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## Food Science vs. Food Myths



Clean label. Organic. Natural. Preservative free. The list goes on. These messages are bombarding consumers when shopping for food. Are these messages helping or just confusing? Researchers at Alabama A&M University are working to crack the myths and confusion.

It is assumed that organic foods are healthier, safer, and contain less synthetic pesticides and fertilizers. Plants have a natural defense system of bioactive phytochemicals. So, it is assumed, that because organic foods are not

treated with synthetic pesticides, they would have more bioactive phytochemicals. Many research studies have been conducted on this concept and are inconclusive. Nutrient content varies by growing region and the soil in which the plants are grown. This is true whether a food is grown organically or conventionally. Therefore, nutrient content between them is not statistically different.

As far as food safety from microbial contamination, when foods that are considered organic, natural, clean, or minimally processed, they can be at a higher risk of causing foodborne illness. These types of foods do not have protection from preservatives and antimicrobials. All foods, no matter the label or growing method, are at risk of microbial contamination. When scientifically proven technology makes food safer, what will it take for consumers to truly understand these benefits?

Source: Food Technology, April 2019

## Ace the Waste!

Everyone can play a part in reducing food waste. Even our youth! So, the USDA has launched a youth (ages 11-18) competition for ideas to reduce food waste.

Participants submit a written proposal or video.

Criteria to be judged include originality and creativity; clarity of expression; and adherence/appropriateness to theme. Topic ideas include prevention, recovering food waste, recycling, and raising awareness.

Deadline is May 24, 2019 at 5:00 pm EDT. Learn more at [www.usda.gov/sites/default/files/documents/ace-the-waste-student-competition-form.pdf](http://www.usda.gov/sites/default/files/documents/ace-the-waste-student-competition-form.pdf).



## Pressure Canner Testing

Now is the time to get dial gauges tested on pressure canners. Here are some reminders.

Most Extension offices have the Presto Gauge Testing Unit. This can test pressure gauges on the brands Presto, National, Maid of Honor, and Magic Seal.

This testing unit cannot test All American pres-

sure gauges. Newer models of the All American canner have both regulator weights (weighted gauge) and the dial gauge. (See top picture.) **The weight is more accurate than the gauge and customers should use the weight in order to determine if they are at the needed pressure.** If the weight begins to

rock at the desired pressure and the gauge is off by more than 2 psi the company recommends replacing the gauge. **The gauge is now used as a reference to know when the unit is at 0 psi and can safely be removed.**

Source: <https://extension.psu.edu/pressure-canner-dial-gauge-testing>



Newer All American Canner



Older All American Canner. The petcock on the right can be replaced with a weighted gauge. Contact [Wisconsin Aluminum Foundry](http://Wisconsin Aluminum Foundry).

## What is the Cloud Point of Cooking Oil?

Cooking fats vary if they are solid or liquid at room temperature. When making mayonnaise or salad dressing, oil must be completely liquid at refrigerator temperature.

Salad dressing manufacturers test the cloud

point. This is the time it takes for cloudiness to appear when immersed in an ice bath. A time of 5.5 hours is considered minimum. A time of 20 hours is very good. In manufacturing, a rapid test is done by chilling

the oil sample to  $-76^{\circ}\text{F}$  for 15 minutes, then at  $50^{\circ}\text{F}$ . If no solid matter remains after 30 minutes, the oil passes the test.

Source: Fats & Oils: Practical Guides for the Food Industry, Eagan Press Handbook Series

▼

**The smoke point is the temperature at which heating oil starts to give off smoke.**

## What is Osmotolerant Yeast?

There are several types of yeast to use when making a tasty yeast bread. One that is available to professional bakers is a special strain of yeast that requires less water to do its job. Some yeast bread recipes are high in sugar, low in moisture, and can take longer to rise. The sugar will trap the water which makes it unavailable for the yeast to use.

A special strain of instant yeast, called "osmotolerant," can help. Osmosis is the phenomenon that helps move water through the cell walls of yeast. In a rich sweet dough, the yeast competes for protein, starch, and sugar to get any water it can. Osmotolerant yeast resists this competition to get to the water and help dough to rise. When compared to active dry yeast, these doughs will use less osmotolerant yeast to get good results.



Source: *Understanding Baking*, 3rd edition, Joseph Amendola and Nicole Rees  
Photo: Sweet Rolls, Home Baking Association

## Mixing Matters



Source: Cook's Illustrated, October, 2018

How ingredients are mixed together can make or break a successful outcome when baking. Directions are given to combine certain ingredients and should be followed. For example, in making a layer cake, there are two methods, the creaming and reverse-creaming techniques.

The creaming method starts by beating the sugar and butter together until light and fluffy. The sugar crystals beat little air pockets into the fat. Then the wet and dry ingredients are added in a dry-wet-dry-wet-dry pattern to reduce gluten development and make a tender cake. During baking the air pockets made during creaming, leaven or lift the cake to give a light airy structure. The top typically has a slight dome.

The reverse-creaming method starts by mixing butter with all of the dry ingredients. The butter fat coats the flour particles making the flour waterproof. The liquid is added but only some flour proteins will get hydrated. This limits gluten development and increases tenderness. Without incorporating air, the cake will be a bit shorter, have a flatter top and will be quite tender. This is better for fancy, multiple layer cakes.



## What is the Windowpane Test?

When making yeast dough, when should you stop kneading? Try the windowpane test!

When dough forms, it will be rough and shaggy. As kneading continues, it

gets smoother. Pull out a piece of dough and work it with your fingers as thin as possible. It should be almost translucent. The dough should stretch, but not pull apart. If the dough pulls

apart and tears easily, it is not kneaded enough. If it holds together, and when stretched and held up to light, the light should shine through.

Source: Understanding Baking, 3rd edition, Joseph Amendola and Nicole Rees



Developed dough

# America's BREAD BAKING CHAMPIONSHIP

## FREE EVENT\*

Free Bread Samples | Food Trucks  
Military Appreciation Gift\*\* | Kids' Zone  
Bread Baking Workshops

\*suggested donation non-perishable item for Harvester's Food Network  
\*\*limited to first 200 families with military ID



## National Festival of Breads

Saturday, June 8, 2019

8:30am—4:00pm

Manhattan Conference Center, 410 S. 3rd St., Manhattan, KS

### [Schedule of Events](#)

Bring a non-perishable food to support local food pantries.



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## Frying with Hot Air



**Finger foods are popular foods to cook in an air fryer.**

Instead of frying in oil, maybe an air fryer is for you! Reducing oil in foods is one way to make foods healthier. So how does a hot air fryer work?

Extremely hot air circulates around food with a fan. It creates a crispy surface layer and the inside stays moist. This is similar to convection

oven cooking. Only a small amount of oil is brushed on the food surface to aid the crisping process. Cook in small batches for even and complete cooking.

When shopping for an air fryer, first consider your kitchen counters and storage space. Do you have room? If the appliance is not visible, it is less likely to be used. There is no oil to dispose of or lingering oily odors. But does the food taste the same with similar crunch? Maybe, maybe not. Just remember to consider making healthier meals for you and your family to reap the rewards.

Source: <https://blogs.extension.iastate.edu/answerline/2017/09/07/air-fryers/>



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On the Web at  
[www.rrc.ksu.edu](http://www.rrc.ksu.edu)



## Have A Plant™

The Produce for Better Health Foundation is an organization that links public health and in-



**What's your "veggie vessel?"  
How do you "finish with fruit?"  
Learn more at [https://  
fruitsandveggies.org/](https://fruitsandveggies.org/)**

dustry, government agencies and non-profit organizations. They have been known as "Fruits & Veggies—More Mat-

ters." This year they changed their brand name to "Have A Plant™ to better reflect consumer research about eating a certain daily amount of fruits and vegetables.

Their website, [https://  
fruitsandveggies.org/](https://fruitsandveggies.org/), has information on a variety of produce items, recipes, expert advice and educational series on a variety of topics.