



UC DAVIS

VETERINARY MEDICINE

Poultry Ponderings



Edition 16 • Winter 2019

A quarterly newsletter detailing poultry related work at the UC system



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Virulent Newcastle Disease—Update

Since May 2018, an outbreak of virulent Newcastle disease (VND) has had a devastating impact on backyard bird populations in four Southern California counties: Los Angeles, Riverside, San Bernardino, and Ventura. The virus has also been found in four commercial facilities in Riverside County and two in San Bernardino County. As a result, nearly one million backyard and commercial birds have been euthanized.

VND is a highly contagious respiratory virus in poultry that is nearly always fatal. The only way to stop the spread of the virus and eradicate the disease is to euthanize infected birds and all birds within highly infected areas. The primary way in which the disease spreads is by seemingly healthy birds being moved.

Clinical signs of VND include: sudden death and increased death loss in the flock, sneezing, gasping for air, nasal discharge, coughing, greenish/watery diarrhea, decreased activity, tremors, drooping wings, twisting of the head and neck, circling, complete stiffness, and swelling around the eyes and neck. For more information, visit bit.ly/cdfa-vnd.

To support disease containment and eradication efforts, the CA State Veterinarian is requiring that all poultry exhibitions that include birds from high-risk counties (Los



A rooster showing signs of VND

Angeles, Riverside, San Bernardino, and Ventura) be cancelled.

An exhibition is an assembly of birds (including but not limited to poultry) brought to the assembly location for purposes that include public display for any duration. These can be auctions, shops, pet marts, cock fights, petting zoos, or more.

For more information about movement restrictions, biosecurity, and testing requirements, or **to report an unusual number of sick/dead birds, call:**

**Sick Bird Hotline
866-922-BIRD (2473)**

—Dr. Annette Jones,
CA State Veterinarian

USDA Biosecurity Guide for Poultry and Bird Owners



LOOK
for Signs.



REPORT
Sick Birds.



PRACTICE
Backyard Biosecurity.

Questions or Comments?

Contact Maurice Pitesky at mepitesky@ucdavis.edu or 530-752-3215



UC Davis School of Vet Med and UC-ANR Teaming up on the Effects of Fire and Food Safety

The USDA recently awarded the UC Davis School of Veterinary Medicine and UC Agriculture and Natural Resources (UC ANR) a 2-year grant titled, "Developing In-Person and On-line Resources for Gardeners and Backyard Poultry Keepers in California Following Wildfires."

Because urban and peri-urban wildfires and the ash produced from them can spread chemicals from household hazardous waste, building material, pesticides and fire suppressants into our environment, providing timely science-based information is essential following fire events. This grant is designed to leverage our current research efforts related to the potential effects of fire on backyard poultry eggs and backyard gardening with respect to exposure to harmful chemicals including heavy metals, Polychlorinated biphenyls (PCBs) and

Polybrominated diphenyl ethers (PBDEs).

Specifically, this grant will focus on outreach and training to fire affected communities in California. Potential attendees include home gardeners and backyard poultry owners in fire affected areas, environmental health, food safety and public health professionals, and veterinarians and garden supply stores.

In addition, web material will share best practices and diagnostic resources after fire events. Current wildfire resources for backyard poultry keepers and backyard gardeners can be found at ucanr.edu/sites/poultry/Resources/Wildfire_Resources/. The first workshop will be held in Santa Rosa,

SAVE THE DATE | SAVE THE DATE | SAVE THE DATE

POST-FIRE FOOD SAFETY

Learn how wildfire impacts the safety of local produce and eggs

Saturday, April 27, 2019
10:00 a.m. - 12:00 p.m.

SRJC Shone Farm
7450 Steve Olson Ln
Forestville, CA 95436

UC CE
ucanr.edu/postfirefoodsafety/

RSVP:
ucanr.edu/postfirefoodsafety/

SAVE THE DATE | SAVE THE DATE | SAVE THE DATE

Sonoma County, California on April 27th. For more information, please contact Julia Van Soelen Kim or Maurice Pitesky at jvansoelen@ucanr.edu or mepitesky@ucdavis.edu.

—Dr. Maurice Pitesky & Julia Van Soelen Kim

Dr. Cluck's Trivia



Why is it almost impossible for a fertilized double yolked egg to produce two viable chicks?

Email mepitesky@ucdavis.edu with your answer!

Last quarter's trivia:

Dr. Cluck's flock will only lay eggs in a certain pattern in their circular nest boxes (see image in Poultry Ponderings Ed. 15, Fall 2018). Can you figure out how many eggs were laid in the center?

Answer: If you answered any odd number, you would be right! In any given row of nest boxes, the flock will only lay either odd numbers of eggs, or even numbers of eggs in each nest box. Hopefully your birds are not so picky!



Results from Backyard Chicken Egg Heavy Metal Testing in CA

In 2018, UC Davis conducted a California backyard chicken egg study due to concerns about the potential contamination of eggs by heavy metals in the environment. Inductively Coupled Plasma Mass Spectrometry (ICP-MS) was used to analyze backyard chicken eggs from 344 California residences for the presence of 6 naturally occurring metals. These metals have the potential to affect human health when consumed in excessive amounts. Preliminary results are as follows:

Lead: The mean concentration of lead in a 57g egg (the weight of an average large size backyard poultry egg) exceeds the FDA's maximum daily intake level of lead for children (3ug/day) in 27 (~7.8%) of premises, and exceeds the FDA's adult threshold (12ug/day) in 4 (~1.2%) of premises.

The mean lead concentration in a 57g egg in all non commercial premises is 1.36ug; however, because the distribution is right skewed (i.e. there are far more low lead concentrations than high), the median (0.56ug) is a better estimator of an "average" exposure.

Of the three commercial premises tested (60 total eggs), none exceeded either FDA threshold for lead. The mean and median lead concentrations for these commercial premises were identical (since it was a symmetrical distribution for these premises) at 0.24ug per 57g egg.



Mercury: One premise had average concentrations for which eating two eggs daily exceeds the California Office of Environmental Health Hazard Assessment (OEHHA) threshold for Chronic Reference Exposure Level (0.16ug/kg/day) for an average 70kg person, representing a possible concern for fetal neurodevelopmental. There was one additional premise of concern at three eggs per daily ingestion to exceed the threshold. The remaining backyard premises would take more than five eggs ingested daily to exceed the threshold. No commercial facilities were of concern.

Cadmium: Two premises had average concentrations for which eating three eggs daily exceeded the California OEHHA's Maximum Allowable Dose Level for reproductive toxicity (4.1ug/day). The remaining backyard premises would take more than five eggs ingested daily to exceed the threshold. No commercial facilities were of concern.

The rest of the metals (arsenic, copper, nickel) were found in extremely low concentrations that do not represent a health hazard.

While a quantitative proximity analysis to wildfire is still on going, it appears that there is no qualitative relationship between proximity to wildfire and the toxin levels identified. Levels of organic toxicants (PCB, PBDE and PAHs) is ongoing, so we cannot yet make an assessment regarding the presence of those potential toxins and proximity to wildfire.

Note that the concentrations of toxins from all eggs submitted from a single premise were averaged, as this more accurately represents the average daily exposure from eating eggs from a given premise than calculations derived from a single egg.

—Dr. Todd Kelman &
Anny Huang



FREE Small Flock Egg Producers Workshop



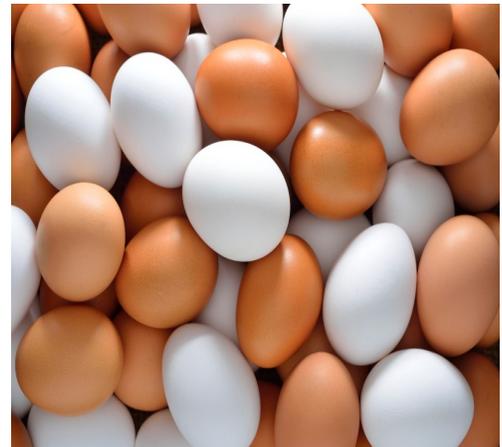
CDFA, Egg Safety and Quality Management Program invites you to join them for their outreach and educational workshops!

Workshops will be presented by Rebecca McCallister, Ginny Carlson, and Kathryn Tockey with the California Department of Food and Agriculture's Egg Safety and Quality Management program.

The workshops will take place between March and October 2019 throughout the state of California.

RSVP to receive take-home materials and a Certificate of Completion. Drop-ins are welcome upon available space.

For more information or to RSVP, visit www.cdfa.ca.gov/ahfss/mpes/spop.html



BEGINNING FARMER & RANCHER DEVELOPMENT PROGRAM:

PASTURED/FREE-RANGE POULTRY

Want to improve your free-range poultry operation?

Join us at our workshops for beginning free-range and pastured poultry producers in California and Oregon!



Visit our website at ucanr.edu/sites/poultry to learn more!



These workshops will include talks from experts in the field (including other farmers) about husbandry, marketing, profitability, regulations, and more! We will also have hands-on labs, local farm tours, and plenty of time to network!

The 2019 workshops will take place:

- 3/27/19 @ Davis, CA
- 4/10/19 @ Santa Rosa, CA
- 5/17/19 @ Santa Rosa, CA
- 6/5/19 @ Salinas, CA
- 7/11/19 @ Davis, CA

Dates subject to change. Please check the website for all updated dates and locations.

If you are interested in registering or learning more about these workshops, visit bit.ly/poultryworkshops or email [Aenny Huang at asahuang@ucdavis.edu!](mailto:asahuang@ucdavis.edu)

Visit our website for more poultry information: www.ucanr.edu/sites/poultry