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The (chicken) show must go on: 4-H turns bird flu into learning opportunity

4-H animal education programs and poultry competitions evolve with the ongoing bird flu outbreak.

by Caroline D. Champlin

Getting Luanne ready for the stage is a multi-step process. First, she takes a bath. Next, she's dried with a towel, followed by a blow dryer. Finally, time to moisturize. Beard oil is applied to her legs, comb and wattle.

Luanne is a modern game show chicken, raised by a Southern California family and entered in poultry competitions around the world. Normally, summer would be the bird's time to shine on display at the Orange County Fair. But earlier this year, the California State Veterinarian put a ban on poultry shows because of the recent outbreak of bird flu, leaving Luanne cooped up at home.

"I'm disappointed," said Daytona, one of the bird's teenage caretakers. "If I haven't shown in a while, it just makes me progressively more forgetful with information and other aspects of showmanship."

Daytona and her younger sister, Skye, have raised Luanne since she was a chick — along with dozens of other backyard animals: ducks, doves, quail, dogs, fish, rabbits, guinea pigs, turtles and a cat. Luanne is part of a small brood of other pure-bred hens.

According to their mom, Janet O'Faolin, raising chickens has been a good way to teach the girls responsibility and keep them off screens. But this year, bird flu upended what is essentially their main extracurricular activity. A North American outbreak of the highly pathogenic virus started in 2021, and has killed millions of wild and domestic birds since then. People are still allowed to keep chickens at home, but large gatherings of poultry pose a serious infection risk.

O'Faolin estimates her girls would have attended at least eight competitions this year. Some shows have resorted to stuffed animals in lieu of live birds.

Many young people who show chickens at the fair are part of the University of California Agriculture and Natural Resources' 4-H program, which grows leadership skills and knowledge in a range of topics, including science and agriculture. The 4-H program incorporates research-based curriculum.

According to 4-H advisors, raising backyard chickens is a typical starting point for many young people curious about agriculture. That was the experience of 4-H member and middle schooler Kai. His family had never worked with livestock until they started training backyard chickens under the guidance of 4-H poultry leaders.

"You raise it, wash it, feed it and then you practice with it on all different surfaces," Kai said. "You try to walk it with a stick. You have to flip it upside down, spread out the wings, count different parts of the body."

At a previous county fair, one of Kai's birds, an Orpington named Lavender, placed first in the market show — the best-looking bird of the bunch. This year, Kai pivoted to showing pigs, but would have considered showing chickens again if it were possible.

Bird flu season, all year long

So, how long can we expect bird flu to stick around?

Maurice Pitesky, a UC Davis professor of cooperative extension, says to answer that, it's important to know some basic facts about the virus.



Skye would likely have competed in chicken showing at the Orange County Fair if it weren't for the current outbreak of bird flu. Photo: Caroline Champlin.

First of all, bird flu is primarily carried by wild waterfowl, like ducks and geese. Outbreaks usually spike when millions of those wild birds migrate back to North America in the fall and infect domestic poultry.

Secondly, as an RNA virus, bird flu tends to mutate frequently, which means it is especially good at adapting to new hosts. In the case of this virus, that list now includes foxes, cats, coyotes, raccoons and dairy cattle.

Summertime would typically be a break from the virus, when most birds are “out of town” for the season. This year is looking different, now that so many other, non-migratory animals are also carrying the virus.

“It checks off all the criteria of being something that seems to be in North America to stay, unfortunately,” Pitesky said.

Bird flu is poised to be a year-round, or “endemic” disease, according to Pitesky. That means more cancelled bird shows looming on the horizon.

“What do we do if the virus truly is endemic? What does that look like for 4-H?” Pitesky said. “That’s ultimately going to be the challenge.”

Board game, lab program grow youth science education

Pitesky wants young people to do more than just sit on the sidelines, waiting for shows to return. He hopes 4-H youth will gain skills that could prepare them to actually solve the problem of bird flu.

Pitesky’s lab at the UC Davis School of Veterinary Medicine has taken a unique approach to communicating the science of poultry diseases. They’re making a board game about the subject. In the game, players are invited to cooperatively stop the spread of an avian virus, while meeting the goals of their chosen character, like the state veterinarian, a poultry farmer or backyard chicken owner.

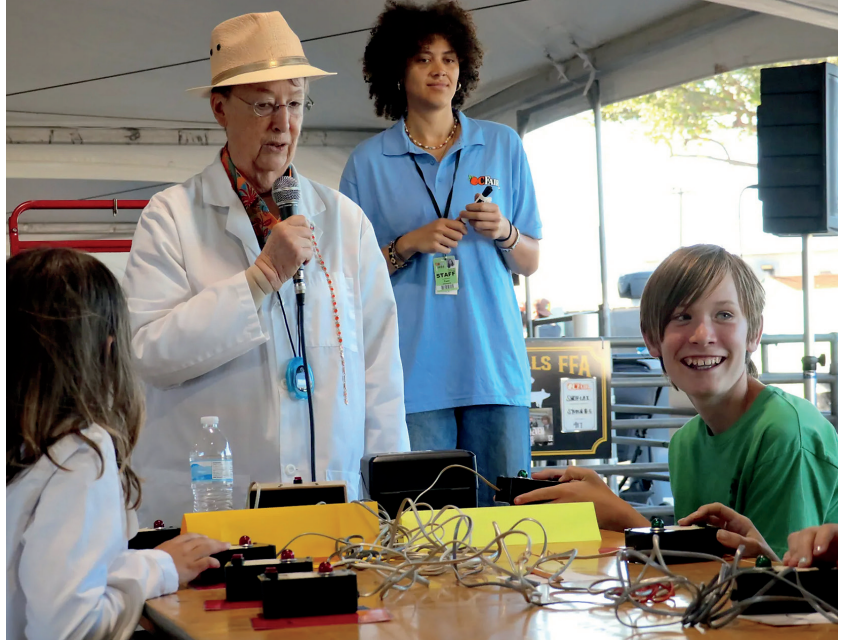
The game is still in development, but some lucky high school students are getting to pilot it. Pitesky says the intended lessons are already getting through to them.

“You have to thread that needle between what you want and what’s best for the community,” Pitesky said. “And that’s a really important lesson when it comes to diseases.”

Experts like UC Cooperative Extension 4-H advisor Hedmon Okella are also heeding the call to retool animal science education. Okella’s effort is challenging the perception that 4-H is just about raising and showing animals.

“We are trying to completely change the notion about that. It’s not just about animals,” Okella said. “My interest is in bringing in scientific literacy, as well as career development aspects.”

This year, Okella launched an animal-science literacy program dubbed The Youth Lab, where 4-Hers participate in poultry science experiments designed to mirror authentic scientific investigations. They conduct observations, gather and analyze their own data,



4-H members and other chicken enthusiasts compete in the Avian Bowl at the OC Fair, a quiz show about poultry developed by UC ANR emerita, Dr. Francine Bradley (center left). Photo: Caroline Champlin.

and draw conclusions based on predefined hypotheses and questions — enhancing both engagement and critical thinking skills. In the near future, he plans to roll out a workshop that allows 4-H members to directly observe avian flu.

“It’s not going to be the real virus,” Okella said, reassuringly. “We will construct a model that exactly represents the virus.”

He’s teaming up with a biotechnology company to develop a microscopic model of the avian flu virus, which can be used as a teaching aid to study structures that make the pathogen so contagious. The program is inquiry-based, so 4-H members are encouraged to ask questions and draw their own conclusions based on guidance from a facilitator.

“We are trying to actively engage the youth in their journey of discovery,” Okella said. “They have more potential than we can even imagine.”

So far, the program is available for 4-H members in San Benito County in Northern California, but Okella is working to expand to 4-H projects across other counties he serves over the next few years. He’s also received interest from local public schools that want to incorporate the lesson in their expanded learning programs.

In Orange County, disruptions from bird flu inspired UC ANR 4-H coordinator Rita Jakel to develop new programming to fill the gap. She organized a lecture on bird flu for 4-H poultry leaders in Southern California, hosted by the California Department of Food and Agriculture.

“They talked about the clinical signs in dairy cattle and poultry so people could recognize it,” Jakel said. “It was a really comprehensive presentation.”

She’s still regularly getting calls from 4-H poultry leaders who want to know if it’s possible to start working with birds again. With all the interest on the topic, Jakel is in the process of launching a statewide information session on the virus. [CA](#)