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**For questions or comments, please contact Maurice Pitesky  
at 530-752-3215 or [mepitesky@ucdavis.edu](mailto:mepitesky@ucdavis.edu)**

# Dairies go Robotic!

By **Fernanda Ferreira**, CE Specialist, Dairy Herd Health and Management

Dairy farmers across the world are moving towards increasing the technological level of their operations. The use of automatic milking machines, or milking robots, is currently being used by more than 25% of dairy farmers in countries such as Denmark and Sweden. Family-operated dairies have been investing in milking robots for many years mainly to improve their quality of life. However, large dairies are becoming more interested in having robots to milk their cows due to limitations in labor availability and labor cost. The California Dairy Research Foundation is funding a research project in which the main objective is to describe the opportunities and limitations of implementing automatic milking machines in large dairies in California. Dr. Fernanda Ferreira (University of California, Davis) and Dr. Daniela Bruno (University of California, Agriculture and Natural Resources) are leading this research project, and in collaboration with Dr. Marcia Endres (University of Minnesota), Dr. Juan Pinero (Texas A&M), and Dr. Camila Lage (Cornell University) they have been interviewing and visiting large dairy farmers who have transitioned to milking robots across the US.

From left to right:

**Juan Pinero**, Assistant Professor and Extension Dairy Specialist, Texas A&M

**Jennifer Spencer**, Assistant Professor and Extension Dairy Specialist, Texas A&M

**Joshua Smartt**, ANR CEA, Archer Co.

**Adam Wolf**, Owner, Wolf's Legendary Dairy

**Fernanda Ferreira**, Assistant Professor of Cooperative Extension, UC Davis

**Camila Lage**, Dairy Extension Specialist, Cornell University





In May 2020, Drs. Ferreira and Lage visited two large dairies in Texas who have gone robotic. They had the opportunity to talk about the milking robot project while learning about Mr. Adam Wolf's dairy, Wolf's Legendary Dairy. The dairy extension team from Texas A&M, Drs. Juan Pinero and Jennifer Spencer documented the visit and explored the importance of this project in a series of two videos that are now available on YouTube and can be watched below:



Part I: <https://www.youtube.com/watch?v=emwODnEFo0Y&t=2s>

Part II: <https://www.youtube.com/watch?v=p6unpChxzao>



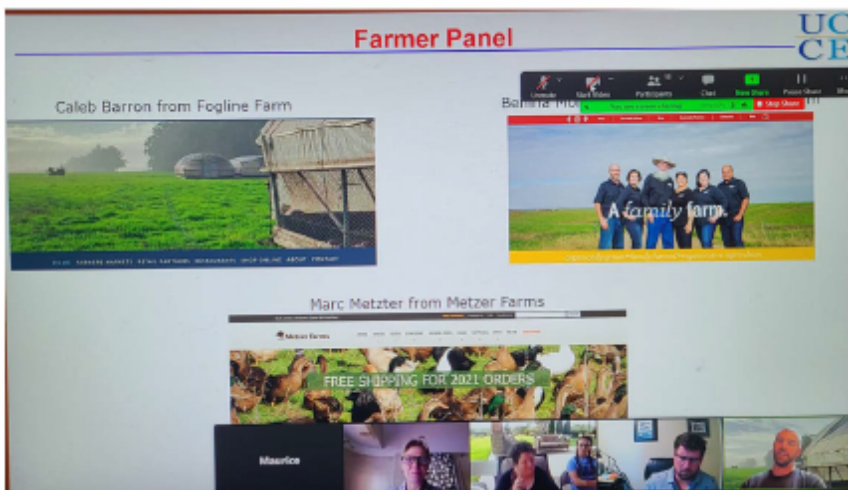
After interviewing more than half of large dairies in the US who have transitioned to milking robots, we can say that overall farmers are very satisfied with the new technology. It requires a change in the management mindset of the dairy farmer, managers, and employees, and high levels of cow comfort can be achieved. The economic feasibility of the project should also be studied, as the initial investment is high, and maintenance costs can have a big impact on the bottom line of the project. As Mr. Wolf says, "Farmers must trust the technology, and cow behavior becomes crucial for the success of the operations".

To know more about the project, you can subscribe to the Dairy Tech Newsletter here: [https://ucanr.edu/sites/Dairy/Dairy\\_Tech\\_News\\_396/](https://ucanr.edu/sites/Dairy/Dairy_Tech_News_396/)

If you have any further questions about this project, please contact Dr. Ferreira at [fcferreira@ucdavis.edu](mailto:fcferreira@ucdavis.edu).

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

By 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!

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. By developing a certified commercial kitchen,

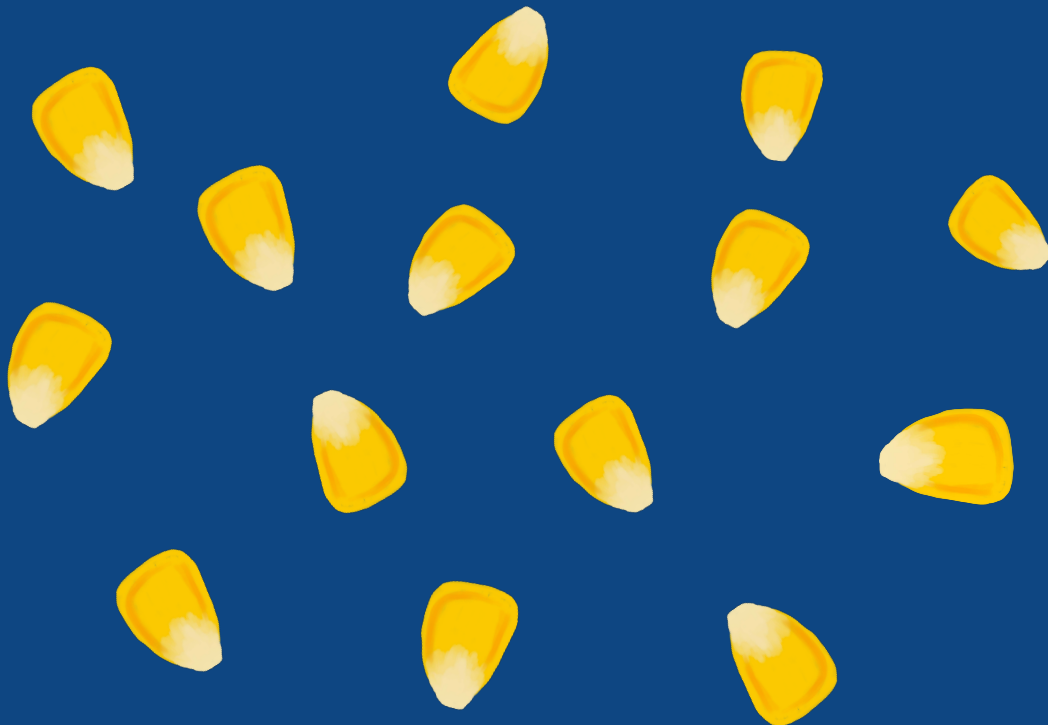
Continued on page 5

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/>.

## Brain Game

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



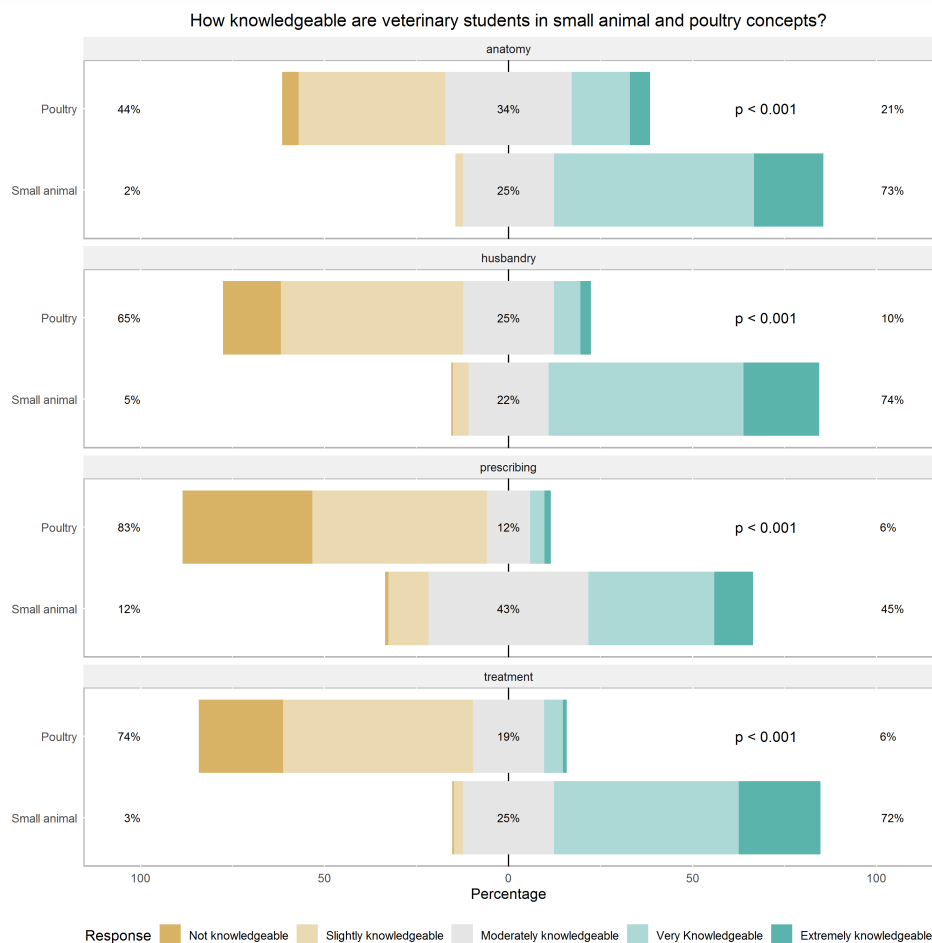
Need a hint?

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

# Assessing Small Animal and Backyard Poultry Knowledge of Veterinary Students

By 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 anti-microbial 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.





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

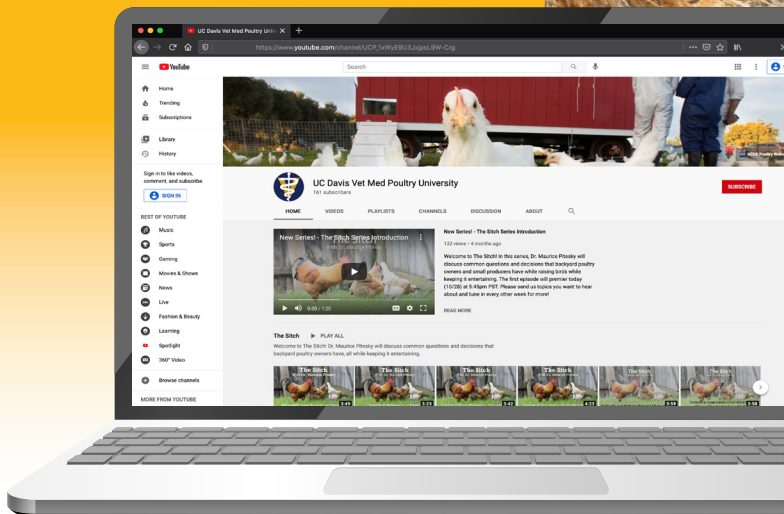
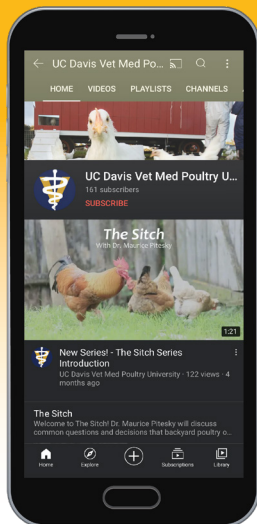
Sit down with Dr. Maurice Pitesky as he answers the most common questions for new and experienced backyard poultry owners alike. Get insightful and accurate information on the best practices for raising your own birds.

Visit our channel at:

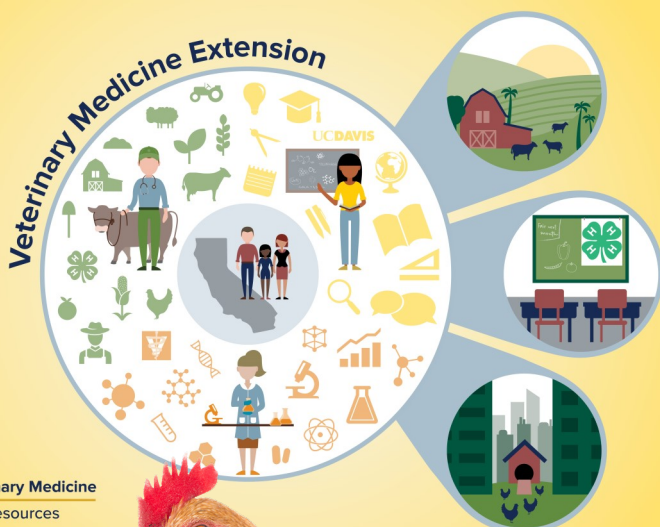
<https://www.youtube.com/c/UCDavisVetMedPoultryUniversity>



Over a dozen  
topics covered!



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