8-2009-2198 | Non-Invasive Method for Identifying Gender and Fertility of Eggs Before Hatching
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Detects the fertility levels in newly-laid eggs and the gender of the embryo

Background

- The ability to determine the fertility level of a chicken egg and its gender significantly reduces costs of egg production.
- Currently, we are unable to determine the fertility of newly laid eggs - the 10%-40 % of eggs that are infertile are hatched for 10 days until identified by candling - using space and energy, costly manpower.
- No current method exists to determine gender during hatching; it is only possible in 12-day old chicks - nearly half of all chicks hatched for the layer industry hatch as males and need to be culled, creating ethical issues.
- Our technology enables fertility determination of a freshly-laid egg (day zero) with 85% accuracy; determination of fertility on days 1 and 2 with 90% accuracy

Our Innovation

Hyperspectral analysis of optical spectrum of avian egg for non-invasive determination of egg fertility and gender.

Key Features

- Spectra include a wider range of wavelengths making this method significantly more sensitive
- Enables both detection of fertility earlier than day 2 and detection of the gender of the chick within the egg

Development Milestones

Seeking funds for large-scale trials for several thousand different kinds of eggs

The Opportunity

- Can be used for layers, broilers, and turkey eggs
- Can be used for non-invasive gender determination of hatched birds such as parrots

Patent Status

Granted US 9,435,732; Israel 217177

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