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The chink in Australia's bird flu armour

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Examine

Hello, Angus Dalton here. Welcome to Examine.

In a sign that world governments are taking the danger bird flu poses to humans more seriously, the EU signed a contract this week securing 665,000 doses of a human vaccine intended for poultry farmers, vets, scientists studying the virus and others at high risk of exposure.

Meanwhile, outbreaks of bird flu on five Victorian poultry farms and one in Western Australia have led to the <u>culling of at least 800,000 chickens</u>, which may deliver a modest blow to egg supplies. But federal Agriculture Minister Murray Watt says there's no reason to expect severe shortages.



"Every day, Australia produces 18 million eggs, and even with a handful of poultry farms now out of action, there's no risk to that supply in the near future or at all," Watt said.

Even so, <u>Coles has introduced a two-carton limit</u> on their eggs.

Luckily, the health risk to the public from bird flu remains extremely low, especially in Australia. The severe clade (a kind of sub-variant) of bird flu that has caused <u>worldwide devastation among wildlife populations</u>, infected herds of dairy cows and jumped to three American farmworkers still hasn't reached Australian shores.

But the strains of bird flu found in Victoria (H7N3 and H7N9) can also theoretically infect humans. So how can you reduce your personal risk of exposure to the virus – and what's the chink in Australia's armour?

Don't wash your chicken

The main way bird flu infects humans is through direct contact between people and infected animals.

The three people who have caught bird flu in the US were dairy workers who were in contact with infected milk. The two-year-old Victorian girl who fell <u>critically ill with the virus</u> earlier this year probably came in contact with infected poultry in India, where the clade she caught has been circulating in wild birds and poultry since 2009.

No one has ever acquired a case of bird flu from eating chicken that has been appropriately cooked and handled – that is, what you would do normally to prevent a nasty bout of salmonella.

The chance of infected chicken meat making it to the supermarket shelf is very low anyway, thanks to Australia's swift "stamping out" method, whereby infected chickens are quickly quarantined and euthanised.

But Enzo Palombo, a professor of microbiology at Swinburne University of

Technology, <u>recently noted a common kitchen habit</u> that can increase your risk of becoming ill from infected chicken: rinsing raw meat.

He cited <u>a study</u> in which researchers using high-speed cameras and agar plates placed around a sink observed that pressure from tap water created a divot in the soft flesh of chicken thighs and breasts, which sent water splattering onto the plates. Bacterial blooms spread on the agar plates, proving that rinsing raw chicken can contaminate your bench and other cooking utensils.

What about eggs and milk?

Again, it is very unlikely that an infected egg could make it into a supermarket carton. But the viral particles of bird flu are about 100 nanometres across, half the width of an eggshell pore, so it is theoretically possible that the virus could penetrate an egg. But cooking an egg all the way through (to a temperature of at least 71 degrees) will kill any virus along with other pathogens such as salmonella and *E. Coli*.

As for milk, the dangerous H₅N₁ clade has passed to cows in the US, where traces of the virus have been detected in one in five commercial milk samples – although the pasteurisation process deactivates the virus.

H₇N₃, one of the types found in Victoria, can also spread to cows. But even if Australian dairy cows were infected, as long as you aren't drinking raw milk – a bad idea anyway – you're safe from infection.

The gap in Australia's bird flu armour

While bakers and home cooks needn't be worried about bird flu, there is one subset of Australian households that University of the Sunshine Coast infection prevention expert Dr Matt Mason believes could be the chink in our armour: those with backyard chickens.

"Private farms and backyard coops have the potential to undo our best efforts in biosecurity," Mason, a technical advisor to the WHO Global Outbreak Alert and Response Network, warned recently.

"If we consider this like COVID, where we enforced nationwide lockdowns to try and contain the spread, this is much the same – except all it takes is one infected [wild] bird to fly the virus from a backyard to a chicken farm, potentially devastating egg, chicken, and other farming industries on the way."

Mason has pushed for better access to bird vaccines rather than relying on costly culling. Flocks aren't currently vaccinated because problematic clades of the virus, which need to be identified quickly, could then spread asymptomatically and go undetected.

Backyard bird owners should watch for symptoms including sudden death, swelling, ruffled feathers and a drop in egg laying, and report any bird illness to their relevant state authorities or the Emergency Animal Disease Hotline. Mason also urges backyard flock owners to quarantine new birds, limit exposure of their flocks to wild birds and wash their hands after handling birds or eggs.

He says those buying and selling raw milk and farm eggs are at most risk of being exposed through food products. And all Australians should look out for dead or unwell birds come August, when the risk of the dangerous H5N1 clade landing on our shores is highest with the arrival of migratory birds.

"The real fear is that the virus will evolve into highly pathogenic versions that can be transmitted from human to human," Palombo concludes. "That scenario is much more frightening than any potential spread through food."



Angus Dalton

Reporter

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