



Cheeps & Chirps

..... *Points for Poultry Profitability*

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NEW TERM TO LEARN - PANZOOTIC

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There is a new term I'm sure we are going to be hearing a lot about sooner rather than later. That word is "Panzootic" (pronounced pan-zoh-ot-ik). For those that have not heard of it, it refers to a disease affecting animals of many species, especially over a wide area. H5N1 Highly Pathogenic Avian Influenza (HPAI) is now a panzootic disease.

The first case of this strain of H5N1 was detected in farmed geese in China's Southern Guangdong region. Southern China is unique ecologically and is recognized as an influenza epicenter. It has many bodies of water, intensive farming systems, a highly dense human population, and is a dynamic industrial setting. The area is also an important wintering location for many migratory birds.

In the spring of 1996 several outbreaks of H5N1 occurred in farm geese at Sanshui, a small town about 50 miles west of the capital of Guangdong Province. There was more than 40% mortality in the farmed geese. Typical symptoms of the infected geese included bleeding and neurological dysfunction.

By 2005 the virus had spread over to wild birds in a major way and new strains started to emerge. By 2020, it was believed that the viral strain was being sustained in wild bird populations year round. It is now said to be endemic in the migratory wild bird population.

Wild birds are believed to have spread the virus worldwide. In 2021 HPAI H5N1 hit North America. By 2022 it was in South America. It is believed to have never left the area. All continents have now been affected. In February 2024 it was found in Antarctica. Australia and New Zealand held out the longest. This appeared to be because the migratory birds passing through these countries are shorebirds or waders (e.g., sandpiper plover, herons, egrets, flamingos, ibises, etc.) which are not as susceptible to HPAI as waterfowl like ducks and geese. Most recently however, Australia has had cases of

H5N1 HPAI. New Zealand, therefore, remains the only area without a known case of HPAI. According to the New Zealand government, however, they remain vigilant.

(<https://www.mpi.govt.nz/dmsdocument/62035/direct>)

According to the World Organization for Animal Health (WOAH), wild bird migrations are believed to be the key long-distance carriers of the virus, but it is the domestic poultry farms that amplify it in an area. This reinforces the need for strict adherence to biosecurity programs on all poultry farms worldwide.

H5N1 HPAI is now considered panzootic because it has spread to many different mammalian species. Twenty-one species in the USA alone have been affected. This includes mink, grizzly bears, fox, a polar bear, and an American Marten (species of mammal in the same family as weasels, sea otters, and wolverines). Scavengers and marine mammals were the first hit, and hit hard. There have been mass die offs of seals and seal lions. Tens of thousands have died from Quebec, Canada to Chile, Argentina, and Peru. 3500 sea lions died off Peru's coast, all infected with avian influenza.

Worldwide, at least 26 different mammalian species have been affected. In Denmark millions of positive farmed mink had to be culled after the HPAI virus spread through their fur farms. In Canada free-ranging bears have been found to be infected. In France a captive bear was infected.

In some cases, it is not clear where the virus arrived from. Mink in Spain became sick with H5N1 even though no poultry outbreaks were reported in the region. Mink, like swine, can become infected with both avian and human influenza viruses, with the threat of developing mixed strains of both.

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New word—Panzooticcontinued

(Continued from page 1)

New variants of H5N1 evolved in domestic poultry and went back into wild birds with deadly consequences. Breeding colonies of sea bird species are most at risk.

In the summer of 2021 an H5N1 variant struck nesting seabirds on the Shetland Islands of Scotland. Ninety percent of the adults in a breeding colony of Great Skua died.

This was followed by massive mortality events of Barnacle Geese, Gannets, Gulls and Terns elsewhere in Europe. Eight thousand Common Cranes died in Israel. In North America, there has been significant mortality in gulls and eiders (Canada is a major source of eider down) in New England and of Murres and Gannets along the Atlantic Coast. In Western Africa Great White Pelicans as well as Royal and Caspian Terns have had massive mortality. In Southern Africa, there has been high mortality among the African Penguins and Cape Cormorants. In India, flocks of Demoiselle Crane have been affected and in Japan, Hooded Cranes.

In March 2024 USDA confirmed H5N1 HPAI in dairy cows in Texas and Kansas. The virus is of the Eurasian lineage goose/Guangdong clade 2.3.4.4b. Some infected heifers were shipped to

other states before the outbreak was confirmed. To date 105 dairy farms in 13 states have become infected. It has also spread to dairy goats. Cats drinking milk from infected cows have also become ill.

Mortality has been low in the infected dairy herds (< 2%) with symptoms including thickened and discolored milk, low appetite, and reduced milk production. Only about 10% of cows in a herd show signs of illness.

Four alpacas on a farm in Idaho tested positive for H5N1. The farm had recently depopulated an HPAI-affected poultry operation.

WHAT IS THE HUMAN RISK?

The HPAI virus most effectively infects birds since it is an avian influenza virus. However, the influenza virus is notorious for its high propensity to adapt, mutate, and combine with other influenza viruses to form new subtypes. The H5N1 virus has mutated and spilled over into other species, especially mammals. But what about people? Is HPAI the next pandemic like COVID-19. Researchers say that is unlikely.

Scientists at MRC-University of Glasgow Centre for Virus Research (CVR) have identified a gene in human airways that stops us from being infected with avian influenza. The gene has been given the label BTN3A3 and it blocks avian influenza viruses from replicating in the cells of our airways. There are, however, some strains of HPAI that can evade this gene. The Spanish Flu of 1918 is thought to have been an avian influenza virus and it resulted in 25 million deaths. Genetic mutations in HPAI viruses have also resulted in BTN3A3 resistant virus strains.

The strain of HPAI that infected 1500 people in 2013, with a 40% mortality rate was, an H7N9 strain of the virus and not an H5N1.

It is important to remember that the term 'highly pathogenic' for HPAI refers to chickens and not to other species, including mammals.

Poultry and dairy farm workers as well as slaughter plant workers are at the greatest risk because of the higher levels of exposure compared to the general public. Contact with sick birds (or cows), or with their droppings, saliva, or feathers are the biggest risk factors. The poultry and milk products available on the market have been found to be safe, with no H5N1 contamination. Milk and poultry products from infected flocks/herds do not enter the food chain.

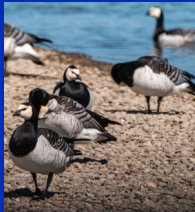
A few dairy farm workers have become infected with HPAI H5N1, presumably from infected cows. The symptoms have not been life threatening and included mainly eye inflammation.

Implementing biosecurity measures is a must. A developed plan on paper is not effective unless all staff strictly follow the measures it includes. The biosecurity plan

(Continued on page 3)



Great Skua on Shetland Island



Barnacle Geese



Cape Cormorants



Hooded Crane



African Penguins



Demoiselle Crane



New word—Panzooticcontinued

(Continued from page 2)

must include covering the waste piles, and reporting any illness in the flock as soon as they are suspected. Keeping good feed and water consumption records as well as accurate mortality records are all critical for early disease detection. In a previous outbreak, a drop in water consumption was the first symptom identified.

If you find dead wild birds on or off your farm, they should be left alone and untouched. Report them immediately to

the KY Department of Fish and Wildlife toll-free at 1-800-858-1549.

The US Department of Fish and Wildlife has more information on Avian Influenza on their website at <https://www.fws.gov/avian-influenza>.

*By Dr. Jacquie Jacob, PhD
University of Kentucky*

CONTROLLING AVIAN INFLUENZA

The main method used for avian influenza control, especially by most developed countries, is isolation and depopulation of affected flocks. There is talk of preventative vaccines being developed—can't those be used? There are current trade barriers that make this an impossibility for most poultry-exporting countries like the US. All cases of positive tests for HPAI must be reported to the World Organization of Animal Health (WOAH). Once a positive test is suspected, many of our trading partners will immediately ban the importation of any of our poultry products. This is a major economic loss for American poultry companies.

The problem is that when positive titers for HPAI virus are detected it is not possible to determine whether it is from a wild infection or a vaccination. None of our trading partners want to import products from a country with a wild infection, even though such flocks do not enter the food system.

France tried vaccinating commercial ducks using a new HPAI vaccine. All other countries, including USA, banned importation of all poultry products produced in or passing through France.



With that said, the USA did get special dispensation to use an HPAI vaccine to help save the critically endangered California Condors.

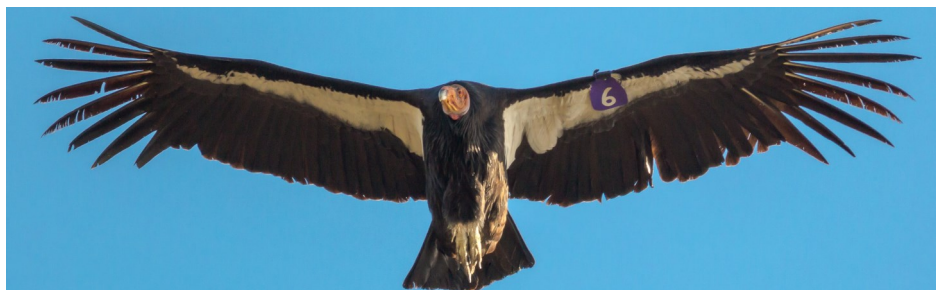
The California Condors almost went extinct due to hunting during the California gold rush as well as from poisoning from DDT and lead ammunition.

The California Condor Conservation program started in the 1980s when all 22 California Condors left in the world were captured and kept in captive breeding programs. The numbers of Condors went from 22 to 500. After the numbers were increased, the program started releasing adults back into the wild. In April 2023, however, HPAI was detected in wild condors in Arizona, killing 21 within a few weeks.

An HPAI vaccine was developed and first tested in the California Raptor Center with a similar bird, Black vultures, which is not an endangered bird species. The vaccine was verified as safe. A very small vaccination trial was then conducted with 25 condors across three zoos. The selection of participants took into account bird ages, gender, genetics and other factors. One group (5 birds) of the condors received no vaccination, a second (10 birds) received a single vaccination, and the third group (10 birds) received two vaccinations (first plus booster). Sixty percent of the condors that received a vaccine produced measurable antibodies against mortality from HPAI if the birds were exposed. Prerelease condors are now receiving two doses of the vaccines. If you want to read more about the trial, the information can be found on the US Fish and Wildlife site (www.fws.gov). Just search for California Condors and HPAI.

Can vaccines be developed for use in commercial poultry flocks in the USA? Unless the politics surrounding HPAI control change, it is not going to be possible to implement a vaccination program. In addition, as with the human flu virus, mutations occur frequently with HPAI making development of a universal, long-lasting vaccine for commercial poultry unlikely any time soon.

*By Dr. Jacquie Jacob
University of Kentucky*



COMPETITION COMING FOR US SALE OF CHICKEN PAWS



Hot and Spicy chicken feet



Grilled chicken feet



Chicken feet soup



'Meat' from chicken feet

The USA may soon have competition for the export of chicken feet to China. South Africa is poised to start exporting 540 metric tons of paws to China each month following a deal organized by the Official Tourism, Trade and Investment Agency for Cape Town and the Western Cape (Westgro) and the Standard Bank.

To put this in perspective, during the first six months of 2023 the US exported 65.2 thousand metric tons of chicken feet to China, worth \$550.4 billion. This is a decrease of 35% in terms of value and 51% in terms of volume over the first six months of 2022. This is primarily because of bans imposed by China during our HPAI H5N1 outbreak. During that time Chinese imports from Brazil and Russia were up by 77 and 42%, respectively.

In 2023 the US accounted for 43% of China's frozen chicken feet imports, followed by Brazil (20%), Russia (11%), Argentina (5%) and Chile (3%). China is only able to satisfy about 60% of their chicken feet demand through local paw production.

South Africa's exports to China cannot start until the country has been declared avian influenza free. It is believed the shipments will happen sometime in 2024. Once they are confirmed AI-free, South Africa will be working with AskCarlaKote, a local trading consultancy, as the go-between. According to the consultancy, the paws will be sourced primarily from female-owned poultry farms in the Western Cape and Mupumalong, but AskCarlaKote indicates they will start working with clients in Western Africa to start shipping from there.

Once the South African shipments begin, they are expected to be worth 300 South African Rands (ZAR) per year. That is equivalent to US\$15.8 million. The reports in Southern Ag Today (Sept 7, 2023) and Watt Publishing (Jan 29, 2024) do not indicate what the market will be for the remaining parts of the chickens produced.

*Written by Dr. Jacquie Jacob
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*With resources from Southern Ag Today
and Watt Publishing*

EFFECT OF HPAI ON WORLD POULTRY PRODUCTION-BRITAIN

According to a survey by the National Farmers' Union (NFU), an industry body for farmers in England and Wales, Britain is posed to lose almost 24% of its egg producers and 15% of its chicken meat producers. These producers are unsure if they will still be producing poultry meat and eggs beyond November 2025. There has been considerable dissatisfaction across both industries because of low financial returns.

One of the main factors indicated was the risk of avian influenza. Of those surveyed, 94% of egg producers and 92% of chicken meat producers said they were either fairly or very concerned about avian influenza.

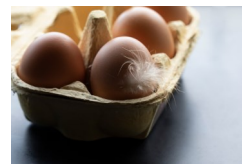
Producers also indicated they were unhappy with the unfairness they see in the supply chain. Soaring costs confounded the problem producers were experiencing.

For egg producers, feed costs have risen by 31% in the last two years while electricity has risen by 35%. In addition, salaries are up by 22%.

For chicken meat producers, feed costs have risen by the same amount (31%) while electricity is up 41% and salaries by 20%. These results are similar to those of the British Poultry Council's previous year report that indicated that soaring costs for feed, labor and fuel were damaging the viability of the broiler sector and that production was shrinking.

In early 2022, the British Free Range Egg Association warned that free-range and organic farmers were considering a mass exodus from the industry.

Evidently in 2024 producers are worried that the warnings of the British Free Range Egg Association, the British Poultry Council, and the National Farmers' Union are not being acted upon. The mood of British producers remains negative and too little is being done too late.



KENTUCKY 4-H POULTRY UPDATES—COOKING CONTESTS

July 27, 2024 was the Kentucky 4-H Poultry Days when the Egg Chef Challenge and the Chicken and Turkey BBQ contests are held for 4-Hers from around the state who are 9-19 years of age.

In the Egg Chef Challenge, participants are required to prepare an egg-based dish (from drink to dessert, and everything in between) while discussing egg nutrition, functional properties, and economic value.

In the Egg Chef Challenge contest, held the morning of July 27, there were six participants—one senior and five juniors. In the senior division, Landon Huber from Bullitt County placed first. He has the opportunity to represent Kentucky at the National Egg Chef Challenge contest at the National 4H Poultry and Egg Conference in Louisville, KY in November.

For the juniors in the Egg Chef Challenge, the winner was Miranda Stooksbury from Laurel County with 'Scrambled egg waffle sandwich.' She will be a



Landon Huber, Bullitt County
Top senior in the 2024 Egg Chef Challenge



Miranda Stooksbury, Laurel County
Top junior in the 2024 Egg Chef Challenge

senior next year and we are looking forward to seeing how she does. In second was Liam Stooksbury, also from Laurel County. Tied for third were Addy Guffey from Calloway County and Adley Sutton from Crittenden County. The fifth participant was Teddy Stooksbury from Laurel County.

Later in the day the chicken and turkey barbecue contests were held for both juniors (9-14 years) and seniors (14-19 years).

For the chicken BBQ contest, participants are required to cook four chicken thighs and hand in three for sensory evaluation. Of course, they have to be cooked before the judges will taste the chicken submitted.

There were six juniors competing. Cabot Sutton from Crittenden County placed first followed by Olivia Drake from Montgomery County and Ava Moses from Hardin County. The contest was rounded out with Declan Richards from Hardin County, Liam Stooksbury from Laurel County, and Lily Nall from Hardin County.

There were four participants in the senior chicken BBQ contest. The winner of the senior chicken BBQ contest was Luke Baker from Montgomery County who has the opportunity to represent Kentucky at the national contest in November. In second place was Dalton Collison, also from Montgomery County. In third place was Jason Hoots from Warren County. Ryan Clark from Marion county completed the list of participants.

For the turkey BBQ contest, participants receive two pounds of ground turkey and are required to hand-in two turkey patties that are a minimum of 1/4 pound pre-cooked weight and at least 75% turkey meat.

There were 4 participants in the senior division. Christopher Sweets of Warren County placed first and will represent Kentucky at the national contest in November. Isaah Ledbetter, also from Warren County, placed second, followed by Ella Liao, an international exchange 4-Her from China staying with the Guffey family in Calloway County. Landon Huber from Bullitt County rounded out the group.

In the junior division there were six participants. Cecilia Huggins from Simpson County took first place followed by Brysen Sollberger from Taylor County, Miranda Stooksbury from Laurel County, Addy Guffey from Calloway County, Teddy Stooksbury from Laurel County, and Alexander Ledbetter from Warren County.



Luke Baker, Montgomery County
Top senior in the 2024 Chicken BBQ



Cabot Sutton, Crittenden County
Top junior in the 2024 Chicken BBQ contest

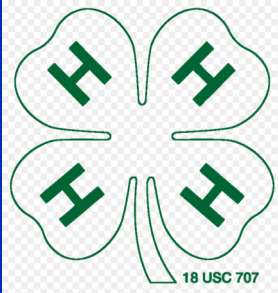


Christopher Sweets, Warren County
Top senior in the 2024 Turkey BBQ contest



Cecilia Huggins, Simpson County
Top junior in the 2024 Turkey BBQ contest

Congratulations to to all the winners, and a big thank you to our judges—for Egg Chef Challenge: Dr. Tony Pescatore



Three state 4-H contests were held at the state fair again this year. The 4-H Poultry Showmanship Contest was held the first day of the fair. Junior and Senior 4-Hers were able to demonstrate their skills at showing off their chickens (plus two ducks) and their knowledge of the breed and care of the birds to the judges.

The participants are evaluated on their appearance and poise as well as their speaking ability and poultry knowledge. The birds are evaluated for condition and proper care. The participants are also judged on their ability to handle the birds (especially getting it in and out of the cage as well as carrying and examining). Finally, they are asked to pose the chicken to show off its best features. Awards are given in the standard and bantam classes of birds as well as overall junior and senior showmanship.

In the junior division (9-14 year olds) Grand Champion in the standard division (i.e., Standard-sized chickens vs the smaller Bantam-sized) was Ava Schoedlbauer from Scott County, while Reserve Champion was Dylan Klett from Warren County. In the Bantam Junior Division Adley Sutton of Caldwell County was Grand Champion while Sophia Dotson of Johnson County was Reserve Champion. Overall Junior Grand Champion was Ava Schoedlbauer from Scott while Adley Sutton of Caldwell County was overall Junior Reserve Champion.



In the senior division (14+ years old) Grand Champion in the Standard Division was Cathryn Hager of Scott County while Reserve Champion was Brianna Shield of Campbell County. In the senior Bantam Division, Candence Ryan from Pendleton County was Grand Champion while Emily Normington from Scott County was Reserve Champion. Cathryn Hager was overall senior Grand Champion and Candence Ryan was overall senior Reserve Champion.

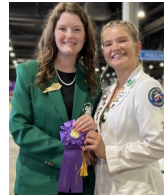
The 2024 State 4-H poultry judging and avian bowl contests were held on the first Friday of the Kentucky State Fair. These contests allow 4-Hers from all over the state to compete in educational events that help them



Junior Standard Division
Grand Champion (left) - Ava Schoedlbauer, Scott County and Res. Champion (right) - Dylan Klett, Warren County



Junior Bantam Division
Grand Champion (left) - Adley Sutton, Caldwell County and Res. Champion (right) - Sophia Dotson, Johnson County



Senior Standard Division
Grand Champion (left) - Cathryn Hager, Scott County and Res. Champion (right) - Brianna Shield, Campbell County



Senior Bantam Division
Grand Champion (left) - Adley Sutton, Caldwell County and Res. Champion (right) - Emily Normington, Scott County

learn to make and defend decisions, speak publicly, and gain poultry-related skills. In the poultry judging contest, participants evaluate classes of White Leghorn hens for the level of past egg production, grade ready-to-cook chicken carcasses and parts, identify ready-to-cook chicken parts, and grade table eggs for interior and exterior quality. Both juniors and seniors compete in the contest. There were 9 juniors and 18 seniors competing in the contest.

The top five juniors in the poultry judging contest were:

1. Taryn Turner, Warren County
2. Cecilia Huggins, Simpson County
3. Avery Bivens, LaRue County
4. Zoey Playforth, Warren County
5. Ava Lee, Larue County

The top five seniors in the poultry judging contest were:

1. Mireya Villanos, Larue County
2. Tanner Thompson, Larue County
3. Christopher Sweets, Warren County
4. Jace Coles, Warren County
5. Luana Huff, Larue County

The top four eligible seniors have the opportunity to represent Kentucky at the national poultry judging contest in Louisville, KY in November. Christopher Sweets qualified for the state team but also qualified for the national turkey BBQ contest. He has chosen



KENTUCKY 4-H POULTRY STATE FAIR UPDATES ... *continued*

(Continued from page 6)

to do the turkey BBQ at nationals. So the alternative (5th place), Launa Huff, will take his place on the state team.

The 4-H avian bowl contest is a double-elimination tournament with questions related to poultry production from the Avian Bowl manual. Again, there were junior and senior divisions. There were 6 junior teams (Pendleton, Laurel, Warren (2 teams), Johnson, and Simpson) and 5 senior teams (Johnson, Scott, Warren, Pendleton, and Simpson) competing, with a total of 32 4-Hers involved. In the junior division, the top team was from Warren County and was composed of Dylan Klett, Zoey Playforth, and Tabitha Sweets. Individual scores for the junior division were:

1. Dylan Klett, Warren County
2. Liam Wentz, Simpson County
3. Taryn Turner, Warren County
4. Cecilia Huggins, Simpson County
Miranda Stooksbury, Laurel County

There was an unbreakable tie for fourth place between Miranda Stooksbury of Laurel County and Cecilia Huggins of Simpson County.

In the senior division, the top team was from Warren County and was composed of Neal Brown, Piper Hosay, and Hallie Whittaker. The top five individuals were:

1. Cathryn Hager, Simpson County
2. Piper Hosay, Warren County
3. Chloe Hager, Simpson County
4. Neal Brown, Warren County
5. Ben Hartig, Pendleton County

The top four individuals will represent Kentucky at the national avian bowl contest in Louisville at the National 4-H Poultry and Egg Conference the week before Thanksgiving.

We congratulate all the 4-Hers for participating in the state contests and wish them well in their futures.

AAAP STATEMENT ON HPAI

AAAP Statement on H5N1 (AAAP H5N1 Task Force Committee, 07-12-2024) (Approved by the AAAP Board, 7-23-2024)

The American Association of Avian Pathologists (AAAP) works to advance science-based knowledge, expertise, and education on poultry health, welfare, and food safety. To minimize the impact of H5N1 genotype B3.13 ("H5 influenza") on the health and welfare of poultry and to protect human health, there are several policy issues and gaps that we believe need to be immediately addressed by regulatory and industry partners.

- Risk-based regional surveillance to efficiently generate the data needed to understand risks and mitigate them with consistent control strategies. Current issue: The narrow requirement of pre-movement testing of only lactating dairy cows moving interstate is inadequate and overlooks risks that other classes of cattle pose to poultry. This approach does not sufficiently mitigate the risk to turkeys, broilers, and egg laying hens near infected dairies.
- A consistent, risk-based national strategy that adheres to science-based principles of disease control to reduce further spread of H5 influenza. Current issue: A national strategy that targets all potential hosts of H5 influenza is lacking and has led to continual spread of the virus.
- Epidemiologic studies and tools to understand connections among susceptible populations. Current issue: As this is an emerging outbreak, insufficient data have been available to identify transmission pathways and associated risk factors for H5 influenza spread (i.e., spread between dairies and poultry farms).
- Resolution of concerns that impede the utilization of vaccine needed to control the spread of H5 influenza. Current issue: The extensive and rapid dissemination of H5 influenza in dairy herds has created a new source of virus in livestock populations. Vaccine is an important tool to reduce disease spread within dairies and to other animals (i.e. poultry, swine, cats, etc.)
- Additional resource allocation to minimize the long-term impacts of H5 influenza on human health, food security and economic sustainability. Current issue: The occurrence of H5 influenza in a new livestock species increases the demand for lab capacity, producer financial support, and veterinary resources. A consistent and comprehensive strategy for H5 influenza management is essential to ensure the health and well-being of animals in all sectors and to mitigate economic impacts. This will also help reduce the risk of the virus potentially spreading to humans, safeguarding public health



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KENTUCKY 4-H POULTRY UPDATES—COOKING CONTESTS *continued*

and Dr. Isaac Hilpp;
Chicken BBQ: Jamie
Guffey and Mike
Ford; Turkey BBQ:
Dr. Tony Pescatore
and Dr. Issac Hilpp.



What do you want to read about?

We want to know what you want to read about.
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