University of California **Winter 2014** Edition 1

POULTRY PONDERINGS

A QUARTERLY NEWSLETTER SUMMARIZING POULTRY RELATED WORK AT UC

UC DAVIS SVM ADDS POULTRY TRAINING IN THE NEW CURRICULUM

Rodrigo Gallardo, School of Veterinary Medicine, UC Davis

Starting in the winter of 2014, UCD veterinary students will receive training in basic poultry production, diseases and biosecurity. This year Dr. Rodrigo Gallardo will impart the training as part of the "large animal stream livestock emphasis block" for third-year veterinary students. A second opportunity for third-year students will be offered in a 2-week elective poultry block. Dr. Gallardo and invited speakers, including private practitioners and veterinarians from USDA/APHIS, UCCE and CAHFS, will cover topics such as production, management, diseases, welfare, alternative production systems, legislation, backyard flocks, career opportunities in poultry, etc. Students in both blocks will visit hatcheries, processing plants and layer and broiler farms.

From left to right; veterinary students Michael Wesselink, Melinda Faubel, Michael D. Ramos, Michelle Sanborn, and Assistant Professor Rodrigo Gallardo (UCD) at JS West in Modesto.

RECENT PROGRESS IN MITE CONTROL

Brad Mullens & Alec Gerry, Dept. of Entomology, UC Riverside

Northern fowl mites cause damage especially to layers, breeders, and turkeys, and we are losing control chemicals to resistance development and regulations. Our most recent research projects have focused on an old technology, dustboxes, which never have been well tested scientifically but have promise in the growing number of cage-free operations. If someone wants to email me, (bradley.mullens@ucr.edu) I can forward recent research papers on the economic impact and control of mites and lice using mixtures of sand with diatomaceous earth (DE), kaolin clay, and sulfur. We are following up the earlier work with more studies on the DE and sulfur, which is especially active on mites.

UPDATE ON COMMERCIAL HOUSING AND LAYING HEN BEHAVIOR RESEARCH

Joy Mench and Richard Blatchford, Animal Science, UC Davis

Drs. Joy Mench and Richard Blatchford have been studying the effects of commercial housing systems on laying hen behavior and welfare. This research, which is supported by Coalition for a Sustainable Egg Supply, is taking place on a commercial farm in the Midwest. The hens are housed in aviary, enriched colony cage, or conventional cage housing. Some preliminary findings are that the hens in the enriched colonies quickly learned to use the nest box, perches, and foraging/dust pad even though they had been raised in conventional pullet cages. Use of the nest box in the enriched colony was high, with more than 95% of eggs laid there, and the nest pads stayed clean throughout the laying cycle. In terms of health, hens in the aviary were better feathered than caged hens, but their feather loss was due to aggression whereas feather loss in both cage systems was due mainly to abrasion against the wire of the cage. Keel bone deformities were more prevalent in the aviary, and aviary hens also had more severe foot problems than caged hens.

GETTING READY TO HATCH

UCD Winter Symposium BY poultry: February 2nd 2014

3RD ANNUAL VVIBDV OFFSITE

Maurice Pitesky UC Cooperative Extension

The third annual vvIBDV offsite was held at UCD on August 8th 2013. Over 30 participants representing industry, academia and state and federal entities participated in the meeting. The meeting is designed to allow researchers to update stakeholders on the state of vvIBDV in California and also to allow dissemination of relevant research. In addition, research priorities for the next year are discussed. At this year's meeting the following subjects were discussed: Epidemiology of vvIBDV in California, Moving Toward National Surveillance?, Viral Reassortments in Commercial Layers and Broilers, Do we need a vvIBDV Vaccine? and Following an Outbreak of vvIBDV on a Farm.

Dr. Charlton speaking at the vvIBDV offsite.

RESEARCH UPDATE: VVIBDV

Rodrigo Gallardo, UC Davis School of Veterinary Medicine

Infectious bursal disease (IBDV) is a highly prevalent immunosuppressive virus that circulates in the poultry industry worldwide. Combinations of viral segments including segments of the very virulent version of these viruses produce the very virulent reassortmants. Little is known about their effects in commercial poultry. Investigators from UC Davis School of Veterinary Medicine in collaboration with the Department of Animal Sciences and Auburn University College of veterinary Medicine, led by Dr. Rodrigo Gallardo, have been studying the effects of these viruses in the immune response of commercial chickens. Results of these experiments corroborate the importance of a good vaccination schedule in breeders to protect offspring during their first weeks of life and the potential of vvIBDV reassortment viruses in the induction of immunosuppression in offspring from vaccinated breeders. Results were submitted for publication.

QUANTIFYING PARASITISM ENERGY COSTS

Amy Murillo & Brad Mullens, Dept. of Entomology, UC Riverside

Northern fowl mites (NFM) are the most important ectoparasite on egg-laying hens. They cause damage by increasing energy intake for immune responses and diverting energy and other resources away from activities like reproduction. We measured white leghorn hen metabolic rates to quantify this energy difference. We found that NFM infested birds, compared to uninfested controls, had higher average nightly metabolic rates, possibly indicating disturbed sleep. NFM infested birds also had significantly increased feed conversion rates (required more feed to produce the same amount of egg mass). Breeding for resistance in white leghorns may keep NFM levels low but would likely not entirely mitigate these energy costs incurred by NFM infested hens, which translate to increased feed costs for produce

POULTRY PONDERING PONTIFICATIONS

Trivia: The town of Chicken, Alaska (population 7) was supposed to be named after a type of grouse, but the founders did not know how to spell it. Can you?

Answer published in the spring 2014 issue.