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Texas A&M Food Science Club

2021

In This Issue:

- Science of Garlic
- Dutch Ovens
- Ways to Get Involved
- IFT Updates
- And More!



Table of Contents

1. Spring 2021 Preview
2. Science of Garlic
3. New Year, Get Involved!
4. 2021 Trends
5. Dutch Oven: Cast-Iron vs. Ceramic
6. Save the Date: IFTSA Annual Meeting

Excited for a Great
Year with TAMU
Food Science!





Food Science Club Every Wednesday 7PM

Join the Food Science Club this semester to increase your fluency of food science, connect with other students and industry professionals, and engage in social events.

SCIENCE IS DELICIOUS

Science of Garlic

Cooking with garlic is quite magical. One small clove can add so much flavor a dish. It adds a depth of flavor to pastas, pizzas, pestos, and even pita breads. Just to name a few. Garlic is a staple ingredient to enhance the flavor of many dishes among many ethnic backgrounds. It is a staple ingredient in chefs pantries around the world. But what is the food science behind this delightful little plant?

Garlic is a powerful antioxidant full of sulfides and other micronutrients that produce microbial resistance in the body and give its signature smell. Garlic is a part of the allium family making it cousins to the leek, shallot, and onion.

Sulfur is the magical chemical that makes garlic iconic. Before I explain the science, stop and think about smelling an uncut garlic bulb. You smell nothing. But then as soon as you cut that garlic bulb you get that signature garlic smell. There is a special chemical reaction that goes on when you damage the cell walls with in the garlic. Allicin is the chemical that gives the garlic its signature aroma and flavor. Allicin is only produced when the cell walls are broken. Allicin and the enzyme alliinase combine to form aclicin. Ammonia is released during the formation of allicin and is what tells your nose that you are smelling garlic. Propenyl, sulphenic, and pruvic acid are also formed during this process and the reason why your eyes start to cry. These are the same compounds that make you really cry when you are chopping onions.

Now you know why garlic only smells and tastes so strong when it is chopped. It is interesting how the food science works and how your knife starts a chemical reaction each time you chop the humble yet powerful garlic.



NEW YEAR, GET INVOLVED

PRODUCT DEVELOPMENT TEAM

The Product Development Team is putting their final touches on Sweet Cheats, a vegan post workout snack. In February, the team will start on their next project and for the first time is funded by COALS council. Now is the perfect time to join and we love having new members. Email Bethany (bethanygawalis17@tamu.edu) or Jacob (websterjonesj@tamu.edu) if you want to join!



COLLEGE BOWL

College bowl in full practice mode for their upcoming regional competition on March 27. Join college bowl to help increase your knowledge and fluency of food science in a fun game show like way. Email Lucas (luchas050@tamu.edu) for more information. Freshman through Grad Students are welcome and encourage to join.



QUICK BITES EDITORIAL TEAM

The Newsletter is always looking for guest writers and if you want to be even more involved, we need a Director of Arts and a Director of Scientific Writing. Email Allison (allisonbrenner@tamu.edu) for more information. The Newsletter is a great way to practice your science communication skills.



2021 Food Trends

TOP 10 FOOD TRENDS THAT YOU WILL SEE THIS YEAR

1. Blurring the lines between supplements and food.

Food manufactures are adding function ingredients to foods. However, health claims must be carefully made because once someone claims the food can cure diseases the food is now a drug.

2. Breakfast is King.

People are finally learning that breakfast is the most important meal of the day. And now with people working from home they are making elaborate breakfasts even on weekdays.

3. More homecooks equals staples selling like fire.

People learned to cook over quarantine and they are still doing it even into 2021. That means pantry staples are going to keep selling.

4. Coffee in new ways.

Aka coffee flavored everything. You can not how your coffee not in a cup. Coffee flavored bars, ganola, yogurt and more coming to a store near you this year.

5. Fancy baby food.

Now you can serve your baby exotic baby foods in on-the-go pouches. We're talking rosemary, purple carrots, flaxseed, and rhubarb all mashed up for your little one.

6. Trash to treasure.

Food manufactures are "recycling" unwanted food waste and turning them into an environmentally friendly snack.

7. Meet your new favorite oil.

Bored of olive oil like me. Try pumpkin seed or walnut oil. Sunflower and avocado oil are also rising in popularity. Sounds like vegetable oil got competition.

8. Kombucha 202. (The alcoholic version)

Kombucha is making a comeback but this time only for those over 21. The alcoholic kombucha is gluten-free, filled with probiotics, and bubbly.

9. The new super bean: Chickpea.

Chickpea tofu, snack puffs, and even cereal. Chickpea is the 2021 version of cauliflower. What makes chickpeas so good is that they are a great plant-based protien.

10. Plant jerky.

Fruit and vegetable jerky is taking over. Get your hands on mushroom, jackfruit, and watermelon jerky. Just to name a few.

Dutch Oven: Cast-Iron vs. Ceramic

What in the world is a dutch oven?

Dutch ovens are an extremely versatile tool to have in your kitchen. Whether you're braising a piece of meat or cooking over a fire while camping, a dutch oven can serve as a valuable tool because as the name implies, it's a portable oven. Virtually any recipe that calls for the use of a conventional oven can be done in a dutch oven and yes, I do mean you can bake a pie on your next hiking trip if you so choose. Dutch ovens are heavy-bottomed pots that are best used for slow cooking recipes because they trap moisture inside of them which keeps anything inside from drying out. As with every kitchen utensil, there are different types of dutch ovens and each has its pros and cons.

The two major types of dutch ovens are cast-iron and ceramic (also referred to as enamel). Ceramic dutch ovens are made by taking a cast-iron dutch oven and coating it in a layer of enamel, we'll get into what that does in just a second. Personally I enjoy both types and believe they both have their place in a kitchen, however, it isn't exactly practical to have two of these heavy-duty pots taking up space in your kitchen cabinets. To help figure out what type best suits you, I've broken down some of the advantages and disadvantages of each.

Cast-Iron

Pros

Cast-iron, the ol' reliable, I thought it would be fitting to start with the original dutch oven since the ceramic version is essentially the same thing with an extra coating on it. As a cooking material cast-iron is wonderful because it can retain an even heat once it gets hot. If you watch old westerns you might be familiar with the sight of a group of cowboys cooking a big pot of stew over a campfire with, you guessed it, a cast-iron dutch oven. Because they don't have an enamel coating around them you can use this pot outside without worry of ruining your cookware. It's durable enough that you can even place your dutch oven directly on some hot coals and cook that way! This also means that your dutch oven could become a family heirloom and last generations. Cast-iron dutch ovens typically won't empty out your wallet either but of course, this also depends on the brand you buy and the size.

Cons

Cast-iron requires more care due to its porous surface and tendency to rust if not taken care of. Anything cast-iron has to be seasoned before use or else you risk having odors from anything you cooked on it stay in the dutch oven itself. If a little more work on your end doesn't scare you away then I encourage you to go check out my article about how to season and take care of your cast-iron cookware! Along with having to season the pot before you cook, after you cook the cast-iron can't be cleaned with soap. Cleaning cast-iron isn't necessarily difficult it's just different, no soap, no metal brushes (you can still use metal utensils as long as you aren't digging into the pan like you would if you were cleaning it), no dishwasher.

Tip: Clean any cast-iron cookware immediately after you're done cooking with it while it is still warm!

Save the Date

IFTSA ANNUAL MEETING

APRIL 16-17

More Information to Come

South Central Area Networking Event
April 14 @ 7pm

Universities attending:

- Escuela Superior Politécnica del Litoral
- Instituto Tecnológico y de Estudios Superiores de Monterrey
Campus Querétaro (ITESM Campus Querétaro)
- Louisiana State University
- Oklahoma State University
- Tecnológico de Monterrey Campus Monterrey
- Texas A&M University
- University of Arkansas
- University of Central Oklahoma

Email Allison
(allisonbrenner@tamu.edu) if you
want to help with the February
Newsletter!



Food Science Club

Every Wednesday @ 7:00



@tamu_fsc



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