

The Lion Ledger

🌱 Spring 2025 🌱



Sweet Spring Cover Art by Arrienne Butic, 4th year BMS PhD Candidate

Note from the Editors:

Dust off your rain boots and gardening gloves— spring has officially sprung, and the Spring Edition of the Lion Ledger has arrived! As the April showers usher in vibrant May flowers, we’ve gathered a fresh bloom of seasonal favorites to celebrate. This spring, we are buzzing with curiosity: Sara explores how robotic insects might offer a glimpse into the future of farming, while Allison dives into the surprising (and slightly unsettling) discovery of microplastics in our brains. The sun’s not the only thing shining this season, as Rachel highlights Jesus Avila’s efforts to ensure grad students of all backgrounds have the community and resources needed to flourish, while Julia illuminates the recent Women’s Empowerment Dinner. If you’re planning a sunny spring picnic, we’ve got the perfect menu: crisp arugula salad and freshly baked bread from Natale and Zoe, followed by Cynthia’s dreamy strawberry pillow puffs and Megan’s seasonal twist on a classic cocktail. Or, if you’re looking for the perfect book to read while you wait out a spring thunderstorm, Jeniece has some great book recommendations to keep you company until the clouds part. Whether you’re planting seeds, chasing bees (real or robotic), or just savoring the sunlight, there’s something in this edition to help you bloom where you’re planted. Have any ideas for your very own Lion Ledger piece springing to mind? Reach out to us at lionstalkscience@gmail.com to have it featured in the next (Summer) Edition of the Lion Ledger!

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This Season in Science

Robot Bees: The Future of Farming Technology?

By: Sara Langberg

[Pollination](#) is the transfer of pollen, the male reproductive part of a plant, to the female reproductive part of another plant, enabling fertilization and the creation of new seeds. This process is necessary for the successful production of most agricultural crops. Though pollination occurs through natural phenomena including wind and water, insects such as bees, wasps, and butterflies play a critical role in the process. Insects precisely identify and target male flowers to pick up pollen from the stamen, then deposit the pollen on the stigma of the female flower where it travels down to fertilize the ovules (Figure 1).

However, [several factors threaten insect pollinators](#) as the growing population on Earth increases food demands; these factors include pesticide exposure, severe weather conditions, and the

challenges of transporting hives between regions. To address these problems, [researchers have generated several approaches for pollen delivery](#) and supplementation, the most popular being pollen sprayers or blowers mounted to vehicles, shown in Figure 2. However, these artificial pollination devices are inefficient, as they rely on a large supply of pollen and require many hours of labor to successfully pollinate a field of crops.

Additionally, vehicle-mounted pollinators create large amounts of waste due to the non-specific application of pollen to plants. Therefore, scientists at Harvard University and other institutions have begun to develop alternative, more targeted methods of artificial pollination, including biomimetics and robotics— a.k.a., robot insects (Figure 3)! Theoretically, these microscopic insect robots would perform the same duties as natural insects, i.e. identify the male flowers to pick up pollen and the female flowers to deposit the pollen and initiate fertilization. This seems simple enough, but [natural pollinators exhibit several complex abilities](#) to successfully complete pollination, including the agility to navigate clustered environments, perform acrobatic body flips, precisely target flowers to receive and deliver pollen, and resist

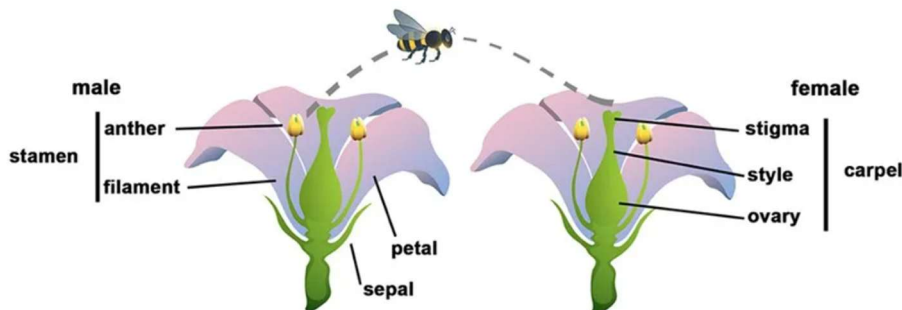


Figure 2: Diagram of how insects facilitate pollination
(Image Credits: [PennState Extension](#))



Figure 1: The BrambleBee, one version of a vehicle-mounted pollinator developed by a research group at West Virginia University
(Image Credits: [Design of an Autonomous Precision Pollination Robot](#))

adverse environmental conditions and in-flight collisions. These behaviors are difficult to replicate, and requires a multidisciplinary approach to address.

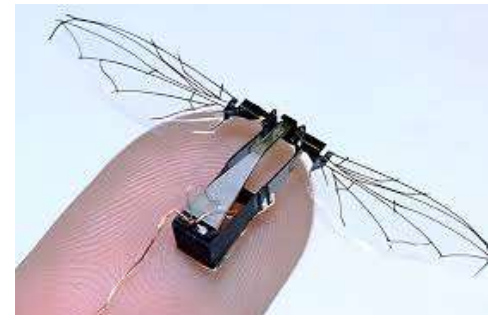


Figure 3: The RoboBee, a tiny, insect-inspired microrobot developed by researchers at Harvard that have the potential to enhance pollination and boost agricultural production.
(Image Credits: [BLife Movement](#))

The concept of aerial robotics replacing natural pollinators has been met with both enthusiasm and apprehension. One concern voiced by the scientific community is how to get these robotic insects to mimic the behavior of natural bees and other animals that are integral to pollen-spreading. [Recent advances on insect robotics](#) include the ability to emulate flight endurance, agility, and precision of aerial insects. However, the major challenges that persist are management of the

power source for the robotics and the fragility associated with the designs of the models. Additionally, though there have been major strides towards improving the maneuverability and aerodynamics of these robotic insects, translating these results into agricultural settings has been limited. Combining artificial intelligence with these models such that they can operate independently of constant oversight while improving designs to address the limitations provides an intriguing alternative to other forms of artificial pollination. There are also some [environmental concerns with aerial robotics](#). How will the introduction of these robots into the environment affect the surrounding ecosystem? Will it interfere with the behavioral patterns of natural insects? How will it change the ecological relationships? Ethical standards for use of aerial robotics should be considered and implemented as they become more popular; however, [there are currently none](#). If these questions surrounding safety, and ethics can be answered, then robotic insects may prove to be the most sustainable solution to address the decline in natural pollinators.



Science in the News

Microplastics: The Unwanted Brainstorm?

By: Allison Krebs

If you thought the plastic problem was confined to our trashcans, landfills, and oceans, think again. Microplastics have become a familiar symbol of environmental deterioration and are a reminder that human-forged plastic waste reaches every corner of our planet. In [a study published in *Nature Medicine* in February 2025](#), University of New Mexico Health Sciences researchers presented the first evidence that plastic particles can cross into, and accumulate in, the human brain.

From Autopsy to Polymer Detection

The team at University of New Mexico, led by Dr. Matthew Campen, analyzed preserved organ tissue samples from 62 human autopsies spanning from 2016 to 2024. Using a combination of pyrolysis gas chromatography, mass spectrometry, and electron microscopy, they were able to detect and identify several different types of polymers embedded in human tissue. Among the 12 polymers analyzed, polyethylene (PE) made up the majority of the microplastics, followed by polypropylene (PP) and polyvinyl chloride (PVC). Many of the polymers observed were shard-like in appearance and measured smaller than 200 nanometers (Figure 1), making them tiny

enough to potentially bypass biological barriers.

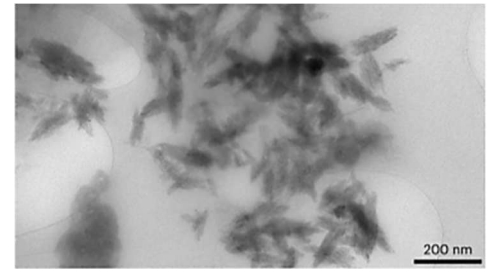


Figure 1: Shard-like microplastics
(Image Credits: [Nature Medicine](#))

Plastic particles were found in every organ studied—but one organ stood out: the brain. The brain has a protective mechanism known as the blood brain barrier (BBB) which is composed of specialized epithelial cells that work to tightly regulate the passage of molecules between the bloodstream and neural tissues. The BBB is essential in allowing key metabolites to the brain, while keeping potentially harmful substances out. The presence of plastic particles in the brain suggests that the BBB was compromised or bypassed.

Not only were these microplastics detected in the brain samples, but concentrations were also consistently higher in the brain samples than they were in the liver and kidneys of the same individual. This was a particularly unexpected finding given the liver and kidneys' roles in filtration and detoxification. Even more striking was the change in polymer concentration over time: the average concentration of microplastics found in the brain samples from 2024 were 50% higher compared to those collected in 2016 (Figure 2).

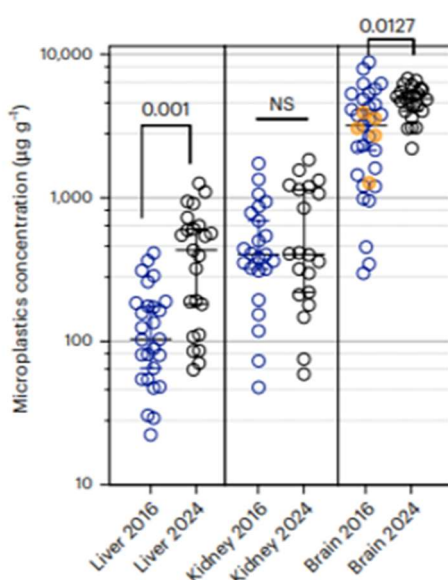


Figure 2: Rise in microplastic tissue concentrations.
(Image Credits: [Nature Medicine](#))

Could Elevated Microplastic Levels Be Linked to Dementia?

Perhaps the most intriguing discovery of this study is its connection to dementia. Individuals who had been diagnosed with dementia were found to have a tenfold increase in microplastic accumulation in their brain tissue compared to age-matched controls. Many of these plastic deposits were in blood vessel walls, which are known to be points of vulnerability in numerous neurodegenerative diseases. This is because the integrity of our blood vessels is essential for removal of substances from the bloodstream; without this outgoing transport system, there is potential for unwanted, likely harmful accumulation.

At this stage, it is still unclear whether the elevated microplastic levels in these individuals contributed to dementia symptoms, or whether the disease itself contributes to microplastic accumulation. Regardless, this potential correlation is creating more research interest into [how long-term microplastic exposure](#)

[could play a role in chronic disease.](#)

While this study doesn't have all the answers about what the presence of microplastics is doing in our brains, it helps shift the narrative. Microplastic pollution isn't a distant ecological issue for future generations to tackle; it's a current human health issue, and potentially a neurological one.



Get Involved

Event Spotlight: The Women's Empowerment Dinner

By: Julia Simpson



Selin Ozkaya, organizer of the Women's empowerment Dinner, at the event.

On March 24th, 2025, the University Conference Center was transformed, and 100+ attendees

from the College of Medicine congregated for a delightful evening of inspiration, good food, dancing, and solidarity.

When I walked into the room, I was met with a familiar space made wonderfully unfamiliar.

The cavernous room was low-lit with fairy lights; round tables were decorated with fresh flowers, hand-poured candles, and goodie-bags; and every free area was draped in purple, white, and gold. The space soon filled with a sea of faces – as many friends as strangers – mainly women (though all were welcome), all glad to be there, glad to be together. We were eager to uplift, and to be uplifted. We got what we came for, and that's thanks to Selin Ozkaya.

For Ozkaya, organizer of the Women's Empowerment Dinner and 2nd-year PhD Candidate in the Neuroscience program, the idea for the event was an observation she made with her PI, Dr. Kirsteen Browning. "We realized that our student population is about 75-80% women, whereas the faculty [population] does not necessarily correlate with this number," Ozkaya shared. "The initial idea was that we could put role models in the same room with the students... [and] everyone gets a chance to be inspired by another."

The program began with a brief opening by Zari McCullers, a 4th-year Biomedical Sciences PhD Candidate and President of the Diverse Graduate Student Group (DGSG). McCullers then introduced Ozkaya, who took to the podium in a lavender suit to give opening remarks. Next came an address by Dr. Browning, followed by a keynote speech by Dr.

Patricia “Sue” Grigson-Kennedy. Afterwards came dinner, dessert, and dancing.

“Dr. Grigson was a key person,” Ozkaya said, “One, because she happens to be the only female chair of a basic science department [here]... she juggles a scientific career as well as a family. And [two], she happens to be a co-founder for the Penn State Commission for Women,” who co-sponsored the goodie bags for the dinner. Event sponsors include the Dean, Dr. Karen Kim; the Penn State Commission for Women; and DGSG. \$2000 in additional funds were raised in a bake sale organized by Ozkaya. Several faculty members, upon learning of the cause, contributed direct donations.

“I think the event was so special because every aspect of it was well-thought-out and a lot of care was put into it,” Ozkaya said, reflecting afterwards. As an attendee, I certainly agree.

For instance, Ozkaya chose March for the event because March is Women’s History Month, and purple for the color scheme due to its rich history in symbolizing women’s movements. And the party-favor candles? “Those candles were home-made by Dr. Browning!” Ozkaya said, smiling. “She spent probably over a week to make those!”

The event was deeply meaningful to Ozkaya. “I am the first generation [in my family] in the United States, as well as the first-generation student... if I had not had the right guidance and amazing mentors, I could not have ever found a possibility of even being here in graduate school,” she said. “So, to me, seeing faculty

members getting to these places, paving the way, and being trailblazers, it just gives me this hope that, you know what? If they did it, I could do it, too.” Ozkaya intends to stay in academia and pursue a career as an independent PI. For her, it’s about more than the science. “I value mentorship a lot,” she said, “and I think [in this career] I would get really good opportunities to mentor upcoming generations of scientists.”



Ozkaya and mentor Dr. Browning.

“It was such a thoughtful and uplifting evening, and very much needed at this time,” said attendee Ikram Mezghani, 4th year Biomedical Sciences PhD Candidate, about the evening. “These kinds of events are so important to have, especially for women in science. We’re often going against the grain to break through in this field, and it can feel isolating. But seeing other women who’ve made it – and made it big while also balancing family and work, is truly inspiring.”

“I also loved the food, the afterparty, and the meaningful conversations throughout the night,” Mezghani went on. “It was a great opportunity to network and left me feeling truly empowered. The event was for women, by women, and about women in

science – it created a space where we could genuinely celebrate and uplift one another. Selin did an amazing job organizing. It was a beautifully run event, and she’s a phenomenal rising scientist and leader.”

Will the Women’s Empowerment Dinner return annually? The answer is unclear. What is clear is this: the event was an inspiring, fun, meaningful evening of solidarity in these tumultuous times, and I certainly hope to see it on my calendar next year.



Student Spotlight

Jesus Avila: A Product of Hard Work and Sacrifice

By: Rachel Kang



Image Credits: Jesus Avila

Jesus Avila is a third-year Biomedical Sciences PhD candidate in Dr. Craig Meyers' lab in the department of Cell and Biological Systems. His thesis work involves examining the potential role of HIV drugs in exacerbating HPV oropharyngeal cancer. Now that those with HIV are living longer lives due to these life-saving drugs, this vulnerable population has seen a markedly increased incidence rate of this understudied throat cancer. Understanding how these drugs may encourage a severe and unwanted side effect in this particularly close-to-home community is a key reason why Jesus wakes up and wants to come into lab every day. Outside of his studies, Jesus enjoys all forms of creative expression such as fine art, theatre, music, and fashion. He sees it as a way to express himself and be seen.

In our interview, Jesus spoke about the difficult transition between undergraduate and graduate school. Jesus attended Rutgers University in New Jersey, a school that boasts a significant diverse student population, where he was able to easily find community and support. The move from the bustling metropolis of New Brunswick, New Jersey to graduate school in the quiet, rural, and largely homogenous Hersey, Pennsylvania was a big one. The transition was overwhelming.

"I realized just how important it was to be able to see yourself in your community, especially in people with authority," Jesus said. He emphasized that the imposter syndrome was incredibly strong and that he felt like a fish out of water: he did not belong – people like him did not belong – in programs like this. He began hiding

parts of his identity, like his Latino heritage, to protect himself and feel worthy of this opportunity. This deception, even to himself, must have been incredibly difficult to hold onto. But when I asked what made him continue pushing through this program, Jesus's face lit up.

The answer, he said, was his family, his history, and the people he has chosen to surround himself with. Immigrating from the Dominican Republic and Peru, his family made incredible sacrifices and put in staggering hard work to ensure that the next generation of Jesus's family would have ample opportunity for a better life. For a long time, Jesus did not think that a PhD program would be possible for him. The day Dr. Ralph Keil made the fated call, Jesus knew that a PhD would change his family's future, and this degree would be a product of those sacrifices and years spent toiling away. "The day I defend," Jesus declares, "I would have done it against the odds and have done the damn thing".

Although Jesus is grateful for the opportunity to obtain a PhD, he remains vocal for the working conditions of the community he finds himself cultivating. For Jesus, community is powerful and is a home for people who may also feel unwelcomed or unworthy of the opportunity they have already fought so hard to obtain. His goal for Penn State and what he strives to do with all of his additional extracurricular activities is to ensure that the graduate student community is seen, acknowledged, and appreciated through time, energy, and financial support. He wants to make a home for people who look like him or felt like him during those difficult initial six

months, because no one who walks through those College of Medicine doors every day deserves to feel like that.

After graduate school, Jesus intends to take a position in industry, where he hopes to work in project management and research administration. Outside of science, Jesus also hopes to one day open a creative space for underprivileged children to discover new creative outlets to express themselves in.

In my closing remarks with Jesus, I asked what he would tell his own inner child if he had the opportunity. He told me he strongly wishes he could take young Jesus and reaffirm to him to never lose sight of who you are, and that your identity is one of your biggest strengths, and it will get you so far.

Talking to Jesus was incredibly inspiring, and a sense of reassurance fell upon me during our conversation. Knowing that there are people like Jesus out there in the community, working day and night to preserve the one home some people may have, makes the tragedies befalling the United States a little easier to deal with. Community is such a powerful force, and it is up to us to uphold and foster the connections so that we are stronger together.



Spring Recipes

Strawberry Pillow Puffs

By: Cynthia Lascarez

What better way to celebrate a beautiful spring day than with sunshine, gentle breezes, and the sight of cherry blossoms in bloom? Spring is that perfect sweet spot—ideal weather for enjoying the outdoors before the heat of summer sets in. One of my favorite easy treats to bring along to a picnic or springtime gathering is these *Strawberry Pillow Puffs*. Light, flaky, and bursting with berry goodness, they're like little pillows of happiness—soft, sweet, and impossible to have just one!

Total cost: Less than \$25, depending on what you already have in your kitchen.



Strawberry Puff Pastry
(Image Credits: Cynthia Lascarez)

Ingredients (6-8 servings):

- 1 [Jus-Rol Puff Pastry](#)
- ½ a pack of fresh thinly sliced strawberries (can substitute with canned strawberries)
- 4 ounces cream cheese

- 2 tablespoons granulated sugar
- ½ teaspoon vanilla extract
- 1 teaspoon cornstarch
- 1 cup powdered sugar
- 1-2 teaspoons milk (can be any milk of choice)
- 1 egg (for egg wash)
- turbinado sugar (optional— for added texture)

Instructions:

1. Bring cream cheese to room temperature to soften before starting.
2. Preheat oven to 425°F (218°C).
3. Thinly cut strawberries into slices.
4. In a medium bowl mix strawberries, cornstarch, and granulated sugar (add sugar to taste) Set aside.
5. In a large bowl whisk cream cheese, vanilla extract, and granulated sugar until fully mixed and creamy. Set aside.
6. Unroll puff pastry and place on a large baking sheet (the puff pastry linked above comes rolled in a sheet of parchment paper)
7. Once on baking sheet, cut puff pastry into 6-8 squares and separate each square so they are not touching each other.
8. Next, gently score (make a light cut) a rectangle in the center of each square about one inch away from the edges of the pastry.
9. Add a spoon full of the cream cheese mixture to the center of the scored rectangle and spread evenly.
10. Top the cream cheese with a few slices of strawberries.
11. Repeat for each pastry.
12. Lightly beat an egg and brush the outer layer of the rectangle with the egg wash. Sprinkle

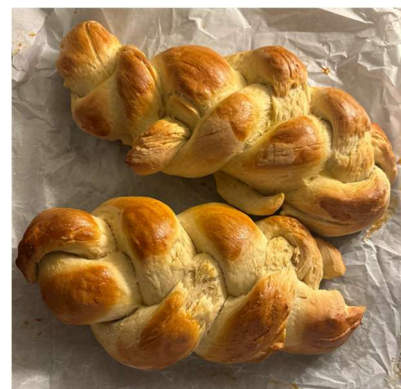
turbinado sugar on top of egg wash for extra crunch.

13. Place in the oven for 15 minutes or until the edges of pastry are slightly golden.
14. To make the icing, mix the powdered sugar and milk. Add more milk or powdered sugar to achieve the desired consistency.
15. Allow pastries to cool.
16. Drizzle icing mix on top of pastry once they have cooled.
17. Enjoy!

Knead a Little Spring? A Classic Bread Recipe

By: Zoe Katz

Spring has finally sprung, and though the snowy weather is behind us, the days are still wanting for warmer weather. What is a better way to enjoy the cooler days and nights we are having than warming up with a fresh loaf of bread? Unlike what is popularly thought about baking bread - that it is a strenuous, drawn-out process - this recipe is simple, relatively quick, and sure to be a crowd-pleaser!



Fresh baked bread
(Image Credits: Zoe Katz)

Ingredients:

- 1 (0.25 ounce) package of active dry yeast
- 1 cup of warm water
- 2 tablespoons of honey
- 1 teaspoon of salt
- 3 beaten eggs
- 3 ½ cups of all-purpose flour, extra for kneading
- 1 egg yolk, beaten

Instructions:

1. Warm up the water (I usually use hot tap water) and place in a bowl. Sprinkle the whole packet of yeast on top, swirl the bowl around to mix a bit, and let the mixture stand about 10 minutes until a bubbly, creamy layer forms.
2. Stir in the honey and the salt until dissolved. Add the beaten eggs.
3. Mix in the flour one half cup at a time, ensuring it is mixed in before adding the next half cup. When all of the flour has been added, the dough will be sticky. Sprinkle the dough with flour and knead until it becomes smooth, about five minutes (You may need to add more flour when kneading depending on how sticky the dough is.)
4. Place the rounded dough into an oiled bowl and rotate it so it is coated in oil. Cover with a damp towel and place in a warm spot (can be a non-preheated oven) for 1 ½ hours until it has doubled in size.
5. To shape the dough, cut the dough into two pieces and shape however you want (if you want to make Challah – I usually do! – take each ball and divide evenly in three pieces, roll these out into snakes, and braid the dough).
6. Preheat the oven to 350° F. Place the bread on a parchment paper-lined baking sheet. Brush each loaf with the beaten egg

yolk. Let the bread rest for another 30 minutes.

7. Bake the bread for about 30-35 minutes until the top is golden brown and it sounds hollow when you tap the bottom of it.
8. Let it cool (or keep it warm) and enjoy!

Ancient Grains and Arugula Salad

By: Natale Hall

As we head into spring, the days are getting longer, the sun is shining brighter, and the produce aisles are finally starting to feel alive again. If you have been craving something fresh and vibrant to celebrate the return of warmer days, then this ancient grains and arugula salad is the perfect dish for you! With nutty farro, protein-packed edamame, crunchy toasted almonds, and a hint of spicy jalapeño, this salad is as delicious as it is nourishing. This recipe makes 4-6 hearty servings and is perfect for meal prepping (ideal for busy graduate students) or to bring to a spring garden party. You can also easily customize it with grilled chicken or shrimp for an extra boost of protein. However you serve it, this salad is fresh, flexible, and ready for spring!



Salad with farro and arugula (Image Credits: [A Sweet Spoonful](#))

Ingredients:

Salad (makes 4-6 servings):

- 1 cup pearly or semi-pearly farro, rinsed and drained
- Optional: chicken or vegetable broth, for cooking farro
- 2 cups arugula
- 1 cup edamame
- 1 medium jalapeño, diced
- ⅓ cup almonds, thinly sliced and toasted
- ½ cup scallions, thinly sliced
- ¼ cup fresh mint, roughly chopped
- ½ cup fresh cilantro, roughly chopped

Dressing:

- Juice of one lemon
- Juice of one lime
- 1 tbsp toasted sesame oil
- 2 tsp pure maple syrup or honey
- Salt as needed

Instructions:

1. Cook farro according to directions on the container. Once done, set in the refrigerator to cool as you prepare the rest of the salad.
2. Whisk together the dressing ingredients in a mason jar, ensuring the maple syrup/honey is fully dissolved.
3. In a medium bowl, combine chilled farro, edamame, almonds, scallions, mint, and cilantro and toss with about ¾ of the salad dressing. This mixture can be stored in the refrigerator for up to 5 days (perfect for meal prepping!)
4. Serve salad mixture over arugula and finish off with the

rest of the dressing and salt as needed.

Let Spring Be-Gin: A Simple Spring Drink

By: Megan Brennan

Now that it is (mostly) warm and sunny outside, it is the perfect time for family gatherings and outdoor parties— and for my family, that usually goes hand in hand with a delicious drink.

While some of my cousins have nice in-home bars, decorated with bottles of liquors and a variety of spirits, I am like you, a grad student. I'm not going out to spend \$200, \$300, or even more money on setting up a full bar. My brother, also a student, winces at the prices of ingredients for some of these fancy drinks, so the two of us like to get creative to avoid breaking the bank. Below is an elevated gin and tonic recipe we were chatting about the other day that is refreshing, easy to make, and inexpensive.



Gin and tonic with a twist (Image Credits: [What to Munch](#))

Ingredients

- 2 ounces gin— any brand will do, but I recommend Empress 1908, which comes in different varieties like Indigo Gin (pictured above) or Elderflower Rose for a hint of botanical flavor and a fun pop of color!
- 1/4-ounce Grenadine
- 1/4-ounce lime syrup
- 3 ounces tonic water (can substitute club soda to make a gin fizz as opposed to a gin & tonic)

The ratios can be altered to your personal taste, with more syrup to sweeten up your drink, or more tonic water to dilute it a bit. To be fancy, slice up some lemons or limes and use the slices as a garnish for the glass. This is best served over ice and is delightful on a warm spring day!



Reviews & Recommendations

Spring Book Recommendations

By: Jeniece Regan



Image Credits: Amazon

Betty Ford: First Lady, Women's Advocate, Survivor, Trailblazer by Lisa McCubbin Hill

Hill does a masterful job of sharing detailed life experiences that laid the foundation for First Lady Betty Ford's work. Limited employment opportunities, for instance, drove Ford's support for the Equal Rights Amendment; meanwhile, her experience with breast cancer led her to become a spokeswoman to encourage women to request mammograms. Hill also deftly weaves the narrative through more difficult times in Ford's life – her eventual addiction, addiction rehabilitation, and advocacy for increasing addiction rehabilitation facilities. Throughout the biography, I was amazed at how Ford transformed her difficult experiences into advocacy for others. One limitation of this biography is that while Hill does a masterful job at showing the unfair expectations placed on Betty Ford

by her husband, Gerald Ford, she fails to note later interviews in which he recognizes his role in his wife's dependency on alcohol and painkillers. Regardless – at the end of this work, you will walk away with a more profound knowledge of history and Betty Ford's impact.

1491: New Revelations of the Americas Before Columbus by Charles C. Mann

This heavy tome is an eye-opening read about the American continents before Columbus came, which may not have been emphasized in your U.S. history classes. It highlights the incredible diversity and complex societies that existed on these lands prior to colonialization. The novel delves into the limited records of these societies – and points out the difficulties in making conclusions about daily life in these societies, based on such limited surviving records. One of the fascinating theories is that Native Americans had an immune system that evolved to deal with parasite infections, predisposing them to bacterial infections (an unfortunate circumstance that may have exacerbated their populations' vulnerability to European-borne illnesses). This book is well worth reading as an introduction to this historical period, and there is a sequel (1493) for follow-up on the changes wrought by Columbus' expedition.

A Well-Trained Wife: My Escape from Christian Patriarchy by Tia Levings

With her measured and eloquent prose, Tia Levings was one of the unexpected stars of the recent Amazon Prime documentary *Shiny Happy People*. In her written account, she shares her harrowing

upbringing in the Quiverfull movement and her experiences with her abusive spouse. She guides readers through into her slow realization that the life she was born into was not the life she was meant to live, and how she worked through her religious and family connections to break free. Her discussion on what happens after breaking free – and the subsequent work it took to accept her new normal – is insightful, particularly in recognizing that living her life now involves continual reckoning with the past. This becomes even more riveting when Levings notes that she heals from the past even while current movements blossom that disguise and promote the lifestyle she escaped from. This fascinating account is also a joy to read due to Leving's strong writing style, which is masterful and well-honed from her years of blog writing.

Andy Warhol Was a Hoarder by Claudia Kalb

This work examines 12 historical personalities and provides historical support for different psychological conditions each may have experienced and how they impacted their lives. I found the discussion of Frank Lloyd Wright and Betty Ford insightful – for instance, Kalb reviews the narcissistic behaviors that made Wright both innovative (and a pain to be around). In the chapter on Betty Ford, I liked how Kalb emphasizes an interview in which former president Gerald Ford comes to account for the role he played in enabling his wife's addictions—a realization that is not noted in Lisa Hill's biography of Betty Ford.



Thank you for reading the Spring 2025 Edition of the Lion Ledger! If you have something you'd like to contribute to the next edition, email us at lionstalkscience@gmail.com

- The LTS Team: Julia, Paige, Rachel, Natale, Sarah, & Zoe