



A quarterly newsletter detailing poultry related work, research, and events in California

Inside this issue:

- Drive-Thru Extension: 4-H Style 1
- Benefits of Carotenoids in Broccoli Stems 2
- Waterfowl Hang out Near Poultry Farms 3
- 2021-2023 Eggsecise Booklet Now Available 4
- The Sitch, Our New YT series! 5



We have a new Youtube series, **The Sitch!**
Read on to find out more!

Questions or Comments?

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Editors:

Odette Clamp and Christian Avalos



On Saturday, February 20th the UC Cooperative Extension and the Sonoma-Marin Fairgrounds and Event Center co-hosted a "Youth Animal Science Drive-Thru" event at the Sonoma-Marin Fairgrounds. What is a "Youth Animal Science Drive Thru?" It is a drive-thru where adults drive and youth (any age), including those from youth organizations who provide animal science education such as 4-H and Future Farmers of America (FFA), get the opportunity to learn about educational topics from the safety of their vehicles.

The drive-thru format, the brain-child of the Napa County 4-H Program Coordinator, Suzanne Amaral and Sonoma-Marin Fairgrounds CEO, Dr. Allison Keaney, allows for extension with appropriate physical distancing and without Zoom. This event, the first of its kind, had over 130 participants.

There were 4 different tracks (poultry, beef cattle, dairy cattle, and small ruminants). Each of those tracks had 5 interactive stations designed to highlight various topics including biosecurity, production, husbandry, welfare, ecosystem services, nutrition, food safety, and an additional station covering fire preparedness. Speakers included members of UC Cooperative Extension, Santa Rosa Junior College, Sonoma Marin Cattlewomen, North Bay Dairy Women, Sonoma-Marin and Napa County Young Farmers and Ranchers, Halter Project, Top of the Hill Show Stock, Two Willows Club Lambs, and various Sonoma County 4-H leaders and senior 4-H members.



Members of 4-H and Dr. Pitesky from UC Davis School of Vet Med Cooperative Extension at the Drive-thru extension event at the Sonoma-Marin Fairgrounds Event

Have you seen our new app?

Backyard Poultry Central is your hub for the latest information on husbandry practices for new and experienced backyard owners. Get notified of outbreaks as soon as they happen, and receive critical information at your fingertips.

Download "Backyard Poultry Central" app on the Google Play Store!

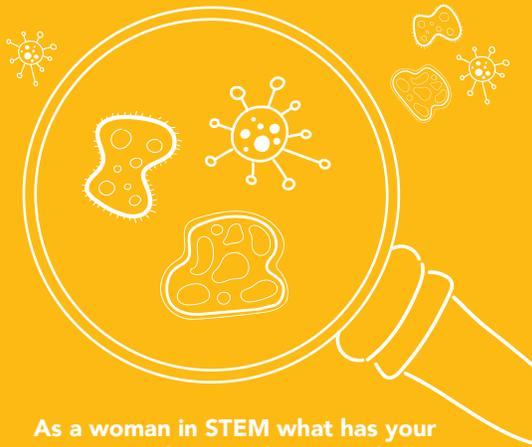


Community Corner

An Interview with Katherine Ramirez, a grad student from the Pitesky lab

Anything you favored with that project [working with SIR modeling and the recent vND outbreak]?

"I think definitely getting to know the community because I hadn't really had much background in the poultry community, and food safety/food security, until I got into this lab. And then when I got into the project I started having opportunities to get to know these poultry owners and the people who were actually trying to help. I got to go to a meeting with some grad students where we talked with some of the poultry owners and we got to educate them on poultry and vaccinating poultry. We also just got to hear from them and what they wanted to know more of. Because there's no point in producing all of this knowledge and information for them if that's not what they want to learn about. If they want to learn more about biosecurity rather than vaccination then it's good to be able to talk to them and hear that."



As a woman in STEM what has your experience been so far? Any challenges or notable experiences you would be care to discuss?

"I'm really fortunate that in a lot of stuff I'm involved in there is a good female population. In undergrad, in the pre-vet field, there's a lot of women. I was actually able to join a pre-health sorority in my undergrad and be empowered by women who were driven as well as I was. There is a good amount of females in our lab that I [am] able to reach out to if I have any issues whether it be related to lab or just stuff that was going on in my classes or in undergrad. I guess I would just have to say if there were any issues I'd want to talk about it would just be [how] sometimes women aren't taken seriously just..."

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Carotenoids in broccoli stems and leaves meal can be transferred to egg yolks

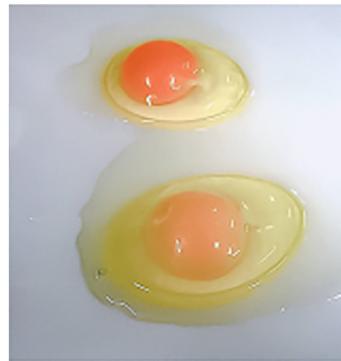
Guadalupe Peña, Yanhong Liu, Richard Blatchford, Asli Mete, Annie J. King

In an earlier edition of Poultry Ponderings, researchers reported highlights of a study in which broccoli stems and leaves (BSLM) were included in diets of layers and produced seemingly enriched egg yolks as evidence by their deep orange color (Pedroza et al., 2018). The enhanced color was associated with deposition of carotenoids, nutrients needed by humans and also coloring compounds in eatable fruits and vegetables.

Results from a recent in depth study revealed that carotenoids were transferred from the BSLM in the diet to eggs yolks. The next step is to determine (1) how various cooking methods affects the level of carotenoids in the egg and (2) if these carotenoids can be transferred from consumed eggs into the blood of humans. Uptake of carotenoids from eggs will be compared to that from consuming similar quantities of broccoli or other carotenoid rich food.



Broccoli Leaves, which surround the vegetable during growth



Recent research reveal that carotenoids are transferred from broccoli stems and leaves meal to eggs



Chickens eating from a feeding trough

Top:

Egg from hen fed diet containing dried broccoli stems and leaves

Bottom:

Egg from hen receiving diet without broccoli stems and leaves

Did you know...

The heaviest egg reported to have been laid by a hen is one of 454 g (16 oz), with a double yolk and double shell, laid by a White Leghorn at Vineland, New Jersey, USA, on 25 February 1956.



...because of their gender. And people will disregard any degree that a woman has. Just because they're a female, their ideas are not taken as seriously. So I fortunately haven't dealt with that, but I do know that is a big thing that happens in the health profession in general. Definitely seeing more women being taken seriously and their ideas being taken seriously would definitely be something I would like to see."

In terms of diversity, are there any changes or improvements you think could be made in research right now?

"I think a big improvement that I've seen is more encouragement for the Latinx community to pursue higher education. I can't remember how long ago but a new association was made. It was the Latinx Veterinary Medical Association. And it's very similar to AVMA, but specifically for people of Latinx descent to sort of connect in the veterinary field. And I had never seen that before.... I'm Hispanic so I never really saw many individuals that looked like me in the careers that I wanted to go to. So seeing these organizations pop up help you connect with potential mentors or even just see yourself in someone who has gone through the career that you want to go to, I definitely appreciate that. So I'd love to see more of that, not only in the Latinx community, but in other communities as well."

Kathy graduated from UC Davis this year, majoring in animal biology and with a minor in Spanish. She currently works with a grad student on SIR modeling and virulent Newcastle Disease (vND). Kathy hopes to earn a DVM and PhD.

Interviewed by Odette Clamp

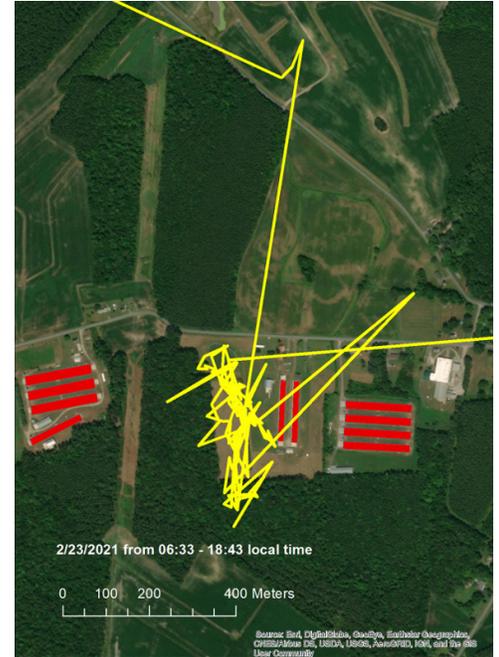


Waterfowl Hang out Near Poultry Farms

Maurice Pitesky, Jeff Buler, Chris Williams, and Matt Hardy

As part of a 4-year USDA funded grant, UC Davis School of Veterinary Medicine-Cooperative Extension, University of Delaware and the US Geological Survey are tagging waterfowl with solar-powered Global Positioning System (GPS) units to build waterfowl presence/absence models in the Central Valley of California and the Delmarva Peninsula. The below image shows the precise GPS locations of just one tagged Canada Goose recorded every five minutes over a 12-hour time period.

Nevertheless, it is an interesting example that demonstrates the spatial overlap of a single goose's activity near a commercial poultry farm (red rectangles are poultry houses). This goose was... ..presumably foraging on the ground and spent some time in an open pond on the farm. The goose came within a few meters of one of the poultry houses. Because waterfowl are the primary reservoir of avian influenza, these type of activities are highly risky. Proximity of commercial poultry farms to waterfowl roosting and feeding habitat coupled with inadequate biosecurity at the farm level increase the potential for disease transmission to domestic poultry.



Location tracking of a Canada Goose



The current version of the California Waterfowl tracker utilizes near-real-time remote sensing data (i.e. satellite imagery) and a statistical model built from 25 years of historic data to predict the daily distributions of waterfowl in the Central Valley of California between November and March. A version of this is under development along the poultry and waterfowl rich Delmarva Peninsula. Using a combination of the waterfowl trackers and targeted novel testing of the environment for AI we hope to have user friendly risk models available to farmers.

Can you solve this riddle?
Chickens rise when the rooster crows, but when do ducks get up?

Answer: At the quack of dawn!



2021-2023 Eggercise Book Now Available

The 2021-2023 Eggercise Book by the UC Davis School of Veterinary Medicine-Cooperative Extension and the Animal Health Branch of the California Department of Food and Agriculture (CDFA) is now available on line!

New sections in the 48-page booklet include virulent Newcastle Disease and Infectious Bronchitis (aka chicken COVID), PCBs in chicken eggs and chicken first aid. We have also updated the trivia and puzzles (apologies for the new and 'improved' chicken puns...) Over 130 paper copies were distributed at the Youth Animal Science Drive-Thru on February 20th at the Sonoma-Marin Fairgrounds in Petaluma, CA. Feel free to share and or print with all your eggcellent poultry peeps!

NOTE: IF you print out, print out in using the booklet format. Even better if you print out more than 20 take it to a print shop (it's a pain to get the staples in the correct spots...)

Starting your own backyard chicken flock?

In this coloring book, Dr. Cluck will teach you and your family how to best care for your new chickens!

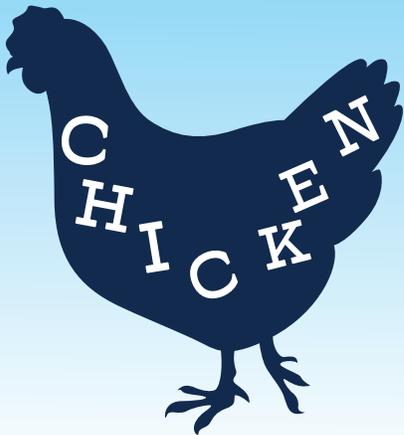


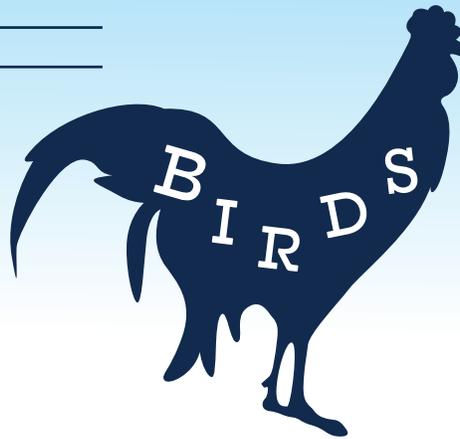
Developed by the University of California Cooperative Extension (UCCE) and the California Department of Food and Agriculture (CDFA)

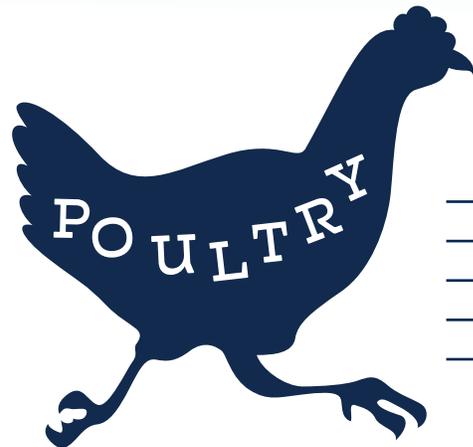
Download the booklet on our website!
<https://ucanr.edu/sites/poultry/files/302032.pdf>

Word Scramble!

How many words can you make with the letters given in each chicken?







An Interview with Graciela Chong, an undergraduate intern from the Pitesky lab

What have you enjoyed working on or studying (the most) so far?

"For projects, I enjoyed working on the Spanish website....updating, making pages and resources for Spanish speakers."

With your school or with labs, has there been anything that you have done that you feel contributed to the community, that you were particularly proud of?

"Yeah, I'd probably say again with the working on the website page. With the page for food safety and COVID, I was able to share that with my parents and everything. Somehow my boyfriend's family too. [laughing] We just kept sharing it."

Did you learn anything that you weren't aware of before or is that [translation of resources] something you think needs to happen more?

"Yeah, I think we need to work more on translating information here. I remember we had a meeting one time....they realized that with [the most recent vND outbreak] how a lot of Latinx people that own backyard poultry and stuff..."

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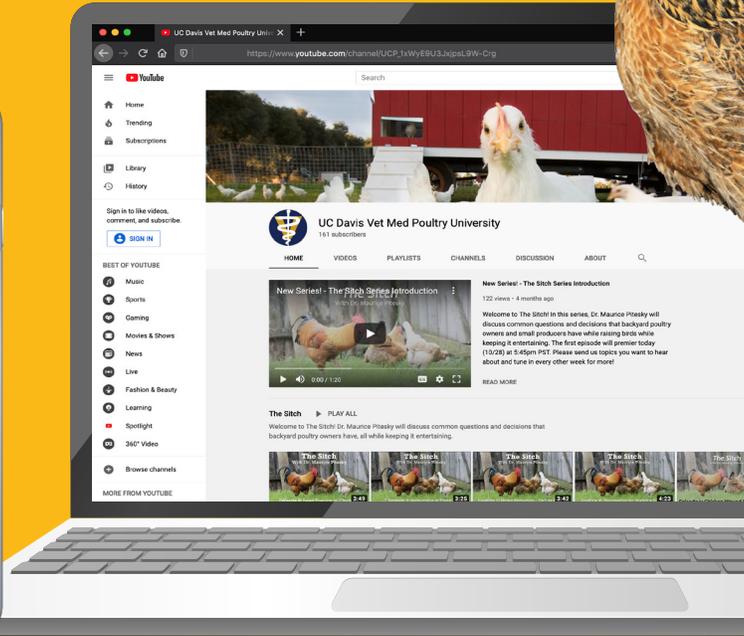
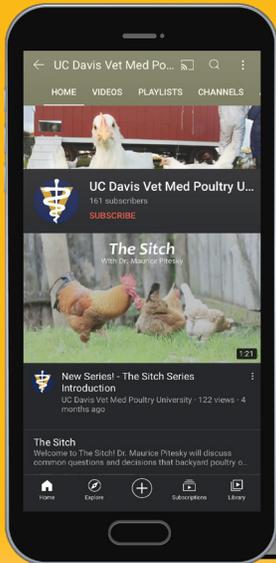


Have you seen our new series, 'The Sitch'?

Sit down with Dr. Maurice Pitesky as he answers the most common questions for new and experienced backyard poultry owners alike. Get insightful and accurate information on the best practices for raising your own birds.

Visit our channel at:

<https://www.youtube.com/c/UCDavisVetMedPoultryUniversity>



...and don't really speak English or are able to read English very well. So I think that it's very important. I think I can just relate it to my parents, they prefer to read information and hear information in Spanish."

As a woman in STEM, what has your experience been like so far in your early career? Any challenges or other notable experiences you would care to discuss?

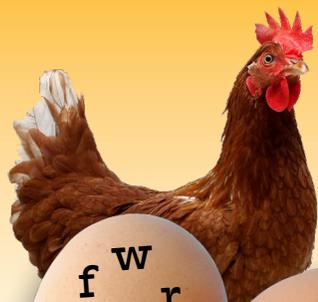
"It's been pretty good... I haven't experienced any sort of negativity in the field, I'm hoping it stays like that [chuckles]. But yeah everyone's been very respectful and nice. And very encouraging and supportive. I think that's really something that...I was very surprised because I know just being an intern, I guess just with past experiences, not most people really care too much about interns or what they want to do. And so at least getting support and stuff from the lab has been really really nice."

In terms of diversity, are there any changes or improvements you think could be made in research right now? Are there any disparities and/or improvements that you have noticed in your own past experiences (whether that be in school or while working with research)?

"Yeah I think it's definitely improving [in the] STEM fields - getting more diverse and straying away from the typical male scientist that people envision in that field. I think that what would be more interesting would be more research in different communities. For me what interests me is the Latinx community. Something with farm workers and that connection with poultry. I think that would be really cool, because not a lot of people think of that. Because if you're not from that background you don't really think about it too much. Also, definitely having more women in STEM."

Graciela is a 4th year undergraduate animal science major, focusing on companion animals. Some classes she's enjoyed include an animal ethics class and Chicano cinema class. She currently interns at the Pitesky lab, assisting with projects and other tasks. Graciela hopes to move on to veterinary school following her undergrad.

Interviewed by Odette Clamp



Try unscrambling these eggs!

