

Rescuing male turkey chicks

November 23 2009

A novel approach to classify the gender of six-week-old turkey poults could save millions of male chicks from being killed shortly after birth, according to Dr. Gerald Steiner from the Dresden University of Technology in Germany and his team. Their use of infrared spectroscopy to determine the gender of young birds shows that it is a fast and accurate method with the potential to be used by the breeding industry to identify and select female eggs for breeding. The pilot study¹ has just been published online in Springer's journal *Analytical and Bioanalytical Chemistry*.

Numerous bird species, nestlings and immature birds in particular, lack external sexual characteristics. Knowledge of a bird's gender is important for poultry breeders, veterinary practitioners, aviculturists and ornithologists. For example, accurate determination of a bird's gender is essential for proper pairing of birds, and knowing the gender of a bird allows veterinarians to diagnose gender-specific diseases. Equally, the [poultry industry](#) is interested in fast, objective and inexpensive methods for determining the sex of chickens and turkeys as early as possible - their interest lying mainly in the egg-producing female.

Dr. Steiner and his team applied infrared spectroscopic imaging to determine the gender of turkey poults. They looked at pulp germ* cells extracted from the growing contour feathers of 23 male and 23 female six-week-old turkey poults. This technique provides direct access to the birds' gender as the classification is based on the genetic information contained in the cells. Their method successfully classified female and male poults with an accuracy of more than 95 percent.

According to the authors, the high accuracy of the classification demonstrates the potential of this technique as a quick and non-subjective method to distinguish the gender of birds even when their physical appearances or characteristics are not yet developed.

They conclude by highlighting how promising this novel technique could be for gender determination: "This method can also be applied to determine the [gender](#) of [germ cells](#) in a fertilized but non-bred egg or to identify non-fertilized eggs under in ovo conditions. It is the only method accurate enough that has the potential to be applied in the breeding industry to select 'female' eggs for breeding and to avoid the killing of millions of male chicks shortly after hatching."

More information: Steiner G et al (2009). Sexing of turkey poults by fourier transform [infrared spectroscopy](#). Analytical and Bioanalytical Chemistry. [DOI 10.1007/s00216-009-3273-z](https://doi.org/10.1007/s00216-009-3273-z)

Source: Springer

Citation: Rescuing male turkey chicks (2009, November 23) retrieved 20 April 2024 from <https://phys.org/news/2009-11-male-turkey-chicks.html>

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