

Food Additives Q & A: Questions not answered on webinar

Responses provided by presenters:

(RC) Roger Clemens, DrPH, CFS, CNS, FIFT, FACN, FIAFST

(AMM) Amy Myrdal Miller, MS, RDN, FAND

Q: Aren't most of the studies on additives done on the single additive itself? What about the potential effects of dozens of additive being mixed in one single product, or the synergistic effects of them in the body with many products over the course of the day?

(RC) THIS IS A VERY IMPORTANT QUESTION. INITIALLY, FOR SCIENTIFIC ASSESSMENT OF SAFETY, THE SINGLE ADDITIVE IS STUDIED. MANY OF THOSE STUDIES INCLUDE A VARIETY OF FOOD MATRICIES AND PROCESSING CONDITIONS. THESE KINDS OF STUDIES FREQUENTLY LIMIT THE INGREDIENT'S INTENDED USE (APPLICATION) AND POPULATIONS.

Q: I work as an RD at a large university and work with students with food allergies. We have a student who gets migraines related to consuming foods with nitrates, and another who gets migraines from MSG. Are there safer alternatives or research that is showing consumers who are getting physical affects?

(RC) THIS IS A GOOD QUESTION. IF THE STUDENT IS CLINICALLY SENSITIVE TO NITRATES, THEN HE/SHE SHOULD ELMINATE A VARIETY OF VEGETABLES, FRUITS, FISH, BEER AND OTHER FOODS. THE MSG AND HEADACHE ISSUE IS CONTROVERSIAL. REMEMBER, THE HUMAN MAKES MSG IN ITS IONIZED FORM. ALTERNATIVES MAY INCLUDE NUCLEOTIDES (ACCENT) OR OTHER FLAVOR ENHANCERS. HOWEVER, LIKE FOOD ALLERGIES, IT'S CRITICAL TO ASSESS THE INDIVIDUAL'S RESPONSE(S) UNDER CONTROLLED CONDITIONS AND PROFESSIONALLY MONITORED ENVIORNMENTS.

Q: Roger - could you please elaborate on the bullet point of commodities exempt from GRAS?

(RC) THE SAFETY OF COMMODITY FOODS LIKE FRUITS AND VEGETABLES ARE TYPICALLY THE RESPONSIBILITY OF USDA AND FSIS. THESE FOODS ARE NOT SUBJECT TO GRAS OR ANY OTHER REVIEW FOR SAFETY AS REQUIRE FOR FOOD INGREDIENTS. HOWEVER, AGRICULTURAL PRACTICES AND FERTILIZERS/PESTICIDES ARE SUBJECT TO REVIEW BY USDA. IN ADDITION, COMMODITY FOODS MAY ALSO REFER TO A SPECTRUM OF FOODS THAT ARE DONATED TO COMMUNITIES. REGARDLESS, THEIR SAFETY IS UNDER THE PURVIEW OF THE FDA AND USDA. AGENCIES LIKE THE EPA, ATF AND OTHERS PROVIDE ADDITIONAL GUIDANCE ON THE SAFETY OF FOODS, INCLUDING COMMODITIES.

Q: What are you telling clients who are fearful of high fructose corn syrup?

(RC) HFCS HAS THE SAME COMPOSITION AS AGAVE. THERE ARE VOLUMES OF SAFETY DATA ON HFCS; THERE IS VIRTUALLY NO SAFETY DATA ON AGAVE.

Q: As Dietitians, should we really be promoting sulfites so that more people can have hotdogs?

(RC) WE'RE NOT PROMOTING OR ADVOCATING HOTDOG CONSUMPTION. IT WAS AN EXAMPLE OF THE FUNCTION OF SPECIFIC FOOD ADDITIVES.

Q: Has trans fat been removed from the GRAS list?

(RC) INDUSTRIAL TRANS FATTY ACIDS (PARTIALLY HYDROGENATED OIL) HAS BEEN REMOVED FROM GRAS. THE FDA NOW REVIEWS THE USAGE OF INDUSTRIAL TRANS FATTY ACIDS ON A CASE-BY-CASE BASIS. IMPORTANT, INDUSTRIAL TRANS FATTY ACIDS DIFFER FROM THOSE CATEGORIZED AS RUMINANT TRANS FATTY ACIDS, SUCH AS CONJUGATED LINOLEIC ACID NATURALLY FOUND IN DAIRY PRODUCTS. THIS TOPIC WAS DISCUSSED EXTENSIVELY IN THE 2010 DIETARY GUIDELINE FOR AMERICANS ADVISORY COMMITTEE REPORT. ROGER WAS A MEMBER OF THE SUBCOMMITTEE THAT REVIEW THESE DATA.

Q: What are her thoughts on following "DIRTY DOZEN" ?

(AMM) THE ENVIRONMENTAL WORKING GROUP'S "DIRTY DOZEN" IS BASED ON PRODUCE ITEMS WITH THE HIGHEST LEVELS OF PESTICIDE RESIDUES, **LEVELS THAT ARE FAR BELOW THE TOLERABLE LEVELS SET BY THE EPA.** THE LIST IS A WONDERFUL PR AND MARKETING TACTIC FOR EWG, BUT THE LIST DOES LITTLE TO PROVIDE CLEAR GUIDANCE FOR CONSUMERS. THE FACT OF THE MATTER IS FEW CONSUMERS EAT RECOMMENDED AMOUNTS OF FRUITS AND VEGETABLES. DATA SHOW THAT CONSUMERS WHO CONSUME THE MOST F&V IN ALL FORMS BASED ON ALL AG PRODUCTION METHODS HAVE THE LOWEST RATES OF CDV. WE ALSO MUST RECOGNIZE THE "FEAR-MONGERING" LIKE THIS LEAVES LOWER INCOME CONSUMERS MORE CONFUSED AND APATHETIC. IF THEY BELIEVE ORGANIC IS BEST, THEY WILL CHOOSE TO BUY NO F&V IF ORGANICS ARE TOO EXPENSIVE. WE AS NUTRITION PROFESSIONALS NEED TO ENCOURAGE GREATER CONSUMPTION OF FRUITS AND VEGETABLES, RECOGNIZING THAT SOME CONSUMERS MAY CHOOSE ORGANIC BELIEVING THEY ARE PRODUCED WITHOUT PESTICIDES, WHICH IS NOT TRUE. ORGANIC GROWERS USE PESTICIDES; THEY JUST CHOOSE FROM A NARROWER LIST OF OPTIONS FOR PEST AND WEED CONTROL.

Q: What about the health implications of some of these food additives?

(RC) CLEARLY, NOTHING IS ABSOLUTELY SAFE. THERE WILL ALSO BE SOMEONE IN THE GLOBAL POPULATION THAT MAY PRESENT SOME ADVERSE EFFECT RELATED TO A FOOD, REGARDLESS OF ITS COMPOSITION. IN ESTABLISHING SAFE USAGE OF FOOD ADDITIVES, FOOD COLORS AND FOOD FLAVORS, AN UNCERTAINTY FACTOR OR SAFETY FACTOR IS APPLIED. THIS FACTOR PROVIDES A FOUNDATION FOR SAFETY SUCH THAT THE RISK OF ANY KNOWN ADVERSE EVENT IS MINIMIZED. REMEMBER, VITAMIN C AND THE ARRAY OF VITAMINS AND MINERALS ARE PART OF THE FOOD ADDITIVES CONTINUUM.

Q: What is your position on GMO? I have clients who want to know if GMO is safe or not. I don't know where RD's stand as a profession as I was unsuccessful locating position papers. This can be confusing considering that some additives like MSG can be made with GMO (sugar beets, corn). Thanks for clearing it up.

(RC) THANK YOU FOR ASKING THIS QUESTION. SAFETY IS PARAMOUNT. PLEASE FEEL FREE TO CONTACT ME DIRECTLY (CLEMENS@USC.EDU) FOR A LIBRARY OF INFORMATION. PLEASE NOTE, MORE THAN 200 MEDICATIONS, INCLUDING INSULIN, IS GM DERIVED. RECENTLY, PURDUE UNIVERSITY ISSUED A REPORT ON THE GMO ISSUE. HERE IS A LINK TO THE REPORT: <https://www.purdue.edu/newsroom/releases/2016/Q1/study-eliminating-gmos-would-take-toll-on-environment,-economies.html>. AS YOU WOULD EXPECT, MANY ORGANIZATIONS OPPOSE THE INFORMATION FROM PURDUE. SUCH INFORMATION IS AVAILABLE ON THE INTERNET. THUS, AS COMMUNICATORS, IT'S IMPAIRATIVE THAT WE SEEK TO UNDERSTAND THE COMPLEXITIES OF THE ARGUMENTS. AT THIS TIME, THE FDA DOES NOT MANDATE GMO LABELING. THE NATIONAL GMO LABELING REGULATION STIPULATES A RESPONSE FROM THE USDA. THE USDA HAS 2 YEARS TO PROVIDE LABELING GUIDANCE.

(AMM) FOOD INGREDIENTS SOURCED FROM GMO CROPS ARE SAFE. THIS HAS BEEN EXTENSIVELY STUDIED THE PAST 20+ YEARS. NEARLY 80 PERCENT OF FOODS SOLD IN SUPERMARKETS IN THE U.S. TODAY CONTAIN AT LEAST ONE GMO INGREDIENT. (GMO CROPS HAVE BEEN PART OF OUR FOOD SYSTEM SINCE 1997. THEY WERE FIRST PLANTED IN 1996, FIRST AVAILABLE IN THE FOOD SUPPLY IN 1997.) IN 2016 THE NATIONAL ACADEMY OF SCIENCES RELEASED A COMPREHENSIVE REPORT ON THE SAFETY OF GMOS, AVAILABLE AT <https://nas-sites.org/ge-crops/>.

Q: Aside from cancer - what about artificial sweeteners and the microbiome?

(RC) THIS IS A GOOD QUESTION. UNDERSTANDING THE MICROBIOME AND ITS IMPACT ON HEALTH THROUGH LIFE'S STAGES IS GROWING EXPONENTIALLY. THE INITIAL SAFETY STUDIES

WERE CONDUCTED PRIOR TO THE SURFACING OF THE MICROBIOME. THE ANIMAL STUDIES AND HUMAN ASSESSMENTS HAVE YIELDED INCONSISTENT AND CONTROVERSIAL RESULTS. IMPORTANTLY, IT'S IMPORTANT TO REMEMBER THAT THE HUMAN MICROBIOME, ESPECIALLY THAT OF ADULTS, REMAINS RELATIVELY CONSTANT. EVEN AFTER ACUTE OR CHRONIC GI ILLNESSES, AN INDIVIDUAL'S MICROBIOME RETURNS TO HIS/HER "NORMAL." FUTURE RESEARCH WILL BE IMPORTANT IN ASSESSING LONG-TERM EFFECTS ON THE HUMAN MICROBIOME THROUGHOUT LIFE'S STAGES.

Q: Some people indicate that processed meats without nitrites but have natural forms of nitrates through ground veggies. This is ok, correct - would it be better than other regular bacon with nitrates, right?

(RC) THIS IS A VERY IMPORTANT QUESTION. AS MENTIONED BY AMY AND ROGER, MANY FOODS HAVE A STANDARD OF IDENTITY. WHILE APPLYING NITRATE/NITRITE FROM VEGGIES SOUNDS INTERESTING, IN REALITY, THESE FOODS WOULD BE CONSIDERED ADULTERATED. THIS IS BECAUSE OF THE SOURCE OF NITRATE/NITRITE IS NOT CONSISTENT WITH THE STANDARD OF IDENTITY, SUCH AS THAT FOR HAM AND BACON.

Q: Please address consumer concerns regarding bph in canned foods.

(RC) THE COMPOUND IS BPA, OR BISPHENOL A. THIS TOPIC REMAINS CONTROVERSIAL. ACCORDING TO THE FDA (<http://www.fda.gov/Food/IngredientsPackagingLabeling/FoodAdditivesIngredients/ucm355155.htm>), THE USE OF BPA IN CANNED GOODS AND PLASTIC CONTAINERS IS SAFE. HOWEVER, MANY GROUPS ARGUE THE OPPOSITE. REGARDLESS WHICH DATA SET ONE ACCEPTS OR DENIES, THE FOOD INDUSTRY CONTINUES TO REDUCE OR ELIMINATE THE USE OF BPA IN PACKAGING MATERIALS. THE STEPS FOR ACCOMPLISH THIS CHANGE HAS BEEN DIFFICULT SINCE, IN MANY CASES, THE PROPOSED REPLACEMENTS FREQUENTLY PRESENTED UNFAVORABLE OUTCOMES DURING SAFETY ASSESSMENT STUDIES AMONG ANIMALS.