



WALNUTS THRIVE AS A PLANT-BASED MEAT ALTERNATIVE INGREDIENT

A white paper from the California Walnut Commission



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Plant-based meat alternatives are trending on supermarket shelves, and competition is booming. However, consumer demands are changing the type of plant-based foods that are expected to find success in the years to come. Consumers purchased the first generation of these products based on their ability to mimic meat. Today, more and more consumers find what's on the ingredient label just as important.

Ingredient listings on many plant-based products can be confusing, foreign and tough to navigate for consumers who are looking for clean labels and nutritious options. Not all plant-based meat replacers are made alike, and unnatural or unfamiliar ingredients are turning consumers away and toward more clean label meat alternatives.

This is evidenced by a [2020 public relations battle between three of the largest players in the plant-based space](#) over what constitutes a clean ingredient listing. Conversations like these have further accelerated product development of plant-based meat alternatives, and more consumers than ever before from all demographics are making the move to a more plant-forward or vegetarian style of eating.

Long, hard-to-pronounce ingredient listings on product labels are being replaced with cleaner, more functional offerings. In fact, ADM's [OutsideVoice Protein Perception & Awareness Study](#) showed 60% of consumers say recognizable ingredients influence their purchase decisions, while 66% look for labels with the shortest ingredient list.

The sweet spot for manufacturers is in creating great-tasting plant-based products while maintaining clean labels. Walnuts are a popular tree nut and the ideal ingredient for many uses in plant-based meat alternatives. Want to mimic meat in taco crumbles or provide a savory taste and exceptional texture to a plant-based burger? Use walnuts. This amazing nut can provide flavor, texture and a clean ingredient listing to plant-based meat alternatives, all attributes that consumers are craving.



There are already several products on the market proving the value of walnuts in plant-based meat alternatives, including:

CALIFORNIA VEGGIE BURGER, AMY'S KITCHEN

Made with walnuts, Amy's California Veggie Burger is a plant-based patty that is dairy-free and soy-free. Amy's says that the search for the "perfect" veggie burger was one of trial and error, recipe after recipe, until this one took shape. Toasted walnuts are mixed with mushrooms, onions, celery, carrots, oats, garlic and potatoes. For consumers looking for that protein and fiber boost, one patty contains 6 grams of protein and 4 grams of dietary fiber.



MEATY WALNUT RAVIOLI, EAT NICE FOODS

Eat Nice Foods produces a Meaty Walnut Ravioli that uses walnuts and sun-dried tomatoes for a meaty bite and taste. [Vegan Essentials](#) called this product luxurious and decadent, and said it will "rock your world, especially in a creamy or cheezy-style sauce." Each 9 oz. bag of frozen ravioli is ready in only 7-10 minutes, and along with walnuts, ingredients include garlic, olive oil and sun-dried tomatoes.



WALNUT CRUMBLES, AZAR

Azar's Walnut Crumbles include walnuts, chorizo seasoning and sunflower oil to create a plant-based version of taco meat that can be used in tacos, burritos or on top of nachos. Change the spices to Italian seasonings, and you have a meatless product that can go on frozen pizza or in frozen lasagna.

In addition to packaged goods, many chefs are finding walnuts an excellent substitute for meat on menus. Chef Andrew Arndt, executive chef for Marriott Hotels, Newport Beach, California, uses walnuts as a meat alternative in everything from burgers to tacos and meatballs.

"Walnuts provide a wonderful texture that mimics ground meat but keeps it a clean ingredient item," Arndt says. "Our California walnut plant-based Chorizo Breakfast Tacos are very popular. We also use a walnut crumble on our power bars, and we substitute walnuts for meat in our Veggie Meatballs for passed appetizers and outside grill stations."

For Nicholas Ciccone of Restaurant Associates, walnuts make the perfect plant-based burger with the added benefit of omega-3 fatty acids.

"Our Walnut Omega Burger has a blend of walnuts, garbanzos, quinoa, chia and spices, simple and wholesome," Ciccone says. "In the rise of this plant-based-eating era, there are so many 'meat alternative' options, but some are scary. California walnuts are a clean, perfect whole food/ingredient that my customers can recognize on the menu."



THE MARKET FOR PLANT-BASED MEATS

Consumers are choosing plant-based meat products for a variety of reasons, including a perception that plant-forward eating is healthier compared to carnivorous diets, along with ethical reasons. Sustainability of the food supply also factors into the choice, and manufacturers are tasked with finding formulations that appeal to these reasons as well as satisfy flavor and texture demands. Now that the initial sweep of excitement over plant-based meat alternatives has subsided, consumers are digging deeper into ingredient labels as a further means of choice. In 2019 alone, according to the [Plant Based Foods Association](#), the plant-based food category in the United States alone retailed at nearly \$4.5 billion, an 11% increase from the year before.

[The Good Food Institute](#) reports that investors have infused more than \$16 billion into U.S. plant-based and cell-based meat companies in the past 10 years, and an [IDTechEx](#) report projected the Plant-Based and Cultured Meat category to reach \$27 billion by 2030, largely thanks to plant-based meat “shaking off its reputation as a poor imitation of the real thing.”

Current challenges in product development focus on ingredient listings. Alternatives that include just as much fat and salt as the real thing have raised questions, as have unidentifiable ingredients in these products. “Moving into 2020 and beyond, the focus will shift toward making these products healthier,” the research study predicted.

WALNUTS AS AN INGREDIENT IN MEAT ALTERNATIVES

[DuPont Nutrition & Health](#) conducted a study that found 52% of U.S. consumers are eating more plant-based foods because it makes them feel healthier. Walnuts provide unique nutritional value, as they are the only nut with an excellent source of plant-based omega-3 ALA, with 2.5 grams per ounce.

When walnuts are used in plant-based alternatives, food manufacturers can promote the ALA omega-3 fatty acid content of a product and distinguish it from others on the market. In fact, [Food Dive](#) reported that consumers cited omega-3 as a top 5 ingredient in products that they were “extremely or very open” to using. Further, omega-3s ranked second on the list of the most-intriguing functional category that Americans were interested in consuming, coming in at 66% of respondents.

Additionally, a [DuPont Nutrition & Health](#) study showed that 60% of consumers are reducing consumption of animal protein products, and more than half — 55% — said that the change to a plant-based protein diet is permanent. It’s never been easier to substitute a hamburger patty or taco meat with a plant-based option, but the marketplace is getting crowded and many of the products are starting to look similar.



FORMULATING WITH WALNUTS

Walnuts can be used as a plant-based protein to distinguish a product while delivering a savory flavor and meat-like texture. Formulations are quite simple and require only a blend of walnuts with a legume (we recommend chickpeas or black beans) to create a clean label alternative that satisfies both flavor and texture demands.

By using a formulation template of a 50/50 blend of walnuts and legumes as well as a seasoning blend, manufacturers can easily create chorizo walnut crumbles to be used in tacos, an omega burger patty or a walnut filling that mimics ground beef in ravioli or a frozen lasagna entrée.

Walnuts provide texture, flavor, functionality and nutritious value that make them a prime candidate as a meat replacer for center-of-plate plant-based products.

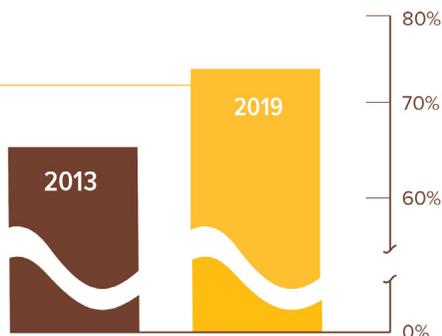
FOOD TRENDS SHIFT: PURE HEALTH TO BALANCING AND EXPERIMENTING



94% of consumers are looking for creative ways to explore a more balanced diet

More than three-quarters of consumers surveyed in 2019 by a California Walnuts-commissioned study think walnuts make a good ingredient in packaged foods, and walnut consumers in particular “tend to be more outgoing and adventurous when it comes to trying new foods and eating healthy.” Respondents also said the No. 1 reason they consume walnuts is because of taste. Other positive reasons cited are that walnuts are all-natural and an easy way to add nutrition to everyday meals.

73%
WOULD PURCHASE A
FOOD PRODUCT KNOWING
IT CONTAINS WALNUTS



Finally, walnuts’ familiarity makes them a valuable ingredient in plant-based meat alternatives, and they’re available in multiple piece sizes, which give product developers the ability to create the perfect texture and bite.



FORMULATION GUIDES

Getting started on walnut formulations is simple and something you can actually test at home. If they are this easy to make at home, just think how easy they will be to scale up to a manufacturing facility. In this [video](#), Chef Juliet provides a step-by-step guide for creating plant-based meat alternative recipes made with walnuts.



RECIPES

Walnut “Chorizo” Tacos

A walnut chorizo “meat” is the base for these spicy tacos. Topped with pickled jalapeño peppers and radishes and finished with a squeeze of lime, these are a fresh take on traditional meat tacos.

Walnut and Mushroom Teriyaki Burgers

This meatless burger is sure to satisfy any carnivore looking for a filling lunch or dinner craving. Loaded with walnuts, mushrooms and spices, this burger includes 3 grams of dietary fiber and 8 grams of protein.

Meatless Walnut and Mushroom Sloppy Joes

A new twist on a timeless favorite, this sloppy joe recipe calls for walnuts and mushrooms as the “meat” base, which resembles a ground beef texture. Then add favorites like ketchup, brown sugar, dry mustard, cayenne pepper, Worcestershire sauce and apple cider vinegar, and you have a tasty mix to fill toasted buns.

Coconut Curry Lentil and Walnut Meatballs

Hearty lentil and walnut meatballs and a simple coconut curry sauce come together for a filling dinner that can be modified as an exceptional frozen entrée.

ABOUT CALIFORNIA WALNUT COMMISSION

The California Walnut Commission (CWC), established in 1987, is funded by mandatory assessments of the growers. The CWC is an agency of the State of California that works in concurrence with the Secretary of the California Department of Food and Agriculture (CDFA). The CWC is mainly involved in health research and export market development activities.

The CWC developed this white paper to serve as a guide and inspiration for plant-based product manufacturers looking to satisfy consumer demand and make their products stand out in a sea of heavy competition.

To learn how California walnuts can be incorporated into your plant-based meat replacement products, contact

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California Walnut Commission