



Device uses blood test to confirm bird virus

No Comments Posted Apr. 24th, 2015 by [Dan Yates](#)



Participants in an avian influenza course from the U.S. Department of Agriculture practice swabbing wild ducks for diagnostic sampling. | USDA/Flickr.com photo

The nanobiosensor is designed to speed results so outbreaks can be quickly contained

An innovation at the University of Guelph could help the poultry industry react more quickly to costly avian influenzas.

Suresh Neethirajan is still testing his nanobiosensor, but he said the portable device can quickly determine what type of virus is present, which significantly reduces the lag that occurs as producers and officials wait for laboratory results.

Poultry flocks are regularly affected by avian influenzas, but it's the highly pathogenic outbreaks that demand the greatest reaction.

"If it's a low pathogen or high pathogen, then the decision has to be made very quick and rapidly," said Neethirajan, an engineering professor with an interest in "nanoscale science and engineering for biological and agricultural systems."

In the most severe cases, such as the recent H5N2 avian influenza outbreaks in British Columbia, Ontario and the United States, affected farms are quarantined, transportation restricted and strict biosecurity measures enforced to control the spread of the virus.

The H5N2 virus is noted for its high mortality rate.

ADVERTISEMENT



It currently takes a laboratory several hours to confirm the pathogenic strain and then several days to confirm the subtype, said Neethirajan.

"Sometimes they are overwhelmed with the requests from multiple farms, so the tool we have developed could possibly be used as a surveillance tool ... by pre-screening in the farm itself before the sample could be sent to the lab if they want double confirmation," he said.

"It will ease the workload of the animal health laboratories and also the labs such as the Canadian Food Inspection Agency that are being run to diagnose and characterize the samples."

Neethirajan's test uses a blood sample, which he said could be administered by a producer screening for a low pathogenic flu.

The device uses microscopic particles to produce a colour change in the sample, which determines if the avian influenza is present. A second test can determine strain information.

ADVERTISEMENT



"It's instant. You'd be able to discriminate, classify and understand the strain level," he said.

Neethirajan said the test, which has been in development for two and a half years, can detect H5N1 and H1N1 viruses but could be modified to detect the H5N2 virus that first appeared in North America late last year.

Further validation is needed before it can be commercialized, he added.

“The tool has the unique advantage of meeting the needs of the farmers, but also the high pathogenic rapid screening need of the government-related veterinarians and safety inspectors,” he said.

Contact dan.yates@producer.com

ADVERTISEMENT



Popular articles

[When squatters strike](#)
[UN body declares glyphosate probable human...](#)
[Age of cow to determine implications of latest...](#)
[When thieves come calling ...](#)
[Farming dreams on hold for now](#)

About the author

[Dan Yates](#) — Reporter

Also by this author
[Device uses blood test to confirm bird...](#)
[Migrating birds focus of avian flu...](#)
[Federal payments show decline](#)

Latest opinion pieces

[Saskatchewan grows tame mustard in 1965](#)

[Letters to the editor – April 23, 2015](#)

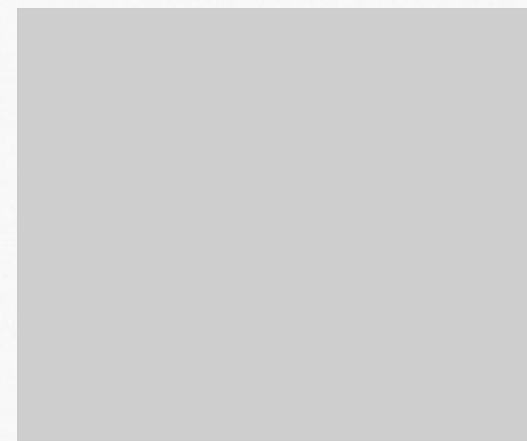
[Safety of organics prompts fierce debate on...](#)

[Public losing its trust in science](#)

[It's time to redirect CWB passion to rail...](#)

[Pastures play major role in carbon capture](#)

ADVERTISEMENT



Featured bloggers



[Ed White](#)

Ed White has specialized in markets coverage since 2001 and has achieved the Derivatives Market Specialist (DMS) designation with the Canadian Securities Institute.



Robert Arnason reports on all aspects of agriculture but focuses on sustainable farming and consumer expectations around food production.

Markets at a glance

Futures data supplied by AgriCharts. Data comes from ICE Futures Canada, Minneapolis Grain Exchange, Kansas City Board of Trade, Chicago Board of Trade and Chicago Mercantile Exchange. Copying, dissemination or use of delayed pricing data is prohibited without the express written permission of the exchanges.

Popular articles

[Canfax report](#)
[Animal care protocol targets feeding sector](#)
[Short lines hope to recover with end of rail...](#)
[Bunge, Saudi entity buy majority stake in CWB](#)
[Ag community needs spokespeople to counter critics](#)

On Twitter

[Tweets by @westernproducer](#)


SUBSCRIBE TO OUR E-NEWSLETTERS

Subscribe to our daily and weekly newsletters, including: **Producer Daily, Markets Moment, and Markets Moment: Special Edition.**

RECENT COMMENTS

[ed on Cancer Society says judicious glyphosate use acceptable](#)
[Jeff Benke on Alberta county calls for wild boar eradication](#)
[Mischa Popoff on Safety of organics prompts fierce debate on Producer's website](#)

RSS FEED

 [Subscribe in a reader](#)

SOCIAL MEDIA

[Facebook](#)
[Twitter](#)

Sections

[All articles](#)
[News](#)
[Crops](#)
[Livestock](#)
[Markets](#)
[Weather](#)
[Farm Living](#)
[Opinion & Blogs](#)

Site links

[Subscribe](#)
[Digital editions](#)
[Classifieds](#)
[Subscription](#)
[Fundraising](#)
[Advertise](#)
[Website Terms of Use](#)