

Health contributions for the sustainability of food production systems

POULTRY MEAT AND EGGS PRODUCTION



17/09/2024



Animal health contributes to all three pillars of sustainability



- optimal health for better welfare
- safe meat, fish, milk and eggs for our meals
- prevented spread of animal diseases

Sustained ✓
Societal Contribution



- less illness and fatalities
- reduced losses and waste of milk or foods
- more sustainable, efficient and better quality production

Improved ✓
Economic Impact



- less feed, water, energy needed to produce meat, fish, milk and eggs
- reduced output of manure
- decreased emissions per food

Reduced ✓
Environmental Impact



SOCIAL

Aside from the clear animal health benefits, one of the major benefits for animals is ***improved animal welfare.***



Probiotic feed additives are reducing dysbacteriosis in broilers by stabilising the gut flora, **reducing gut damage** and improving animal welfare.



EU control measures for Salmonella in poultry, using vaccination and improved hygiene saw **a decrease of some 50%** in the number of reported human cases of salmonellosis within 10 years of implementation.



Vaccines for poultry against salmonella have resulted in a **43% reduction** in the prevalence of Salmonella in poultry products such as chicken meat.



In indoor pig and poultry farms environmental sensors linked to automatic control systems can monitor and adjust environmental conditions appropriately, ensuring **optimal conditions at all times** and **reducing stress** factors.



Use of data captured via live video camera footage can be fed into an algorithm to warn free-range poultry farmers when birds should be kept indoors to **minimise the risk** of introducing avian influenza.

In addition to animal health and welfare benefits, today's animal health care offerings also mean ***better health for people*** through reduced incidence of illness, supply of safe food and a reduced use of antibiotics in farming.



Supporting better animal health and welfare also makes financial sense in the long-term

ECONOMIC

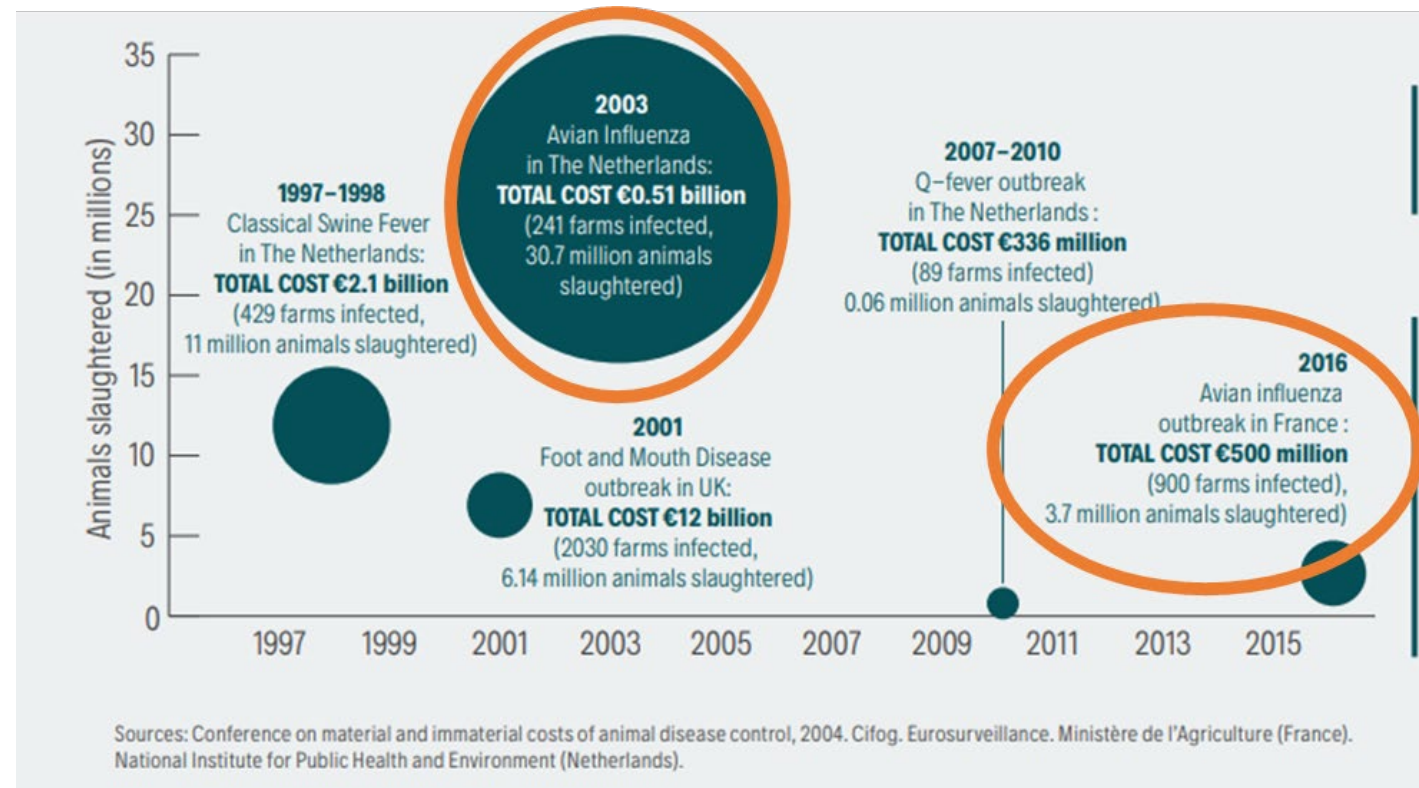
Salmonella epidemic in the UK (1988-1998):

- **over 140,000 human cases**
- **1,600 deaths**
- **£1 million in the first 8 months**

An industry-led voluntary vaccination scheme began in 1998 (the British Lion scheme).

Number of laboratory confirmed cases:

- in 1993 = more than 18,000
- in 2010 = 459



According with internal company studies, the most efficient tool to control feed costs without losing performance is the inclusion of **enzymes** in the feed.

It can **reduce feed costs** by up to 5.40 EUR per tonne of feed. In some cases, feed additives can also **reduce mortality** in more than 50% for severe challenges.



A single dose vaccine for avian influenza administered to 1-day old chicks, show an immunity duration of **at least 20 weeks**, preventing the development of disease, **reducing the need for culling** and the ensuing food losses.

In 2018 global egg production was likely **reduced by 3 million tonnes by disease** (US\$5.6 billion in revenue).

That figure is the equivalent of wiping out the United Kingdom's £1.2 billion egg market nearly four times over.



ENVIRONMENTAL

In the latest report from FAO: *The role of animal health in national climate commitments*
Six regional mitigation case studies with animal health included as a mitigation measure estimated significant emission reduction potentials from:

10% to 41%

Better livestock health means lower emissions

Reducing global livestock disease levels by **10 percentage points...**

Could lead to a drop of more than
↓800 million tonnes
of GHG emissions

Equivalent to the average annual emissions of

117 million Europeans

based on EU estimates of 6.8 tonnes of CO₂ per person.

“ Animal diseases not only mean reduced productivity, but also increased emission intensity. ”

Recent findings from the German Federal Research Institute for Animal Health²²

Vaccination reduces livestock emissions

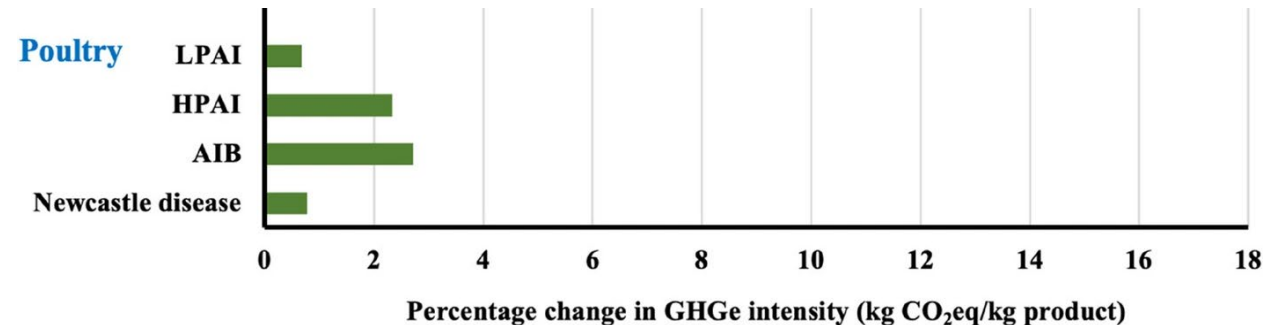
Vaccination is one of the primary methods for preventing disease and reducing emissions in livestock production.

A recent study found controlling disease in livestock systems could reduce GHG emissions by as much as:



-11.3% when controlling bronchitis in poultry

FAO The impact of controlling diseases of significant global importance on greenhouse gas emissions from livestock production



Effects of diseases at a common prevalence (15%) on the % change in GHGe intensity (kg CO₂eq per kg product) from farm livestock species at the population level

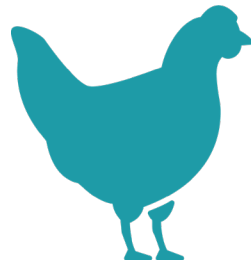
Circular resource efficiency

Livestock makes efficient use of crop by-products with 86% of feed made up of materials inedible by people.

- ✓ Herd health management plans
- ✓ Biosecurity protocols
- ✓ Disease prevention tools
- ✓ Regular veterinary care and advice
- ✓ Proper/targeted diagnosis
- ✓ Data collection and analysis for informed/data-driven decisions



Healthy animals



- + Production (meat, milk, eggs and other inputs)
- Time to achieve the adult/desired size
- + Weight gain and conversion
- + Animal welfare
- + Income for farmers
- + Farmers mental health
- + Preservation of ecosystems
- + Biodiversity

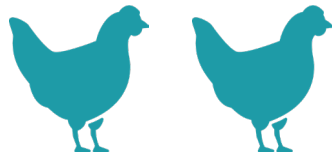


- Supply of safer food
- + Efficient nutrient cycling
- Food and resources loss

- X Cure instead of prevention
- X Irresponsible use of medicines - treatment before/without accurate diagnosis; no respect for treatment durations, frequency, dosages, etc
- X “Blind” management/ uninformed/ unsubstantiated decisions



Diseased animals



- Predictability
- + Use of natural resources (land, water, feed, bedding,...)
- + Production costs
- + Carbon emissions
- Environmental stewardship
- + Potential for disease transfer



Same amount of food (and other outputs)

- + Food and resources loss
- + Morbidity and mortality



The case of E.Coli

- Reduced antibiotic need
- Lowered medication costs by 80% for 2kg broiler birds
- Lowered in 30% the rates of rejection and removal for consumption as food
- Enabled a 3:1 return on investment

An internal company field study with over 200,000 commercial broilers showed a significant reduction in colibacillosis lesions [(1.70% birds with lesion score > 0, compared to 3.50% in the unvaccinated control group)] and deaths [(4.24% mortality, compared to 4.75% in the unvaccinated control group)] in vaccinated animals.

In addition, a positive effect of the vaccine was shown on average daily weight gain, number of antibiotic treatment days and percentage of animals marketed compared to controls.



SOCIAL



ECONOMIC



ENVIRONMENTAL



Challenges

- Emerging and re-emerging diseases
- Antimicrobial resistance
- Climate change impacts on diseases
- Integrate multiple levels of complexity (pathogens, host(s), territory...),
- Need for coordinated action accross different disciplines



Solutions



Connected Health Platform: DIVA VACCINES, DNA, mRNA, new administration methods (less stress, improved animal welfare)

Filling research gaps: DISCONTTOOLS, Star Idaz, pre-competitive topics list, R&D, research uptake



New vaccine development

For major livestock species:

- ❖ **5-10 years** of research and development to gain a marketing authorisation
 - ❖ Costs around **20 million EUROS**
- (Both are increasing)

New animal health solutions approved by the EMA in 2022

In 2022 the European Medicines Agency approved 10 new animal health products for use

 **10** Positive opinions

3 New active substances



2 Vaccines

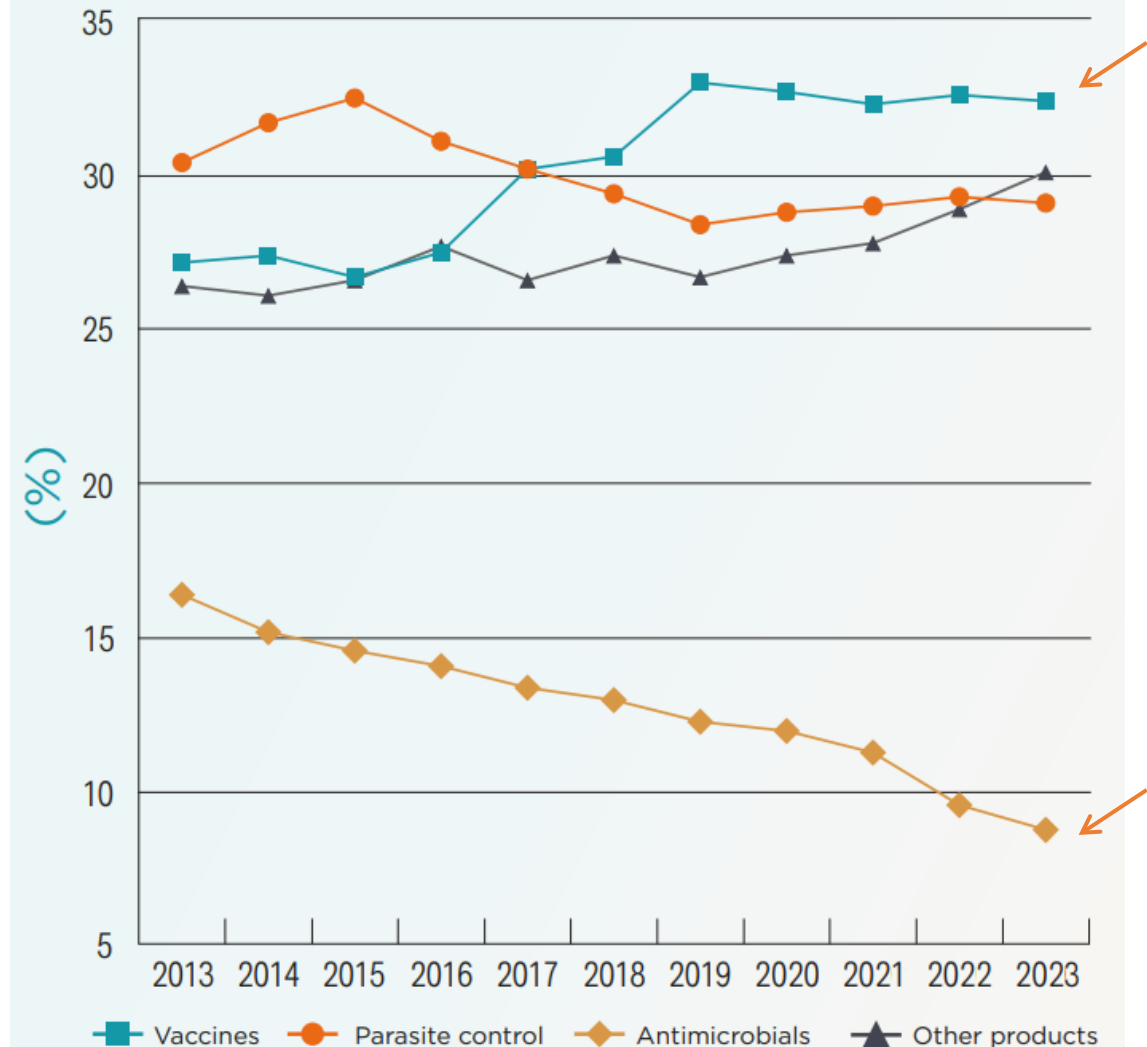
Animal health authorisations in 2022

Of the 10 approvals by EMA



A further **119** authorisations passed through decentralised procedures for approval

Sales per product category in Europe (%) (2013–2023)



The One Health approach is much more than AMR, foodborne diseases and pandemics

Our ask to the European Commission

An **operational platform** for coordination and collaboration in prevention, detection and control of animal diseases

Vaccine banks through the EU Civil Protection Mechanism



To complete the One Health benefits of today's animal health care offerings, better animal health also mean *a healthier planet* through reduced emissions from livestock, reduced use of natural resources, and reduced food losses.

Thank you!





Connected health Platform



Our Sustainability Focus



Animal welfare



Manifesto 2024-2029



References

AnimalhealthEurope - [How today's animal health care is benefiting people, animals and our planet](#)

HealthforAnimals - [How better animal health supports sustainable food systems](#)

NOAH - [The contribution animal health makes to One Health & Sustainability](#)

FAO and HealthforAnimals - [How Prevention Can Reduce the Need for Antibiotics](#)