

How's our hatchability?

Comparing broiler breeder trends in Canada and the U.S.

By Jane Robinson

A recent study at Texas A&M University predicts a rather dire downward trend for broiler breeder hatchability rates in the United States over the next few decades, and raises the call for greater collaboration to change the trajectory.

Dr. Giri Athrey, a geneticist in the department of poultry science at Texas A&M, was one of the authors of the recently published report *How concerned should we be about broiler breeder fertility declines?* The study analyzed fertility rates among U.S. broiler breeders from 2013 to 2022 with data from the USDA National Agricultural Statistics Service. With this historical base of information, the researchers used sophisticated modelling to extrapolate what hatchability rates for broiler chicks could be in the future if nothing changed related to breeding, management, etc.

“Our projections indicate the hatchability rate of broiler breeders in the U.S. could decrease to about 60 per cent by 2050 without any corrective action,” says Athrey. “So, yes, we should be concerned.”



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Broiler breeder fertility is declining in the U.S., but Canadian producers are holding steady with higher hatchability rates.

Falling short of demand

As the most consumed animal protein around the globe, the poultry industry is under pressure to produce high-quality chicken to meet growing consumer demand. Athrey's research looks at unintended effects of the rise in broiler growth rates and feed efficiency in the U.S., and fertility is an issue that's been on his radar for a while. He wanted to put some estimates on hatchability rates to hopefully give some guidance to the whole industry.

“Fertility is complicated, multifaceted and difficult to measure, so we used hatchability – the number of eggs set

compared to the number of birds placed in broiler production – to infer fertility,” says Athrey.

They created a model called the broiler breeder performance index to better understand the hatchability trends. The index draws several aspects of broiler breeder production – hatchability, chick livability and production efficiency – into a single metric.

“The index is showing us that in the U.S. we are going to have a shortfall in producing enough broilers to meet the growing market demand for chicken,” says Athrey.

He's quick to acknowledge

that fertility is influenced by many factors, including genetics, nutrition and management, so addressing a downward trend in



PHOTO: GIRI ATHREY

Athrey, an associate professor of Genetics and Functional Genomics in the Department of Poultry Science at Texas A&M University, predicts hatchability rates of broiler breeders in the U.S. could be about 60 per cent by 2050 if no corrective measures are taken.