PROPER STORAGE

Shelled walnuts are a semi-fresh raw material. Their shelf life can be greatly affected by temperature, light and humidity. When stored properly, they can easily be kept for up to one year:

- Use within 6 months when stored between 2°C to 5°C (35°F to 40°F)
- Use within 12 months when stored at -18°C (0°F)
- Store in a dark place
- 55 – 65% relative humidity
- Keep in an airtight odor-neutral container to avoid absorbing odors from other ingredients/foods

### OTHER FACTORS WHICH HAVE AN IMPACT ON WALNUTS' SHELF LIFE:

- The surface area of the nut: they should not be broken up or ground until right before use
- The surface material of the grinder or chopper: inert materials reduce the nuts' susceptibility to oxidize (stainless steel is better suited than steel or similar materials)



## PRODUCT DEVELOPMENT WITH WALNUTS

To manufacture premium-quality spreads with California walnuts, you have to keep certain factors in mind.

### FLAVOR

California walnuts are ideal for use in spreads thanks to their mild flavor with only a subtle hint of bitterness, which comes from the presence of tannins and catechins predominately found in the thin somewhat darker papery skin on the surface of the walnut. This papery skin can be removed (by blanching the nuts, for example); however, the irregular contours of the walnut make this process very complex, and the primary purpose of peeling these mild-flavored nuts is only to help reduce discolorations in the finished product.

### OXIDATION

Working walnuts into chocolate or other substances that contain starch or sugar can lower the risk of oxidation by restricting their contact to air, improving the products' shelf life. In the case of spicy or savory spreads, the targeted use of herbs with a pronounced antioxidant effect (e.g. rosemary) can reduce the risk of early oxidation. Often, a dosage close to the perceptual threshold is already sufficient. In addition, the use of specially prepared extracts is helpful.

A low layer thickness of edible oil (e.g. rapeseed oil or HOSO = high oleic sunflower oil) on the surface of oil-containing spreads creates an air seal which can also reduce the risk of early oxidation.

### HEATING

Roasting, caramelizing or other similar heating processes can have an impact on walnuts' moisture content, flavor, color and in some cases their microbiological profile. To lower the risk of off-notes or other quality flaws, temperatures should not exceed 145°C; and temperatures below 125 °C are more advisable. Gentle handling at lower temperatures and a prolonged resting period have a clear positive effect on walnuts' flavor and shelf life. The roasting temperature is of much greater importance here than the roasting period.

### LOWERING THE MICROBIOLOGICAL COUNT

One method of lowering the microbiological count on the surface of the walnuts is to treat them with saturated steam in a vacuum. When applied professionally, this has no impact on the walnuts' quality or shelf life. It is only through this process that walnuts can be used in microbiologically sensitive products without affecting the quality. This is particularly important when working with seasonings or natural flavorings so as to prevent the formation of undesired off-notes in spreads.

### PIECE SIZE



As a rule, using larger walnut pieces creates the visual impression of a greater amount of walnuts, even if the actual quantity remains unchanged. Smaller pieces (including ground walnuts) have a shorter shelf life than larger ones. As a result, they should not be broken up or ground until right before use. Consumers cannot detect particle sizes <30 µm in spreads. The finished product creates the same mouthfeel as chocolate or smooth fillings in bonbons.

### DICHOISM

In the case of spreads, using differently flavored masses can bring about variances in both taste and visual appearance which will be clearly recognized by consumers if glass containers are used (swirl, stripes or similar). The slightly brownish natural hue of the walnuts can help in the color differentiation of these masses. The color intensity can be adjusted via the walnut content and offers an interesting alternative to the use of cocoa/chocolate.