

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

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Questions or Comments?

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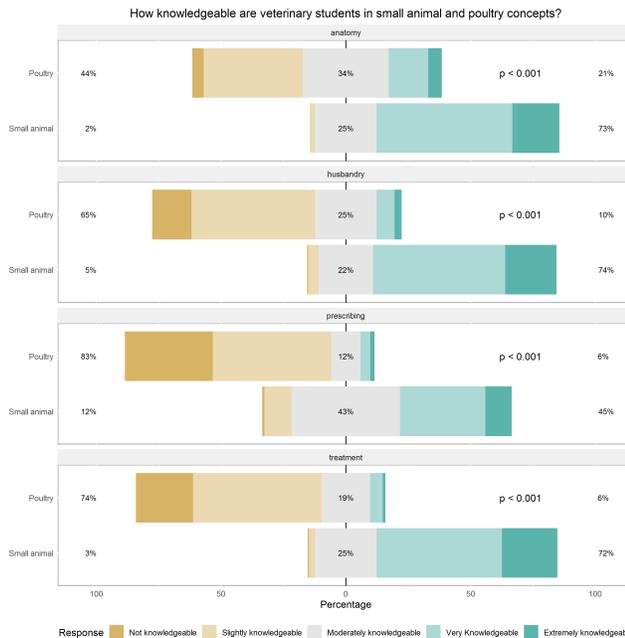
<https://ucanr.edu/sites/poultry/>

Editor:

Theresa Valdez

Assessing Small Animal and Backyard Poultry Knowledge of Veterinary Students

Myrna Cadena, Todd Kelman, Maurice Pitesky, Rachel Dutch and Lisa Tell



In a recent study published in the Journal of Veterinary Medical Education by Cadena et. al., students from 13 veterinary schools in the U.S. and Canada were surveyed about their knowledge of husbandry, prescription drug use and antimicrobial resistance with respect to poultry. Among other observations, we found that veterinary students self-reported not being knowledgeable regarding poultry medicine, antimicrobial resistance, drug use and drug residue avoidance relative to small-animal medicine (Figure 1). However, veterinary students also reported that they would be interested in these topics if educational opportunities were available.

The results suggest that veterinary students although largely interested in small animal medicine are interested in having more curricula focused on backyard poultry. With the increased interest in backyard poultry by the public and the reality that backyard poultry often have less than ideal biosecurity, integrating more non-commercial poultry curriculum will be critical for many states with large urban populations that have large backyard poultry populations including California. Current curricula if available primarily focuses on commercial production. Thus, a pivot toward training the large percentage of veterinary students focused on small animal medicine toward topics relevant for backyard poultry owners (e.g. backyard poultry husbandry, welfare, prescriptions and treatment options, food safety and anti-microbial resistance) would likely have the most significant impact of domestic food safety, security and public health.

Poultry? We have an app for that!

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



Scan Me!



An Interview with Margot Juan, an undergraduate intern from the Pitesky lab.

What has your internship looked like?

"We just ended collecting our summer samples [For the waterfowl project] and were working with Junior Specialists Brock R. and Odette C. I was in charge of doing pond water filtrations. We would collect water samples from wildlife refuges (Gray Lodge Wildlife Area, Howard Slough Wildlife Refuge). We would filter the water to collect the AI virus to concentrate it and send it to the lab. The field days we would also collect sediment samples.

I am also currently interning for the Lead withdrawal study. It is designed to help identify the withdrawal period of heavy metals (more specifically lead) that is found in chicken eggs. This problem typically occurs when chickens forage, where they are likely to consume toxins and toxic metals."

What has been your favorite part of your internship?

"My favorite part was visiting the refuges! If you have never been they are very pretty to visit. I got to see different types of wildlife and countless waterfowl."

Is there something you have worked on that you are the most proud of?

"I was very proud to be part of the collection of samples for the highly pathogenic Avian Influenza virus, study is very important in quantifying the strains and prevalence of the AI virus that is circulating in waterfowl. Its super amazing that there can be so many different types of ducks and how they migrate and how they interact with each other when they show up in different refuges.

I am also proud to be part of the current lead withdrawal project. The work we are doing is helping us further understand how long these contaminants stay within the poultry system and therefore are supporting many farmers learn about the health of their poultry. Especially after the recent CA wildfires a lot of poultry flock owners have been really concerned about being able to ingest eggs from their flocks because of how many toxins are in their environment. It's really important that we keep studying this especially as fires become more frequent. It not only affects animal health, but our own health too since we consume their meat and eggs."



Continued on page 3

Using the California Waterfowl Tracker to Assess Proximity of Waterfowl to Commercial Poultry in the Central Valley of California

UC Davis, University of Delaware and USGS

Waterfowl migrate thousands of miles between wintering and breeding locations and have long been known to be the natural reservoirs for avian influenza viruses which are associated with high mortality in poultry. During our fall and winter, millions of waterfowl migrate from the arctic to winter in the relatively warmer climate of California's central valley among other locations they can find appropriate habitat. Hence, as we enter the fall and winter, we need to double down on our biosecurity to prevent waterfowl from interacting with our domestic poultry. Whether you have a million-bird farm or just a few backyard chickens the message is the same: Maintain the best biosecurity you can which includes fencing and make sure you reduce reasons for waterfowl to come near your birds such as spilled feed and ponding of water. Our previous research has shown that waterfowl will be attracted to both natural and human-made wetlands and lagoons. So, if you live near one of these types of habitats, your biosecurity efforts are even more important.

To help people that live in the central valley of California, the California Waterfowl Tracker (CWT) is a tool that creates daily waterfowl density maps between November and April. The current version which utilizes a suite of remote sensing tools including satellite imagery was used to study the spatial overlap between waterfowl and commercial poultry in the Central Valley during the winter of 2019. Among other results, during January, 33% of the 605 farms spatially overlapped with waterfowl while in February only 19% of the farms spatially overlapped with waterfowl. Continued analysis of these data including the 2020 data will allow us to develop historical trends to better advise farmers and backyard owners alike.

A new version of the CWT is currently being developed and will allow bird owners to receive "push notifications" when the CWT detects birds in close proximity (e.g. 1, 7 or 10km) from waterfowl.

2 recent publications that highlight the California Waterfowl Tracker titled "Using the California Waterfowl Tracker to Assess Proximity of Waterfowl to Commercial Poultry in the Central Valley of California" in the Journal Avian Diseases and "A comparison of amplification methods to detect Avian Influenza viruses in California wetlands targeted via remote sensing of waterfowl" in the Journal Transboundary and Emerging Diseases are available on the UCCE poultry website under "research." If you have any questions on the this article or the California Waterfowl Tracker, feel free to reach out to Dr. Maurice Pitesky at mepitesky@ucdavis.edu

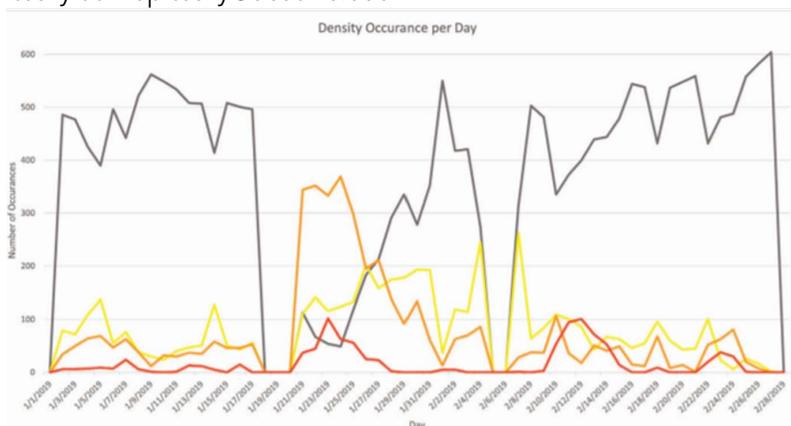


Figure 1. Frequency of the 605 commercial farms in "high, medium, low and none" waterfowl density categories for each of the 52 winter days studied in 2019. The gaps (1/19 and 2/16) represent missing data.

Working with Free-Range and Pastured Poultry Producers Across the U.S:

Pastured Poultry Economic Workshop Hosted by UC Davis School of Vet Med-Cooperative Extension and the National Center for Appropriate Technology

Maurice Pitesky and Ann Baier

This past August, the UC Davis School of Veterinary Medicine Cooperative Extension (UCCE) and the National Center for Appropriate Technology (NCAT) co-hosted a webinar on the economics of Pastured Poultry in the U.S. The webinar supported via a USDA Beginning Farmer Rancher and Development Program (USDA-BFRDP) utilized a combination of presentations in addition to a farmer panel (Figure 1) with several commercial producers with experience in various alternative poultry production systems. This final event in this nearly 4-year pastured poultry project featured three experienced farmers participating in a panel discussion on farmer economics: Caleb Barron from Fogline Farm, Marc Metzger from Metzger Farms and Benina Montes from Burroughs Family Farms. Topics discussed included access to credit and challenges with commercialization and expansion. In addition, a presentation was given by Dr. Pitesky from UC Davis School of Veterinary Medicine-Cooperative Extension on the results of a national survey of commercial free-range and pastured poultry producers. Specific topics discussed included: Benina Montes from Burroughs Family Farms talked about her third-generation farm and discussed her current flock of 3,000 pastured laying hens. In an effort to present helpful information, the farm has started producing YouTube videos which includes topics such as daily care of laying hens, organic certification, livestock guardian dogs, fencing, integration of poultry with almond and olive enterprises, and construction of mobile coops. The videos can be found on YouTube by searching for BurroughsFamilyFarms which you can also subscribe to!



Figure 1. Screenshot of Virtual Farmer Panel

Featuring...



Did any part of your work surprise you?

"Coming in from the pandemic where everything was remote, I was surprised with the intensive the lab and field work I've done so far and the sheer amount of time and effort that the team had collectively put in to collecting data especially back during the summer when it was extremely hot. We would leave (UCD) at 7am collecting samples out in the field but it was a new and exciting experience and I'm actually really excited to go back to that study. But the mosquitoes were ruthless! After collecting samples, we would drive off to leave the area early to avoid them. I would even have mosquito spray and they would still bite!"

As a woman in STEM, what has your experience been like so far in your internship?

"I'm extremely blessed and pleasantly surprised to find that my employer and coworkers (within the Pitesky lab) all put in their best effort regardless of age sex and race and again I appreciate that both of the junior specialists that I primarily worked with in the AI study (BR, OC) were very supportive of me while still allowing independence. They didn't treat me differently just because I'm a girl, especially when collecting field samples and digging for sediment samples. You might think to assign a guy for that but [Brock] would encourage "Go ahead, you do you!". The mutual trust and respect that I developed with the junior specialist and lab is important to me. It also shows me that I am responsible and capable in my field regardless of gender. And it wasn't just me, but I saw the same respect given to the rest of the interns in the lab."

What is it like being a student from another school in a Vet Med internship?

"It's definitely a learning experience. With the pandemic, I wasn't able to get regular lab experience but working in the Pitesky lab has been a great opportunity to get my feet wet with lab work. I am definitely seeing how the environment's health not only affects human health but also animal health, which in turn affects human health again and realizing the cycle is amazing. Having this internship has also helped create relationships and connections within the school that I otherwise would not be able to get, especially before the quarter started."

Margot is a junior year Biological Sciences student with plans to minor in Public Health. She transferred to UCD from Solano C.C. and has her eyes set on Medical School after completing her degree.

Marc Metzger is the third generation in a poultry operation that includes a hatchery specializing in ducks for meat and egg production, geese for eggs and weeding services, chickens and guinea fowl for meat and guard animals. With respect to economics, Marc says that their 45-year-old business started tracking profitability in earnest about a year ago. They now use a google or Excel spreadsheet and Entrepreneurial Operating System. Marc says that using these systems will make it easier to train others to take over different roles in the business, and ensure continuity in operations, even when there are changes with individuals.

Caleb Barron described how he has grown Fogline Farm. It started as a small operation with direct marketing meat chickens that he processed himself, on-farm. Fogline chickens are now processed in a USDA-inspected facility, which has enabled the operation to expand and diversify their customer base to include restaurants and stores as well as farmer’s markets.

Dr. Pitesky from the UC Davis School of Veterinary Medicine-Cooperative Extension summarized a recent national survey focused on the economics of pastured and free-range commercial poultry producers. Among other results farmers who identified their poultry operations as “profitable” were approximately three times more likely to own their own land thus reflecting one of the major barriers toward profitability for beginning farmers interested in commercial free-range and pastured poultry production.

Further information on pastured poultry is available on our YouTube channel: UC Davis Vet Med Poultry University and the NCAT and UCCE poultry websites: <https://attra.ncat.org/topics/poultry/> and <https://ucanr.edu/sites/poultry/>.

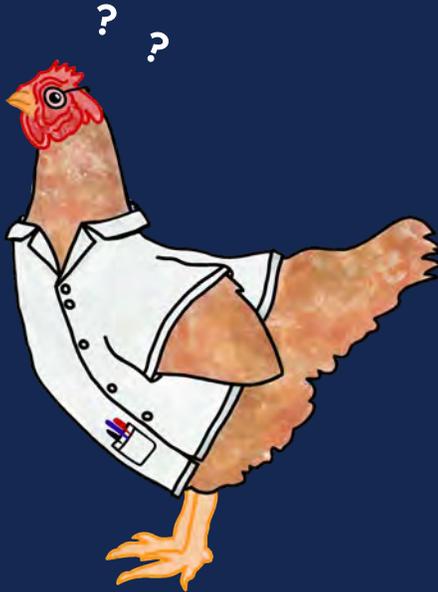


UC Davis Vet Med Poultry University

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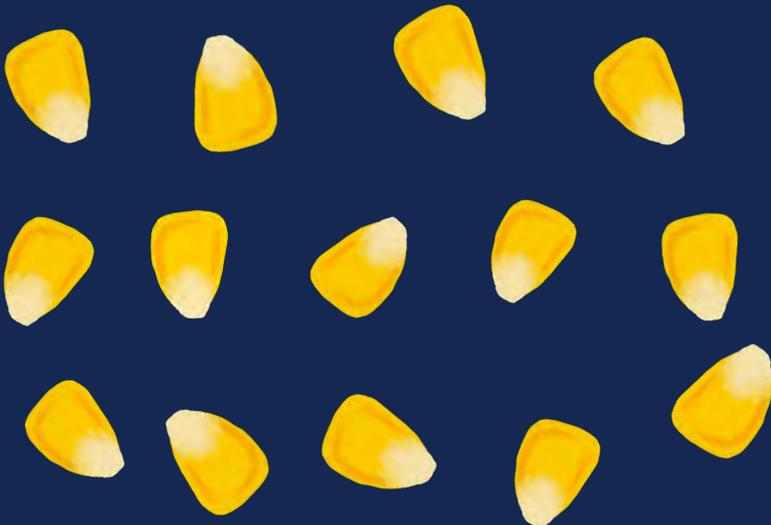
Oh No!

Dr. Cluck has had a busy summer, can you help them find what they misplaced somewhere among the newsletter?



Brain Game

Can you arrange these 14 kernels into 7 lines of 4 kernels each?



Need a hint?

You might be seeing STARS if you were a chicken with this much corn!



2021-2023 Eggercise Book

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 available online!

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...) 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!



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2021-2023

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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>

The Sitch

With Dr. Maurice Pitesky

Over a dozen topics covered!

Have you checked out our 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>

 YouTube

