



How culling of
male chicks will
become a thing
of the past.

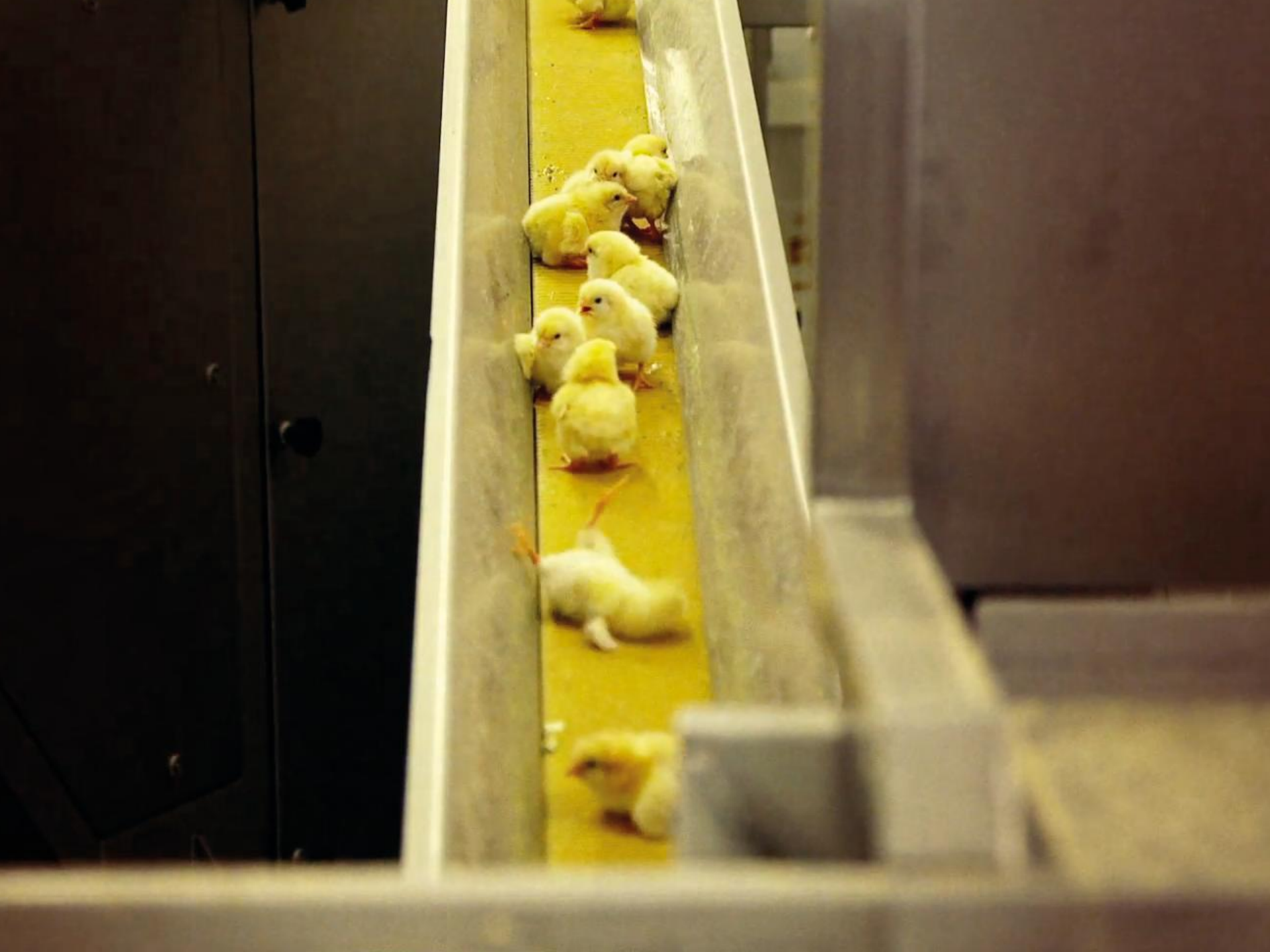


- Biologist
- Leiden University

IN OVO

- Sustainable 100
- EU TOP50
- 50 under 35

Nerd 101



ACCEPTABLE COST
LOW DISRUPTION
WHOLE HATCHERY
CONSUMER ACCEPTED





GROWING THE MALE

- Organic consumer demand
- Feed conversion
- Pricing
- Disruption process
- 6.5 billion males

in ovo sexing

- Scalable
- Timing of test
- Effect hatchability
- Acceptance technology
- Accuracy
- Pricing of test
- Disruption process





September 1921 issue of *Farm Journal*



EMBREX™

- Day 17/18
- Sampling allantoic fluid
- 1990's
- RIA
- 2,5 hours to screen
- Euro's per test



CHICK EMBRYO DEVELOPMENT



INFERTILE
• No development.



DAY 1
• Appearance of tissue development.



DAY 2
• Tissue development very visible.
• Appearance of blood vessels.



DAY 3
• Heart beats.
• Blood vessels very visible.



DAY 4
• Eye pigmented.



DAY 5
• Appearance of elbows and knees.



DAY 6
• Appearance of beak.
• Voluntary movements begin.



DAY 7
• Comb growth begins.
• Egg tooth begins to appear.



DAY 8
• Feather tracts seen.
• Upper and lower beak equal in length.



DAY 9
• Embryo starts to look bird-like.
• Mouth opening appears.



DAY 10
• Egg tooth prominent.
• Toe nails.



DAY 11
• Comb serrated.
• Tail feathers apparent.



DAY 12
• Toes fully formed.
• First few visible feathers.



DAY 13
• Appearance of scales.
• Body covered lightly with feathers.



DAY 14
• Embryo turns head towards large end of egg.



DAY 15
• Gut is drawn into abdominal cavity.



DAY 16
• Feathers cover complete body.
• Albumen nearly gone.



DAY 17
• Amniotic fluid decreases.
• Head is between legs.



DAY 18
• Growth of embryo nearly complete.
• Yolk sac is still on outside of embryo.
• Head is under the right wing



DAY 19
• Yolk sac draws into body cavity.
• Amniotic fluid gone.
• Embryo occupies most of space within egg (not in the air cell).



DAY 20
• Yolk sac drawn completely into body.
• Embryo becomes a chick (breathing in air cell).
• Internal and external pip.

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- Genetic engineering
- Non-invasive??
- High throughput??
- Accurate??
- Containment issue



Day 9

Sampling allantoic/invasive

Elisa

20 minutes to screen

Accurate

~Euro per test

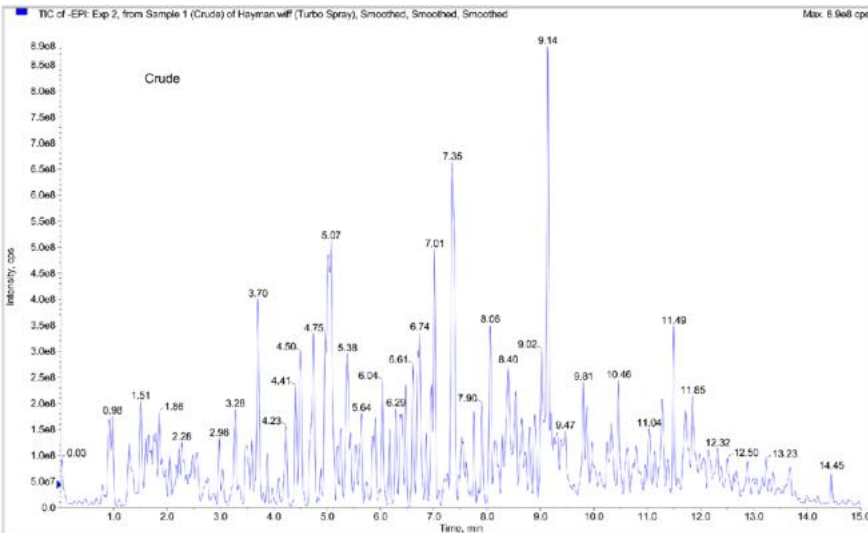


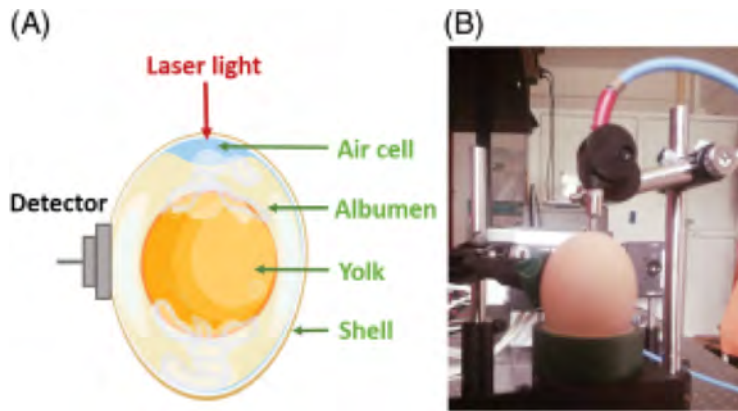


- Spectroscopy
- Day 13/14
- High throughput
- Accurate??
- Non-invasive
- Cents per test

IN OVO

- Mass spectrometry
- Day 9
- Sampling allantoic/invasive
- Fast screening <1 sec
- Accurate
- Cost unknown





Zhang, 2017



- HYPEREYE
- Spectroscopy
- Day 0
- Non-invasive
- High throughput??
- Accurate??
- Cents per test



Hypereye



Germany becomes the first country to ban disturbing 'chick shredding' practice from egg industry



Ashitha Nagesh for Metro.co.uk Saturday 24 Oct 2015 1:44 pm



(Picture: Getty Images)

Animalia

Egg producers pledge to stop grinding newborn male chickens to death

By Karin Brulliard June 10



Most Read

- 1 18-year-old woman sentenced to 40 years in murder of gamer over a PlayStation 4
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Unilever Makes An Effort To Stop Killing Male Baby Chickens

Consumer goods giant Unilever will stop utilizing maceration, the process of grinding up baby male chickens they cannot use. Instead, the company is creating technology to determine sex before the chicks hatch.

posted on Sept. 3, 2014, at 8:07 p.m.



Ali Vingiano

BuzzFeed Motion Pictures Staff



ANIMALS

German court: killing male chicks 'in line' with animal rights laws

A German court has ruled that the mass slaughter of male chicks does not violate animal protection laws. Farmers say that the males provide no eggs and too little meat; animal rights activists dub the practice murder.



France to ban mass shredding of live chicks

By Sara Spary, Saskya Vandoorne and Fanny Bobille, CNN

🕒 Updated 1225 GMT (2025 HKT) January 29, 2020



PETER ENGELER/SHUTTERSTOCK/PETER ENGELER/SHUTTERSTOCK

German researchers are working on a method of determining a chick's sex while it is still in the egg.



Sie befinden sich hier: [Start](#) → [Presse](#) → [Pressemitteilungen](#) → [Verantwortung](#) → [2020](#) → [Pressemitteilung - ALDI schafft das Kükentöten ab](#)

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ALDI schafft das Kükentöten ab

- Für Schaleneier von ALDI sollen keine männlichen Küken mehr sterben
- Als erste Händler werden die Discounter in Deutschland nur noch Eier „ohne Kükentöten“ anbieten

Essen/Mülheim a. d. Ruhr (11.03.2020) ALDI Nord und ALDI SÜD wollen das Töten von männlichen Küken in der Schaleneier-Produktion beenden. Möglich machen das unter anderem technische Verfahren, die das Geschlecht in den ersten Brutttagen im Ei bestimmen. Eier, aus denen männliche Küken entstehen würden, werden dann nicht mehr ausgebrütet. Die Discounter setzen sich zum Ziel, bis 2022 deutschlandweit die gesamten Lieferketten für ihre Boden-, Freiland- und Bio-Eier umzustellen.

Pro Jahr werden allein in Deutschland rund 45 Millionen männliche Küken in der Legehennenzucht getötet. Denn die männlichen Tiere legen keine Eier und setzen bei der Mast zu wenig Fleisch an. Diese Vorgehensweise steht seit vielen Jahren in der Kritik. Entsprechend suchen Politik, Handel und Geflügelwirtschaft nach Alternativen. ALDI Nord und ALDI SÜD haben sich nun für eine konsequente Anwendung neuer Methoden entschieden. „Wir sind die ersten Händler, die das Kükentöten in der Breite abschaffen. Mit unserem Vorstoß möchten wir diesem verständlicher Weise oft kritisierten Vorgehen ein Ende setzen“, so Simon Gelzer, Managing Director Corporate Buying bei ALDI SÜD.

ALDI Nord und ALDI SÜD unterstützen Suche nach neuen Lösungen

Die Discounter möchten auch ihre Lieferanten und die Forschung ermutigen, nach neuen Lösungen zu suchen und innovative Technologien auf den Markt zu bringen, damit entlang der ALDI Lieferketten keine Küken mehr für die Produktion von Schaleneiern getötet werden müssen. Neue Technologien bedeuten zu Beginn erst

Pressekontakt

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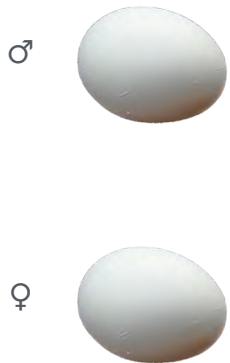
Bilddatenbank



Videos



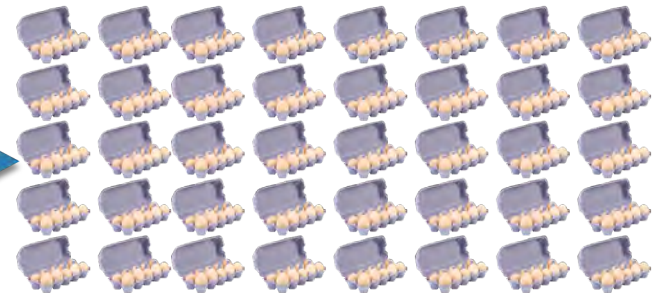
Two eggs
screened



One laying hen
produced



~300 table eggs
produced





Merk

- A. Vogel (1)
- Advil (1)
- AH (165)
- AH Biologisch (10)
- AH Eco (1)
- AH Excellent (1)

[toon meer](#)

Soorten

- Vrije uitloop eieren (16)
- Scharreleieren (10)
- Rondeeleieren (3)
- Mais eieren (2)
- EHBO en sport (23)
- Spielen (23)

[toon meer](#)

Diet

- Biologisch (10)
- Vegetarisch (43)

Zoeken
eieren

Zoeken

Sorteer op



3.09

10 stuks

AH Scharreleieren klasse
M/L



3.19

10 stuks

Blije Kip Buitenei, vrije
uitloop eieren



1.99

6 stuks

AH Scharreleieren klasse
M



2.35

6 stuks

AH Biologisch Eieren



3.39

10 stuks

AH Scharreleieren L/XL



4.79

15 stuks

AH Biologisch Eieren



3.19

10 stuks

AH Verse rondeleieren



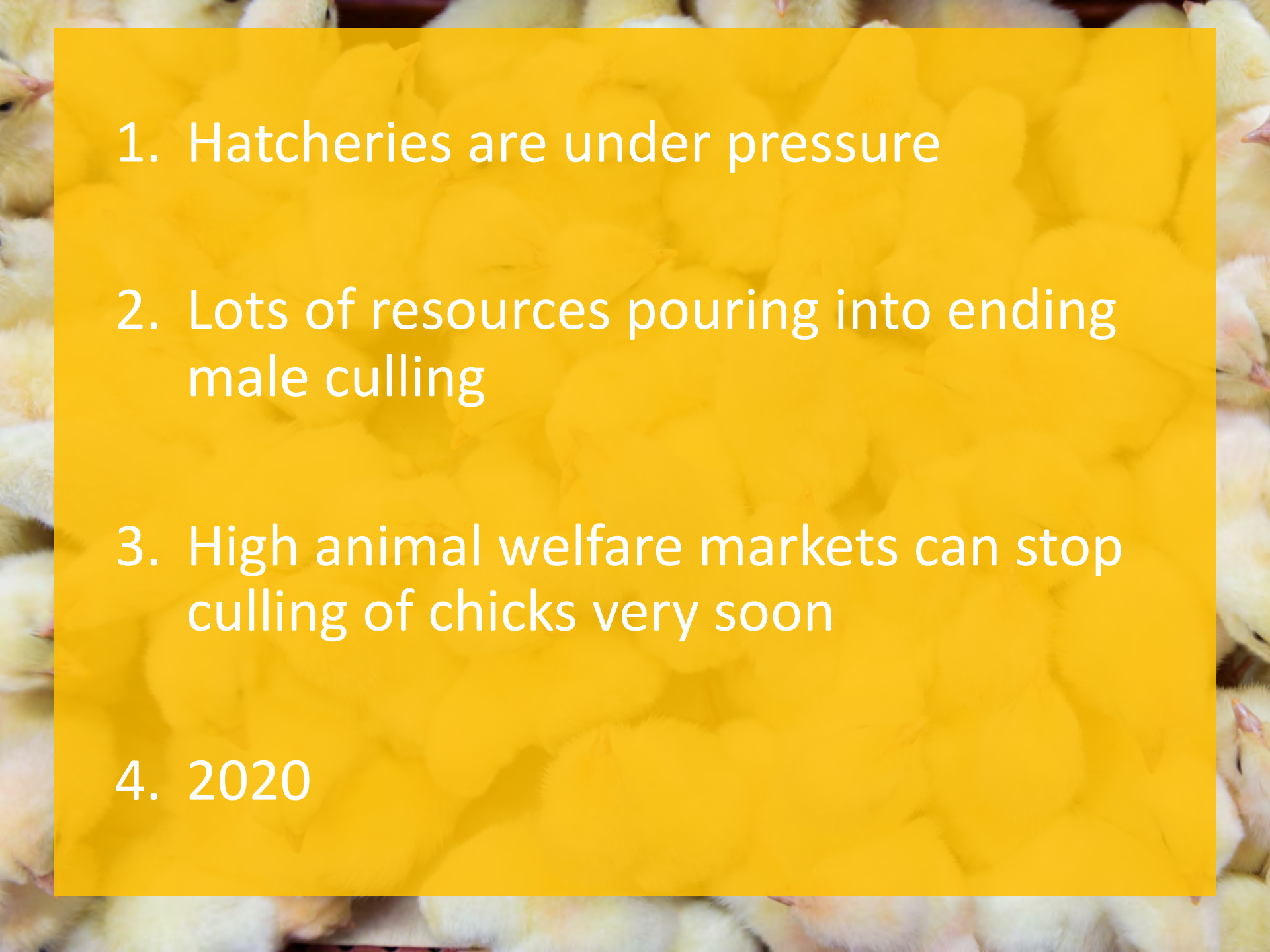
1.22

6 stuks

Witte vrije uitloop eieren
M





The background of the slide is a close-up photograph of many small, fluffy yellow chicks. A large, semi-transparent yellow rectangle is overlaid on the image, containing the text.

1. Hatcheries are under pressure

2. Lots of resources pouring into ending male culling

3. High animal welfare markets can stop culling of chicks very soon

4. 2020



How culling of
male chicks will
become a thing
of the past.