

Back to the Future: Backyard Chickens and “Micro Commercial” Poultry Production Making a Big Comeback in California

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As many of us realize, backyard chickens and small commercial poultry are becoming very common in California and across the United States. “Back of the envelope” calculations based on the USDA’s 2013 National Animal Health Monitoring System’s (NAHM) survey suggests that there are approximately 100,000 backyard chicken premises in the state of California. The same survey shows increasing interest in backyard chicken ownership over the next five years. While not addressed in any formal survey, interest in micro-commercial or non-conventional (e.g. pastured, free-range etc.) “small” commercial poultry production (layers and broilers) is also increasing. A recent survey conducted by graduate student Naomi Reimer working with the Niemeier and Pitesky labs at UC Davis, identified over 80 commercial pastured poultry farms in California.

Because of these high numbers and the lack of veterinarians that are trained in backyard and non-conventional poultry medicine, there is a unique opportunity for small animal and mixed practice practitioners to treat not just backyard flocks but also small commercial flocks, which are often in urban and peri-urban areas. This article is intended to help provide broad based approaches and resources with respect to treating and most importantly, preventing disease in backyard poultry and non-conventional commercial poultry.

Transitioning from Individual Animal Care to Flock Health

The most important philosophical change to make when treating poultry is to shift toward the concept of flock health as opposed to individual bird health. In general, if a health problem exists in one chicken within a flock, there is a high likelihood that the remainder of the flock may be affected. Furthermore, if there is a systemic flock health problem, most likely it is related to husbandry/management practices within the premises. For example, the root cause of bumblefoot (an infection of the footpad that is often caused by *Staph aureus*) is typically related to poor material choice for perches, improperly sized perches, and/or poor quality litter. The approach here will be flock based and will incorporate new strategies (new perch design) that will prevent the occurrence of lesions in the foot that later on will be infected by the bacteria. The base concept is preventative veterinary medicine. Therefore, in our opinion, optimal poultry



medicine cannot be done without making a farm visit in order to assess the environment that the birds are raised.

Offering farm visits as a periodic service is essential for proper biosecurity, husbandry, food safety, and flock behavior. Doing a physical exam in the hospital is literally the equivalent of putting a “band-aid on the tip of the iceberg.” Therefore, combining farm visits with physical exams of a “handful” of chickens (again think flock health) will provide a much more complete picture of the flock’s overall health and increase the potential to prevent disease and management issues moving forward. Using this approach, the veterinarian can assess environment and husbandry practices (e.g. coop design, bio-security practices, litter quality, rodent and wildlife control), flock health (e.g. overall egg quality and quantity, welfare, behavior, weights, vaccine status), and individual issues (e.g. physical exam) at the same time. In addition, the veterinarian can assess and correct on site how the owners are working with their flock and make recommendations about food safety and biosecurity.

For example, if an owner or an owner's children collect eggs, it is important to check the quality of the eggs, how the eggs were cleaned, and if dedicated clothing was used to work within the coop. The goal is to reduce the risk of transmitting zoonotic bacteria like *Salmonella* and/or *Campylobacter* into their home.



Finally, veterinarians can use these visits as an opportunity to work with clients on practical record keeping. Information including vaccine status, type of feed, amounts fed, water consumption, mortality, egg production logs, etc. can be very useful in determining what is normal and abnormal before a pathologic event hits the flock. An example of how we are trying to boost this preventative approach for small flocks comes from a master's project that is being conducted by Theodore Derksen in Dr. Gallardo's laboratory at the University of California at Davis, School of Veterinary Medicine. The goal of his project is to assess the prevalence of different poultry respiratory diseases in small flocks and correlate them with the biosecurity practices in place in the different flocks.

"Micro-Commercial" Production

In a collaborative effort among five departments, UC Davis started a 4.5-acre pastured poultry farm to help address many of the challenges these farms face

with respect to biosecurity, food safety, environmental management, predator control, farmer ergonomics, and business management. The UC Davis effort is designed to address these challenges in order to make sure that these farms are using the best practices possible with respect to their production system. Undergraduates, DVMs, and graduate students are gaining practical experience in husbandry, engineering (e.g. the eggmobile was built by Dr. Niemeier's laboratory), and veterinary medicine. A training course in pastured poultry production was recently completed in Marin County and a second course

is currently being planned in Modoc County. If you are interested in learning more about pastured poultry production and the UC Davis Pastured Poultry Farm, please visit http://ucanr.edu/sites/poultry/UC_Davis_Pasture_Poultry_and_Innovation_Farm/.

Backyard poultry owners are more likely to seek treatment for birds than previously observed. In addition, small commercial poultry facilities are becoming relatively common in all areas including urban and semi-urban environments. By using your current skill set in combination with the above mentioned resources, you can expand your skill set to treat poultry.

If you treat poultry and would like your practice listed as a reference for poultry owners, please contact Dr. Pitesky and he will post on the UC-ANR poultry website (ucanr.edu/sites/poultry/contact). The site currently has 13 veterinarians from eight different counties in California that treat poultry.

The authors are all faculty members at UC Davis who's poultry related research interests include poultry health, welfare, food safety, epidemiology, and optimizing the design of alternative production systems.



Left: Picture of the UC Davis Pastured Poultry Farm. The farm is designed to be a research, innovation, and outreach facility for interested stakeholders.

Right: Student working with pullets inside the demo coop. Wearing clothing dedicated to your poultry is one way to prevent tracking zoonotic bacteria into your house from your coop.



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Dr. Maurice Pitesky is a faculty member at UC Davis School of Veterinary Medicine with an appointment in poultry health and food safety epidemiology. His research interests are focused on using "traditional" epidemiological techniques, GIS and spatial statistics to understand how avian diseases move in time and space, *Salmonella* "behavior" from farm to table, and gaining a better understanding of small scale poultry production with respect to environmental sustainability, poultry health, and food safety.

Dr. Maurice Pitesky will be speaking at PacVet 2016.