



## Food Safety Modernization Act (FSMA) Update

The FDA Food Safety Modernization Act (FSMA) was signed into law in 2011. Recently, FDA released two important pieces of this law, the Produce Safety rules for growers and the Preventive Controls rules for processors. FSMA aims to ensure the U.S. food supply is safe by shifting the focus of federal regulators from responding to contamination to preventing it and represents a first significant revamp of food safety rules in decades.

Below are the key requirements of the Produce Safety and the Preventive Controls rules. The California Walnut Commission and Board will be partnering with DFA of California to offer regional in-depth FSMA trainings, so the stakeholders we represent are better prepared to meet FSMA requirements.

### PRODUCE SAFETY (GROWER RULES)

#### 1. AGRICULTURAL WATER

**Water Quality:** No detectable generic *E. coli* are allowed for certain uses of agricultural water (hand washing, produce contact surface, for example). Secondly, geometric mean (GM) and the statistical threshold (STV) are to be used as numeric criteria rather than a single test. The GM of samples is 126 or less CFU of generic *E. coli* per 100 mL of water and the STV of samples is 410 CFU or less of generic *E. coli* in 100 mL of water. It is important to note that in case of a positive test, FDA will allow for a ‘microbial die off’ period before resuming the water use. Previously, the grower would have been unable to use the water until a subsequent negative test.

#### 2. WATER TESTING

**Untreated Surface Water:** 20 samples in the first 2-4 years to establish a baseline; 5 samples every year thereafter.

**Untreated Ground Water:** 4 samples in the first year to establish a baseline; minimum 1 sample every year thereafter.

#### 3. COMPOST OR ORGANIC SOIL AMENDMENTS

The FDA had deferred to the National Organic Program (NOP) rules for using raw manure or compost. Raw manure will follow a 90 or 120 day pre-harvest interval depending on whether the manure comes in contact with the produce or not. Certified compost does not have a pre-harvest interval.

#### 4. DOMESTICATED AND WILD ANIMALS

FDA notes that growers should take reasonable care to avoid intrusion of domestic and/or wild animals during harvest.

However, farms are not required to exclude animals from outdoor growing areas, destroy animal habitat, or clear borders around growing or drainage areas. Nothing in the rule should be interpreted as requiring or encouraging such actions.

#### 5. WORKER TRAINING AND HEALTH AND HYGIENE

Farm workers who handle produce and/or food-contact surfaces, and their supervisors, must be trained on certain topics, including the importance of health and hygiene.

### COMPLIANCE DATES

- Very small businesses, those with more than \$25,000 but no more than \$250,000 in average annual produce sales during the previous three year period : four years
- Small businesses, those with more than \$250,000 but no more than \$500,000 in average annual produce sales during the previous three year period: three years
- All other farms: two years
- The compliance dates for water quality standards allow an additional two years beyond each of these compliance dates for the rest of the final rule.

It should also be noted that FDA has clarified the definition of ‘farm’ to cover ‘Primary Production Farm’ i.e. a typical growing operation, and ‘Secondary Activities Farm’, which may be located further away from the main farm and carry out similar activities as well as produce storage, hulling and drying, and basic processing. The most direct impact for the walnut industry is the designation of huller/dehydrators. If a grower owns a huller/dehydrator, it is classified as part of the farm and subject to Produce Safety rules. However, commercial huller/dehydrators with no owner stake will be classified as a processor and fall under the Preventive Controls rule, which is discussed below.

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## PREVENTIVE CONTROLS (HANDLER RULES)

### 1. HAZARD ANALYSIS

The rules require a written food safety plan that is based on hazard analysis (physical, chemical, biological and radiological) at key operational steps. These hazards could be present because they occur naturally, are unintentionally introduced during growing or handling, or are intentionally introduced for economic gain (if they affect the safety of the food). For example, debris from the field could be a physical hazard at produce receiving step. Similarly, unsanitary truck or container with improper temperature control could be a physical and biological hazard that may affect product quality and safety.

### 2. PREVENTIVE CONTROLS

These measures are required to ensure that hazards (identified in the hazard analysis step) requiring a preventive control will be minimized or prevented. They include process, food allergen, and sanitation controls, as well as supply-chain controls and a recall plan. For example, using the same illustration of debris at produce receiving step, the control measures would include physical inspection during receiving or use of sieves or mechanical separators to remove unwanted physical objects such as rocks.

### 3. MANAGEMENT OF PREVENTIVE CONTROLS

For an effective implementation of preventive controls, monitoring, record keeping, corrective actions and verification are key steps.

Product and/or environmental monitoring generally would be required if contamination of a ready-to-eat food with an environmental pathogen is a hazard requiring a preventive control.

### 4. TRAINING

Management is required to ensure that all employees who manufacture, process, pack or hold food are qualified to perform their assigned duties. Such employees must have the necessary combination of education, training, and/or experience necessary to manufacture, process, pack, or hold clean and safe food. Individuals must receive training in the principles of food hygiene and food safety, including the importance of employee health and hygiene.

## COMPLIANCE DATES

Compliance dates for businesses are staggered over several years after publication of the final rule.

- Very Small Businesses (averaging less than \$1 million per year (adjusted for inflation) in both annual sales of human food plus the market value of human food manufactured, processed, packed, or held without sale): Three years, except for records to support its status as a very small business (January 1, 2016).
- Small Businesses (a business with fewer than 500 full-time equivalent employees): **Two years**
- All other businesses: **One year** 🕒



## Health Research Review and Activities

New manuscripts have published recently specifically in the area of metabolizable energy and heart health. They include:

Walnuts consumed by healthy adults provide less available energy than predicted by the Atwater Factors was published in the *Journal of Nutrition*. Results show that “One 28-g serving of walnuts contained 146 kcal, 39 kcal/serving less than the calculated value of 185 kcal/serving. The metabolized energy (ME) of the walnuts was 21% less than that predicted by the Atwater factors. Dr. David Baer of the United States Department of Agriculture (USDA) lab concludes, “Consistent with other tree nuts, Atwater factors overestimate the metabolizable energy value of walnuts. These results could help explain the observations that consumers of nuts do not gain excessive weight, and improve the accuracy for food labeling”. The study takes into account the digestibility of walnut pieces and halves, and further research is needed to better understand the results of the study and how this technique for calculating calories could potentially affect the calorie count of other foods.

Walnut ingestion in adults at risk for diabetes: effects on body composition, diet quality, and cardiac risk measures published in *BMJ Open Diabetes Research and Care*. Data from the study conducted by researchers from the Yale Prevention Research Center Griffin Hospital suggest that “The inclusion of walnuts in an ad libitum diet for 6 months, with or without dietary counseling

to adjust calorie intake, significantly improved diet quality, endothelial function, total and LDL cholesterol, but had no effects on anthropometric measures, blood glucose level, and blood pressure.” As stated in the paper, this study has several limitations. The study sample was predominantly comprised of white women, which limits the ability to generalize these findings. Another limitation is that the sample size calculations for this study were powered based only on the primary outcome measure, diet quality. Thus, this study may be underpowered for the secondary outcome measures. This study relied on self-report by the participants for dietary intake, which can introduce measurement and recall biases. However, surveys used to capture these data have been validated and tested for reliability, which therefore limits such measurement errors. Another limitation was that the participants were not administered a restricted diet and their dietary intake was not monitored on a daily basis. However, this can also be viewed as strength of the study because it provides a more realistic scenario and potentially improves external validity.

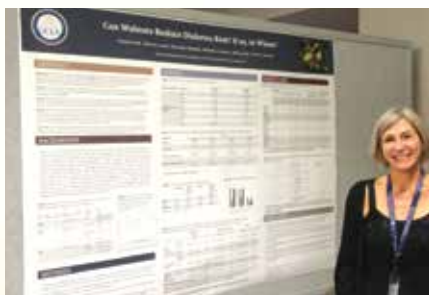
To date, total scientific papers including PREDIMED publications specific to the nut cohort is 170 (CWC: 96, PREDIMED: 74). Currently the CWC health research program is supporting 30 plus projects in the area of cardiovascular disease, diabetes, weight management, metabolic syndrome, cancer, maternal health, male reproductive health, gut health and cognition. 🍷

## Professional Meetings

Dr. Lenore Arab of University of California Los Angeles shared a poster presentation, Can walnuts reduce diabetes risk? If so, in whom? at the recent American Society of Nutrition Advances and Controversies in Clinical Nutrition conference in Long Beach, California.

The California Walnut Commission supported two presentations recently at the European Nutrition Conference (FENS) in Berlin. Dr. Barbara Shukitt Hale of USDA, HNRCA at Tufts University shared a poster, “Walnuts improve neuronal and behavioral function in aging” and Dr. Maria Izquierdo of the University of Barcelona, “Urolithin A, a walnut polyphenol metabolite, modifies cell cycle progression and induces apoptosis in breast and prostate cancer cell models”.

The California Walnut Commission will be supporting sessions and poster presentations at the upcoming Experimental Biology meeting in San Diego in April. 🍷



Dr. Shukitt Hale and Carol Berg Sloan

## Walnuts Required for the Holidays

The California Walnut Board partnered this holiday season with award-winning pastry chef Christina Tosi of New York's renowned bakery Milk Bar to celebrate the wonderful flavor and texture of walnuts and to inspire consumers to use walnuts in imaginative, interesting ways.

Tosi created four new walnutty desserts - in her signature, playful style - which include a walnut baklava milkshake, walnut "Compost" cookie, and an intriguing "Sweet-Salty-Spicy" walnut candy embellished with curry powder.

On November 11th, CA Walnuts and Milk Bar hosted a lively media event in New York where guests were invited to try the new desserts and enjoyed a milkshake-making demonstration by Tosi, who spoke to her love for walnuts, their distinctive flavor profile, and the many ways in which she uses them in her personal and professional life. She also discussed the inspiration behind each of her new four recipes; and answered the guests' many questions.

Seventeen New York media invitees attended, including representatives from Real Simple, Every Day with Rachel Ray, The Food Network, Today.com and Eater.com. Bloggers from Fifteen Spatulas, Spoon University, and Cool Mom Eats also joined in

the fun. Attendees left with a customized CA Walnuts gift bag, samples of the featured desserts and a signed copy of Tosi's Milk Bar cookbook.

To see Tosi's new walnut dessert recipes, visit the "Recipe Collections" section of our website, [walnuts.org](http://walnuts.org).



## New Advertising Campaign Starts Strong

The California Walnut Board's first significant multi-media advertising campaign launched in November and has been running for a couple months now. Hopefully you have seen the new TV commercials - if not, you can watch them at [walnuts.org](http://walnuts.org). They



are complemented by national magazine ads, radio and TV ads on Pandora (a music streaming site with 80 million active users), and digital advertising.

The Board was also able to take advantage of a last-minute opportunity to run shorter versions of the television ads on a 56' wide by 29' high electronic billboard in Times Square, a location with over one million passersby daily. The ads will run December through March, including New Year's Eve, when Times Square was packed with people for the annual ball drop. The combined TV, print, and digital advertising planned for 2015/16 will deliver 4.5 billion impressions to adults 18 years and older, with 95% of adults 25-54 seeing California Walnuts advertising an average of 26 times.

Feedback we have received from consumers has been very positive. Although it is too early for campaign results, we can see a tremendous response in traffic to our website. Average traffic before the campaign was approximately 2,000 visitors a day.

That number increased to an average of about 10,000 visitors a day, with some days exceeding 12,000 visitors.



## Registered Dietitian Dinners

The California Walnut Commission hosted two successful dinners this fall for RDs. Created to provide a conversational and informative environment in which to discuss walnut health research, the dinners were held on November 12 and 18 in New York City and Boston, and included a total of 18 RDs.

The honored guest of the evening was Dr. David Katz, founding director of Yale University's Yale-Griffin Prevention Research Center as well as the President of the American College of Lifestyle Medicine and the founder and president of the non-profit Turn the Tide Foundation.

The evening began with an overview of the California Walnut Commission's active health research program. Dr. Katz then spoke to the RDs about dietary fats, a very current and widely-debated nutritional issue. During the evening he also discussed walnuts' distinctive ALA, or plant-based omega-3 fatty acid content.

Attendees asked questions throughout the evening, engaged in spirited conversation and enjoyed custom dinner menus which featured walnuts in a number of courses. 🥜



## New Holiday Gift Guide



Consumers searching for inventive and tasty gift ideas have a great resource in California Walnuts' new "Do-It-Yourself" gift guide. We created five custom flavors of nuts this holiday season -including Cajun Spiced Walnuts, Spiced Mayan Chocolate-Coated Walnuts and Herbed Walnuts – and paired the recipes with an array of fun packaging ideas, so crafty consumers can create their very own handmade presents. From a delightful stocking stuffer or Super Bowl party favor to a crunchy, unique gift for that Someone Special on Valentine's Day, there's a flavor (and package!) for every walnut lover. We've shared our gift guide with food editors throughout the country, and have also invited walnut fans to view the recipes on our website.

To explore the guide, visit the "Recipe Collections" section of our website, [walnuts.org](http://walnuts.org). 🥜

## Program Launch in Poland

California walnut export marketing programs continue to expand with the recent addition of Poland, to existing programs in Japan, South Korea, China, India, Turkey, Germany, Spain and our European Union Industrial program.

A pilot program started in September targeting consumers and trade. The program is designed to determine the long-term viability of the market, as well as serve as a test for what could potentially be expected from Russia, as consumer preferences, taste and respective consumption are similar to Russia.

A public relations program will raise awareness for California origin, quality, taste, versatility, and health amongst media and

consumers. In September, the program kicked off with a launch campaign including press releases and press events, followed by a harvest tour in California.

Trade activities will be conducted to increase distribution via importers, distributors, and end users. Increasing consumer awareness of California as a supplier is key, therefore the CWC will work with the trade to conduct programs that emphasize California origin through packaging, merchandising and point of sale promotions/sampling. The CWC will be inviting the trade and trade press to learn about California walnuts and our programs through a series of events, technical seminars and one to one meetings. 📍

## Spain - King of Hearts

Over the past decade the CWC has worked with leading Spanish chefs, cardiologists and the Spanish Heart Foundation on the Menus with Heart Campaign, a cardiovascular health awareness campaign showing cardio-healthy menus featuring California

walnuts. The 11th edition enters a new era, King of Hearts, featuring celebrities Luján Argüelles (TV Presenter), Jorge Fernandez (Basketball Player and former Mister Spain) and Elena Gadel (Singer). These artists showcase their culinary skills through 15 delicious and

simple home-cooked recipes featuring California walnuts. Featured recipes will include a starter, a fish course, a meat dish, dessert, and a heart-healthy drink! The menus were unveiled through press events held in October. 📍

## Turkey

In order to expand California walnut use in the bakery and pastry sector the CWC hosted a series of seminars. Working with the Istanbul Bakery and Chefs Association, two bakery seminars were led by food pioneer Professor Hikmet Boyacioglu, showcasing walnuts use in savory breads including traditional style Ekmek bread. Baklava, a traditional and popular desert in Turkey, received a new twist as chefs from leading companies competed for the most creative California walnut baklava. A workshop and trade media event, in partnership with Catering Guide Magazine, was held in October to announce the winners. The CWC has baklava recipes at your fingertips - visit [www.walnuts.org](http://www.walnuts.org) 📍

## International Harvest Tour

The industry hosted International media from seven countries this fall. Journalists from around the world toured the central valley to experience the walnut harvest. The three day visit included a tour of walnut orchards, shaking, hulling/drying,



and processing along with stops in notable California landmarks such as the Carmel Mission. Press coverage has been very positive with recipes and stories in magazines and newspapers in several countries. More coverage is anticipated in the months to come. 📍





## Walter Deardorff

It is with deep regret that we report the passing of Walter Deardorff on Sunday, December 13, 2015.

Mr. Deardorff was a mainstay of both the CWB and CWC with more than 20 years of service as a member. Walter will best be remembered for his positive approach to market development in the export market. He visited Japan, Taiwan, Germany, and Spain on behalf of the CWC. Walter served on numerous committees during his tenure with our organizations, but marketing and health research were his focus. In 2010, Walter was presented with the CWB/CWC Industry Leadership Award in recognition of his contributions to the walnut industry.

In his free time, Walter enjoyed turning walnut bowls, some of which are on display in the CWB/CWC office. Walter is survived by his wife, Janet, son Rusty Deardorff, daughter Heather Brolick, and two granddaughters, Kathleen and Jenna Deardorff. He will be greatly missed. 🍷



## 2016 UC EXTENSION SERVICE MEETINGS

### Thursday, February 4, 2016

Tri-County Walnut Day, Visalia, CA  
Contact: Elizabeth Fichtner  
(559) 684-3310

### Friday, February 12, 2016

Tehama Co. Walnut Day, Red Bluff, CA  
Contact: Rick Buchner  
(530) 527-3101

### Tuesday, February 23, 2016

Sacramento/Solano/Yolo County Walnut Day  
Contact: Katherine Pope  
(530) 666-8143

### Thursday, February 25, 2016

Sutter/Yuba/Colusa Walnut Day, Yuba City, CA  
Contact: Janine Hasey  
(530) 822-7515

### Friday, February 26, 2016

Butte/Glenn Counties Walnut Day, Chico, CA  
(In conjunction with West Coast  
Nut Grower Guide Show)  
Contact: Danielle Lightle  
(530) 538-7201

### Thursday, March 15, 2016

Quad-County Walnut Institute, Stockton, CA  
(In conjunction with West Coast  
Nut Grower Guide Show)  
Contact: Kathy Kelley-Anderson  
(209) 525-6800

### TBD

Lake County Walnut Day, Lakeport, CA  
Contact: Rachel Elkins  
(707) 263-6838

Hollister Walnut Institute, Hollister, CA  
Contact: San Benito County  
Ag Commissioners Office  
(831) 637-5344



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## Upcoming Events & Meetings

### Tues-Thur, February 2-4, 2016

Colusa Farm Show, Colusa, CA

### Friday, February 19, 2016

California Walnut Board and Commission Annual Winter Meeting  
Silverado Spa and Resort, Napa, CA  
Contact Dana at (916) 932-7070



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and California Walnut Commission

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