

Ask the Expert:
A Year in Review and A Look Ahead


Today's Dietitian
 SPRING SYMPOSIUM
 2020
 #TDVIRTUALSYMPOSIUM

PRESENTER
Toby Amidor, MS, RD, CDN, FAND

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Disclosures

- Ambassador, National Dairy Council
- Member, Beef Checkoffs Expert Bureau
- Spokesperson, California Strawberry Commission
- Nutrition Partner, Truvia
- Nutrition consultant, Alliance for Food and Farming
- Member, Danone Essential Dairy & Plant-based Advisory Board



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Learning Objectives

1

Understand
 the most popular trends of 2019 and newly emerging trends.

2

Explain the science
 behind these trends and clear up any client confusion.

3


Answer client
 questions regarding current and upcoming fads/trends.

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Introduction



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You're a Dietitian?





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Where Do Consumers Get Info?

- Media
- Social media influencers
- Testimonials
- Doctors
- Fitness professionals
- Self-proclaimed nutrition experts
- Celebrities
- "Losers"




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RDNs Are the Experts!

However...

We **MUST** stay abreast of current and upcoming fads

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Today's Dietitian Magazine: "Ask the Expert" Column

March 2020 Issue

Ask the Expert: The Debate on Glyphosate
By Toby Amidor, MS, RD, CDN, FAND
Today's Dietitian
Vol. 22, No. 3, P. 7

Q: My clients are asking whether the herbicide glyphosate poses a risk to human health and the environment. What does the science say?

A: There has been much media coverage on glyphosate, especially surrounding several successful multimillion-dollar lawsuits against Monsanto Company (purchased by Bayer in 2018) for the manufacture of the allegedly carcinogenic glyphosate.


January 2020 Issue

Ask the Expert: Pesticides and Produce
By Toby Amidor, MS, RD, CDN, FAND
Today's Dietitian
Vol. 22, No. 1, P. 10

Q: Many of my clients are asking me about the amount of pesticides on their produce. What's the best way to source fruit?

A: With the push for organic produce and the release of the "Dirty Dozen" list by the Environmental Working Group (EWG), a consumer advocacy organization, many clients have concerns about pesticides on produce. RDs should understand the implications of the EWG's list and the importance of washing produce.

1. Amidor T. Today's Dietitian Magazine, March 2020:21(7)
2. Amidor T. Today's Dietitian Magazine, January 2020: 22(1)10



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Part 1

A Year in Review


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The Debate on Glyphosate

Q: My clients are asking whether the herbicide glyphosate poses a risk to human health and the environment. What does the science say?

- Multimillion-dollar lawsuits against Monsanto Company (acquired by Bayer in 2018) for the manufacture of the allegedly carcinogenic glyphosate-based weed killer, Roundup
- Bayer owns the patent for Roundup and glyphosate
- Expert opinions and statements from regulatory bodies vary on glyphosate's health and environmental effects




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Glyphosate: Uses

- Most commonly used herbicide in the world
- Used globally for more than **40 years**
- **Herbicide:** kills a wide range of invasive or toxic weeds and grasses in both agricultural and nonagricultural applications
- Several salt forms of glyphosate (i.e. potassium and isopropylamine) used to **regulate** plant growth and ripen certain crops




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Glyphosate: Experts Conflict

- **Medical affairs lead** for the regulatory scientific affairs team at Bayer Crop Science:
 - In **agriculture**, weeds steal sunlight, water, and nutrients from crops and can be toxic to humans and animals
- Other **agriculture experts** suggest:
 - Using glyphosate represents a reductionist view of weed control and there are other mechanisms **less harmful** to the agro-ecosystem than the use of glyphosate, to which weeds are becoming more resistant



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Glyphosate and Human Health

- The International Agency for Research on Cancer categorizes glyphosate as "**probably carcinogenic**"
- Lawsuits against Monsanto/Bayer have associated glyphosate-based Roundup with the development of **non-Hodgkin lymphoma** in particular
- Some evidence links glyphosate exposure to **certain types of cancer** but that the level at which harm occurs is unclear
- All pesticides, including glyphosate, undergo **extensive safety tests** before going to market
- In 2019, the EPA states that, when used as directed, **glyphosate doesn't pose a risk** to human health and isn't carcinogenic




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Glyphosate and Environmental Health

- Glyphosate opponents point to its **negative impacts** on soil's microbial communities, wildlife, and plants:
 - Can harm** environment, especially when mixed with other ingredients (sold commercially as glyphosate-based herbicides (GBHs))
 - Roundup and other GBHs also have a strong **synergistic toxicity** with other environmental toxins such as arsenic, resulting in harm to nearby wildlife




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Glyphosate and Environmental Health

- Advocates argue that glyphosate **can help the environment** by keeping soils healthy and reducing carbon emissions
- Glyphosate also is compatible with **more environmentally friendly farming practices** such as conservation tillage, which can increase soil organic matter, preserve soil health and moisture, improve water quality, provide habitat for wildlife, reduce soil erosion and compaction, and decrease fuel use and greenhouse gas emissions




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Recommendations for Clients

- Dietetics professionals should avoid creating **food fear** in clients
- **Remind clients** of strict regulations in place for herbicides
- However, if consumers prefer to further limit their exposure to glyphosate, some experts say they can minimize their exposure by choosing **certified organic products**, which don't contain glyphosate



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Pesticides in Produce

Q: Many of my clients are asking me about the **amount of pesticides** on their produce. What's the best way to counsel them?

- RDs should **understand the nuances** of the argument for organic vs conventional foods
- Be able to provide **science-based information** to make clients feel good about any type of produce - organic or conventional




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Pesticides in Produce

- Research has shown the **benefits of consuming produce**
- Research shows **there's no nutritional difference** between organic and conventional foods¹
- However, the Environmental Working Group's (EWG) "Dirty Dozen" and "Clean Fifteen" lists **promote fear** in consumers
 - 2016 study published in **Nutrition Today**



1. Smith-Spangler C, Brandeau ML, Huster CE, et al. Are organic foods safer or healthier than conventional counterparts? *Ann Intern Med*. 2012;157(12):311-318.
2. Nileski S, O'Sullivan E, Saperin-Hessner B, Lippman M. Pesticides and food: your vegetables: what do they think? *Nutrition Today*. 2016;51(2):100-105.


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Organic vs. Conventional Produce: Health Risks

- Study showed that **substituting** organic produce for conventional varieties, as advised by the EWG, **didn't result** in any decrease in risk for consumers, as pesticide residue on conventional produce is extremely low, if it's present at all
- A 2015 study found that more frequent consumers of organic produce had **lower urinary levels** of the pesticide dialkyl phosphate compared with conventional produce consumers
- However, all consumers' exposures were **within the EPAs established safe limits**



RISK? yes no

1. Wilson-Cook, Sarah M. Dietary exposure to pesticide residues from conventional crops to contain the highest concentrations of Pesticides. 2015. DOI: 10.1080/19370359.2015.1086074

2. Cook, D., Beaudry, J.A., Fenske, R.A., et al. Estimating pesticide exposure from dietary intake and organophosphate pesticide use. The Alan Watts Study of Agricultural Workers. *Environ Health Perspect*. 2015;123:1479-86.


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Testing for Pesticides in Produce

- Pesticide Data Program (PDP) works with EPA, which determines **safe limits** for pesticide residues on foods
- The latest PDP report states that more than 99% of the foods Americans eat, including produce, have pesticide residues **well below levels** the EPA has established as safe
- Pesticide Calculator:
www.safefruitsandveggies.com/pesticide-residue-calculator



Calculate
Here are your results



A woman could consume
453
servings of strawberries in one day
if the strawberries have the highest pesticide residue recorded


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Recommendation for Clients

- 1 in 10 Americans **meet** produce recommendations
- Fear of pesticides can be a **barrier** to produce consumption
- RDs should make clients **feel good** about their food choices whether they choose to eat organic or conventional produce
- **Produce for Better Health** (PBH) offers additional information on this topic



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Body Sculpting Treatments

Q: My clients have been asking me about **body sculpting treatments** such as CoolSculpting and SculpSure. Can you explain what body sculpting is and the research behind these different methods?

- Body sculpting procedures **claim** to destroy fat cells, either through laser energy or freezing
- Research generally has shown the treatments' efficacy and safety, but ongoing research and anecdotes show **possible concerns**





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CoolSculpting

- a.k.a., **Cryolipolysis**
- Appropriate **only** for clients who are **within about 30 lbs.** of their ideal weight
- **FDA-approved** noninvasive treatment for visible fat bulges in areas of the body like the chin and in the thighs, abdomen, buttocks, and upper arms
- The procedure freezes fat cells, which **eliminates** them permanently in 1-3 months
 - According to the company, 20-25% reduction of fat in the treated areas





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CoolSculpting

- During the procedure, clients **may experience** sensations of pulling, intense cold, tingling, and pain at the treatment site
- After treatment, **temporary** redness, pain, swelling, bruising, firmness, itching, and skin sensitivity may occur




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SculpSure

- a.k.a., WarmSculpting
- FDA-approved procedure that uses targeted **laser energy**, heating fat cells under the skin without affecting the skin's surface
 - This damages the cells' structural integrity and eliminates them **permanently**
- Can see results as **quickly as 6 weeks**, with optimal results seen ~12 weeks
- Most patients need **multiple treatments** to achieve optimal results


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Safety and Efficacy

- 2013 study investigating cryolipolysis in 518 European subjects showed **no significant side effects** or adverse events
- Eighty-nine percent of respondents **perceived treatment positively**, and 96% reported minimal to tolerable discomfort¹
- 2016 study with 60 subjects showed a 2mm **reduction** in subjects' layer of body fat via ultrasound, and more than 3/4 of subjects **were satisfied** with the procedure on measures including comfort and visible fat reduction




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Safety and Efficacy

- 2018 study found an association between cryolipolysis and **paradoxical adipose hyperplasia**, wherein hardened fat develops around the treated area
- Study authors say this adverse effect may be **more common** than not
- There have been **several lawsuits** against body sculpting providers and manufacturers of the technology, although some of these have been dropped
- 2018 lawsuit claiming **second- and third-degree burns** and blisters as a result of cryolipolysis is pending in Manhattan Supreme Court




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Recommendations for Clients

- RDNs can **offer support** and discuss body image issues with clients inquiring about these procedures
- RDNs can **help clients consider** the cost, risks vs benefits, and likelihood of lasting results of body sculpting
- RDNs can help clients connect the dots between **a healthy body** and a lifelong commitment to healthful lifestyle habits
- Discuss **opportunity** for body dissatisfaction of clients



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Part 2

A Look Ahead




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The Shift of Consumer Concerns

Due to the current pandemic, there is a shift around what clients are worried about




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Elderberries

- Immune **boosting** supplements
- **Elderberries** thought to have anti-inflammatory, antioxidant, and anti-viral properties
- There's some evidence for elderberry's immune-supporting properties, but research on this **is limited**




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What are Elderberries?

- *Sambucus nigra* is a **dark purple berry** grown on the European elder tree
- The **exact composition** of the berry depends on a variety of factors including variety, degree of ripeness, and environmental conditions and climate
- **Vitamins** include B-vitamins and antioxidant vitamins A, E, and C
- Has a high **biological activity** from flavanols, phenolic acids, proanthocyanidins, and anthocyanins



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Where to Find Elderberries

- Found in a **variety** of foods and supplements
- In **food form**, it can be found as whole berries and in jelly, teas, syrup, juice, and wine
- As a **supplement**, it can be found in the form of gummies, capsules, drops, and syrup



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Elderberries: *Immune-Supporting Properties*

- **Few studies** have been conducted on humans, but several animal and cell studies are available
- 2002 study, blood samples from 12 healthy donors, one brand of elderberry extract was found to stimulate the production of numerous pro- and anti-inflammatory cytokines, **potentially supporting the immune system**
- 2004 study, 60 subjects with flu-like symptoms were administered 15 mL elderberry syrup or placebo 4x/day for 5 days:
 - The elderberry group noted **self-recorded symptom relief** an average of four days earlier than controls

1. Bansk V, Bolek-Helkova S, Hrabecova T, Kalichman J. The effect of elderberry extract on the production of human interferon-gamma and other cytokines. *Int J Med Res* 2002; 3(1): 10-12.

2. Gendron-Hall J, Fisher S, Hagan S, Madigan S. Randomized study of the efficacy and safety of elderberry syrup in the treatment of influenza A virus. *Ann Intern Med* 2004; 140(11): 840-845.

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Recommendations for Clients

- Elderberries contain a **diverse portfolio** of phytonutrients and have a high amount of antioxidant activity
- **More research** on elderberries is needed to understand the various components and how they may or may not benefit health
- **Contraindicated** for clients on antidiabetes drugs, morphine, phenobarbital, diuretics, and immunoactive drugs
- In addition, as there's a **lack of data on its toxicity**, pregnant and lactating women, and children and adolescents <18 years should avoid consumption

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Food Safety Concerns and COVID-19

- **Purchasing fresh** fruits and vegetables
- **Safely ordering** in food or picking up orders
- **Home food** safety practices

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Purchasing Fresh Produce

- Viral videos **promoting fear** by telling the public to wash their produce in bleach, detergent or dishwashing soap
- 2015-2020 DGAs, 90% of Americans **do not meet the daily recommendations** for vegetables and about 85% don't meet the daily recommendations for fruit
- Produce, regardless of form, are **closely associated** with a multitude of health and well-being benefits




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Health Benefits of Produce

- Recent study found that if just half of all Americans **increased their consumption** of a fruit or vegetable by a single serving each day, **20,000 cancer cases could be prevented** every year
- Produce for Better Health's 2017 study "Novel Approaches to Measuring and Promoting Fruit and Vegetable Consumption" showed that **increased happiness and life satisfaction** measures were reported with eating fruits and veggies more days per week



1. Smith, S., Johnson, S., Foster, G., Sacks, D., Kean, G. Evaluation of cancer risks and benefits associated with general diet. *Journal of Nutrition*, 2019; 149(12): 2127-2132.
2. Consumption of fruit and vegetables, Food and Chemical Technology. 2019; 57(12): 2127-2132.
3. Produce for Better Health. Novel Approaches to Measuring and Promoting Consumption. 2017.


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How COVID-19 is Spread

- FDA/CDC: **not** a foodborne illness
- FDA/CDC: **not** transmitted through food packaging
- Spread through **saliva droplets** into human nose, eyes, throat
- **Social distancing and hand washing** are the most important preventive measures



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Safe Handling of Fresh Produce

Food safety best practices that should be followed in your home during COVID-19 and beyond include **clean, separate, cook, and chill**. Also:

- **Clean** surfaces and your hands before and after handling foods.
- To wash fresh produce, it's recommended to run it under **water only**
- If the produce has a tough exterior, like melon or potatoes, you can also **use a clean stiff-bristled brush**
- **Separate** raw and ready-to-eat foods
- Cook foods to **proper** minimum internal temperatures
- **Chill** foods in the refrigerator or freezer



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Safely Ordering Food

If you're picking up takeout:

- Ask the restaurant its procedure for **curbside pickup**
- Some establishments have you **wait inside your car** for your order until it is ready instead of waiting in line
- Most restaurants also allow you to pay with a credit card online as you want to **minimize handling cash** or handing off your card
- **Bring your own pen** to sign the receipt



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Safely Ordering Food

If you're ordering delivery:

- Apps like Uber Eats, Seamless, Postmates, and GrubHub allow you to **leave a tip online**
- Many offering "**contactless delivery**"
- If you must hand off cash, do so in an **envelope** and set it away from the person




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Handling Food Packaging

- According to FMI, there is a **possibility** of contracting the virus by touching a surface or object that has the virus on it and then touching your nose, mouth, or eyes. But, again, **this is not** the most likely way the virus is spread
- Researchers are currently exploring **how long** the virus can survive on surfaces, and it is thought it could be anywhere from a few hours to a few days, according to IFIC



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Handling Food Packaging

- **Use your own** napkins and silverware and ask the restaurant **not** to include it to minimize waste
- Sanitize surfaces and your hands right away
- **Don't** place takeout bags directly on your counters; instead, take containers from the bag and place them on napkins or paper towels so they **don't come in direct contact** with your home surfaces
- **Dispose** of the to-go bags immediately and transfer the food from the containers to your own plate
- **Don't** stick extra meals right in the fridge; transfer to your own container first



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Home Food Safety Practices

- How to **clean and sanitize** food contact surfaces in your home
- **Incorrect** practices:
 - Wiping down counters with a sponge or **wet paper towel**
- **USDA** two-step process:
 1. Cleaning
 2. Sanitizing



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USDA Two-Step Cleaning Process

- Two types of **sanitizers** for home use:
 - **DIY** by mixing a solution of 1 tablespoon of liquid chlorine bleach per gallon of water
 - Use **commercial sanitizers** or sanitizing wipes
- The **proper way to sanitize** is to pour or spray the sanitizing solution on surfaces and wipe clean with a paper towel
- Make sure that the surfaces are **completely dry** before using them again – this includes your sink
- If you're using a store-bought commercial sanitizer, then **follow the manufacturer's directions** listed on the label
 - Some commercial sanitizers require the **surfaces to be rinsed** after using, so read the label carefully

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Serving, Cooling and Storing: *Proper Techniques*

Before Handling Food:


- **Wash** your hands properly using soap and water
- Bacteria thrive between **40-140°F**



Serving Food:

- Food should not sit out for **over 2 hours** and only 1 hour if 90°F or above

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Cooling and Storing: *Proper Techniques*

- Store in **refrigerator or freezer**
- Leftovers **must be cooled** to room temperature before being placed in fridge/freezer
- **Never** place hot food (or any food) in your refrigerator or freezer
- Label your food with the name and the date you should use it by
- Use FoodSafety.gov's **FoodKeeper App** to determine **how long** leftovers are good for (or length of time any ingredient can be stored in fridge/freezer)


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Recommendations for Clients

- Stay abreast of **current information** regarding COVID-19 and food
- Stay abreast of **food safety information**
- Use **reputable information** to disseminate to clients
 - **Decrease fear** clients may have regarding food and the pandemic
- If unsure, **ask a fellow RDN**



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Resources: Podcasts

- **Sound Bites® Podcast**
 - Melissa Joy Dobbins, MS, RDN, CDE
 - <https://www.soundbitesrd.com/podcast-love/>
- **Nutrition Diva Podcast**
 - Monica Reinagel, LN, MS
 - <https://nutritionovereasy.com/about/>
- **SpotOn! Podcast**
 - Dr. Joan Salge Blake, EdD, RDN
 - <https://www.facebook.com/SpotOnDrJSB/>
- **Liz's Healthy Table Podcast**
 - Liz Weiss, MS, RD
 - <https://www.lizhealthytable.com/podcast/>



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Questions?

Toby Amidor, MS, RD, CDN, FAND

www.tobyamidornutrition.com

 **Toby Amidor Nutrition**

 **@tobyamidor**

 **toby@namsko.com**



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