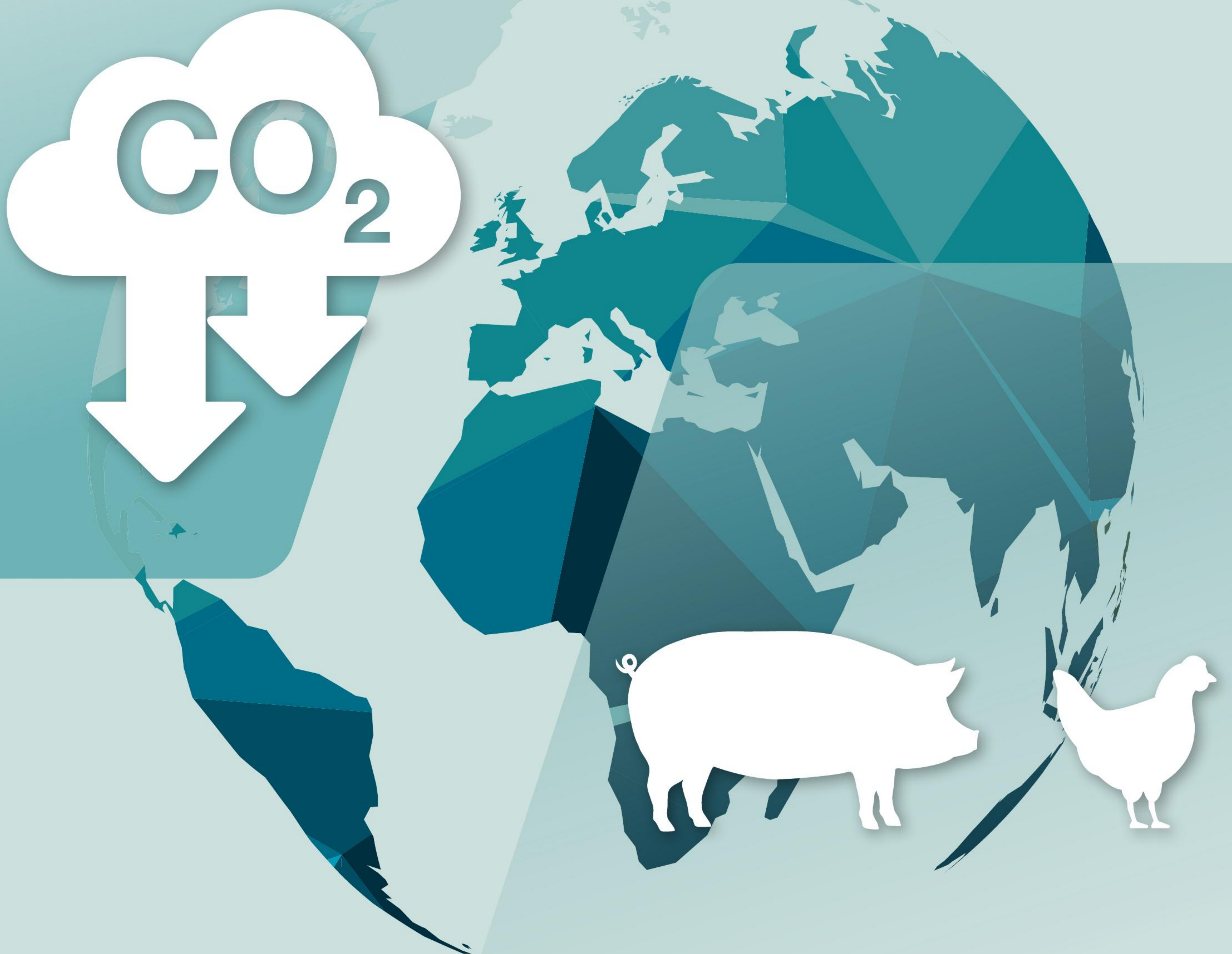


# HEALTHY ANIMALS FOR A HEALTHIER PLANET

The contribution of animal health to more sustainable food  
production – results of a recent study



# CURRENT DATA ON THE IMPORTANCE OF ANIMAL HEALTH FOR SUSTAINABILITY

A recent study conducted by the University of Veterinary Medicine Hannover (TiHo)<sup>1</sup> examines key diseases in broilers and pigs to assess the potential CO<sub>2</sub> savings that can be achieved through improved animal health. This means evaluating the impact of preventative measures, such as vaccination, on the carbon footprint. For this purpose, TiHo researchers analyzed results from scientific publications on significant diseases in pigs and broilers and calculated their environmental sustainability effects using life cycle assessment.

1: Gickel J., El-Wahab A. A., Hankel J., Hartung C.B., Visscher C. (2024): Study on the sustainability effects of healthy animals – Part 1: Pigs and poultry Systematic literature review and further calculations on the effects of diseases and preventive measures. University of Veterinary Medicine Hannover.

## CONCLUSION

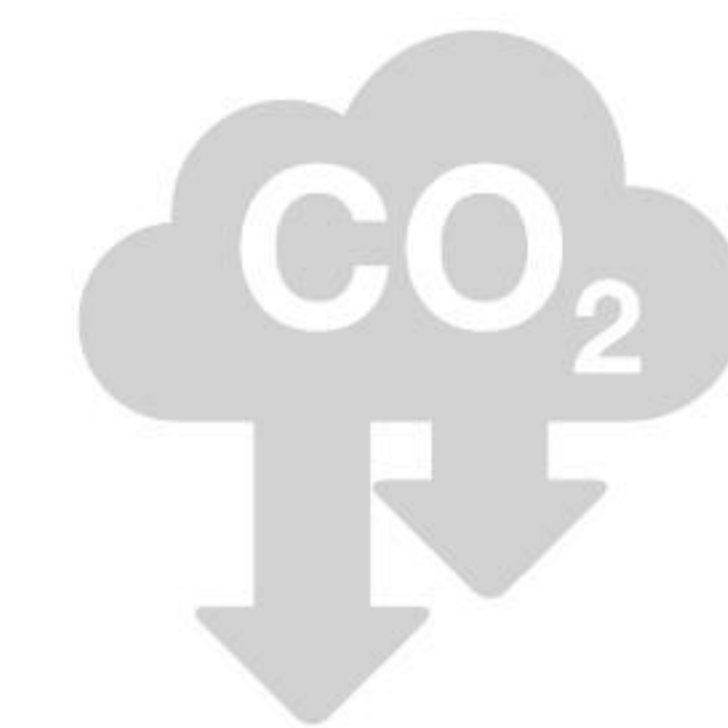
It is impressively evident how crucial good animal health and disease prevention are for the production of more sustainable animal-derived foods. Already by effectively preventing the diseases considered in this study for pigs and broilers alone, several million tons of CO<sub>2</sub> can be saved.

## DISEASES IN PIGS

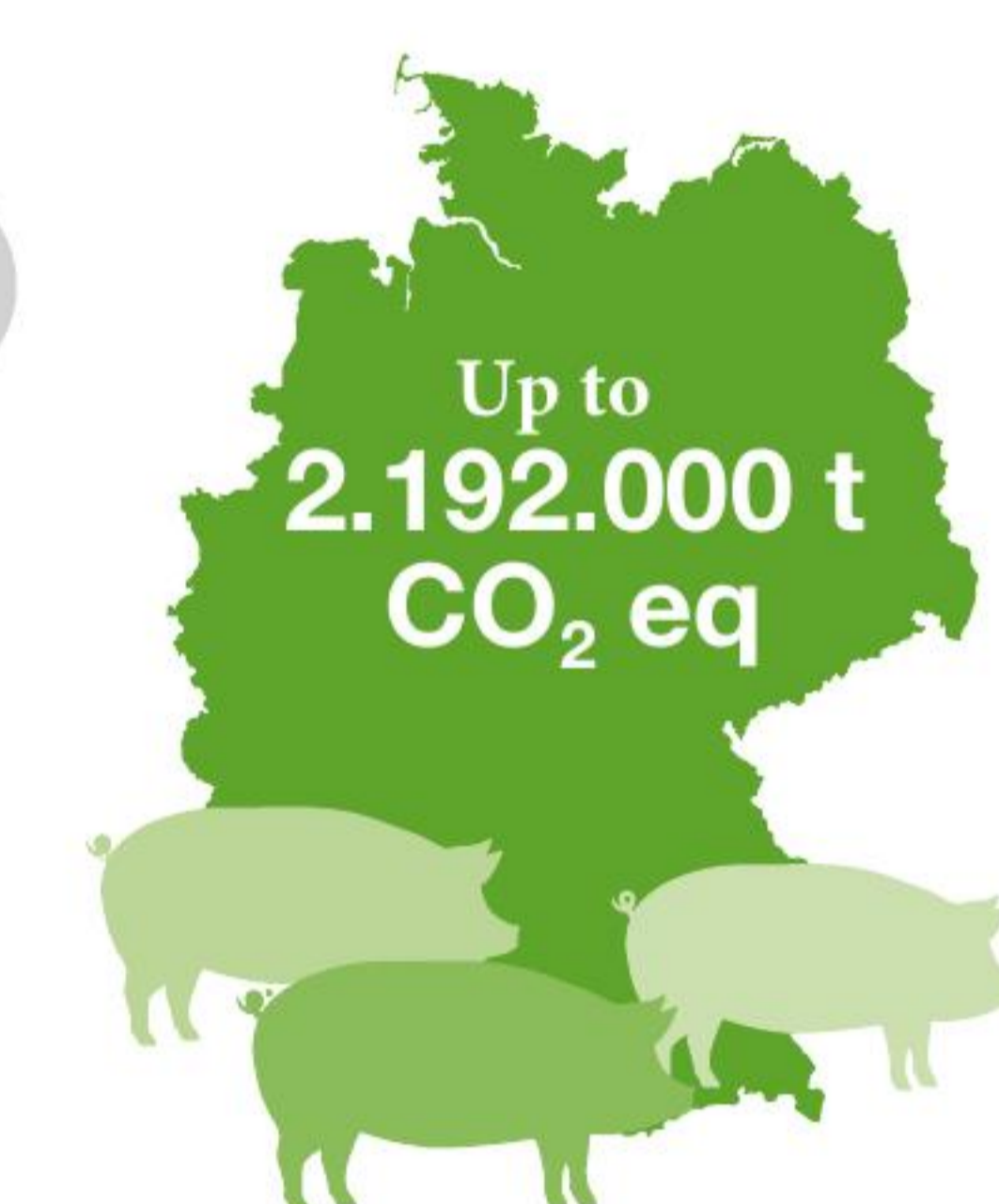
The researchers had access to detailed data for three significant pig diseases to determine potential CO<sub>2</sub> savings through vaccination. These included diseases associated with Porcine Circovirus 2, enzootic pneumonia, and porcine proliferative enteropathy. For two additional diseases—Porcine Reproductive and Respiratory Syndrome and E. coli infections—fewer studies were available, but they also showed clear CO<sub>2</sub> savings effects.

### Balance Pigs

Reduction of the carbon footprint through vaccination (per animal)



Calculated carbon savings (in Germany per year)

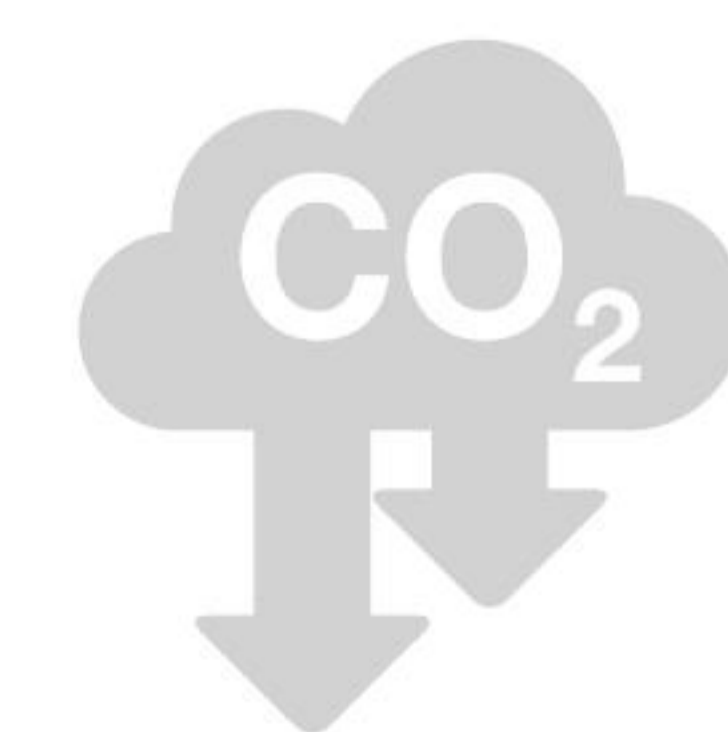


## DISEASES IN BROILERS

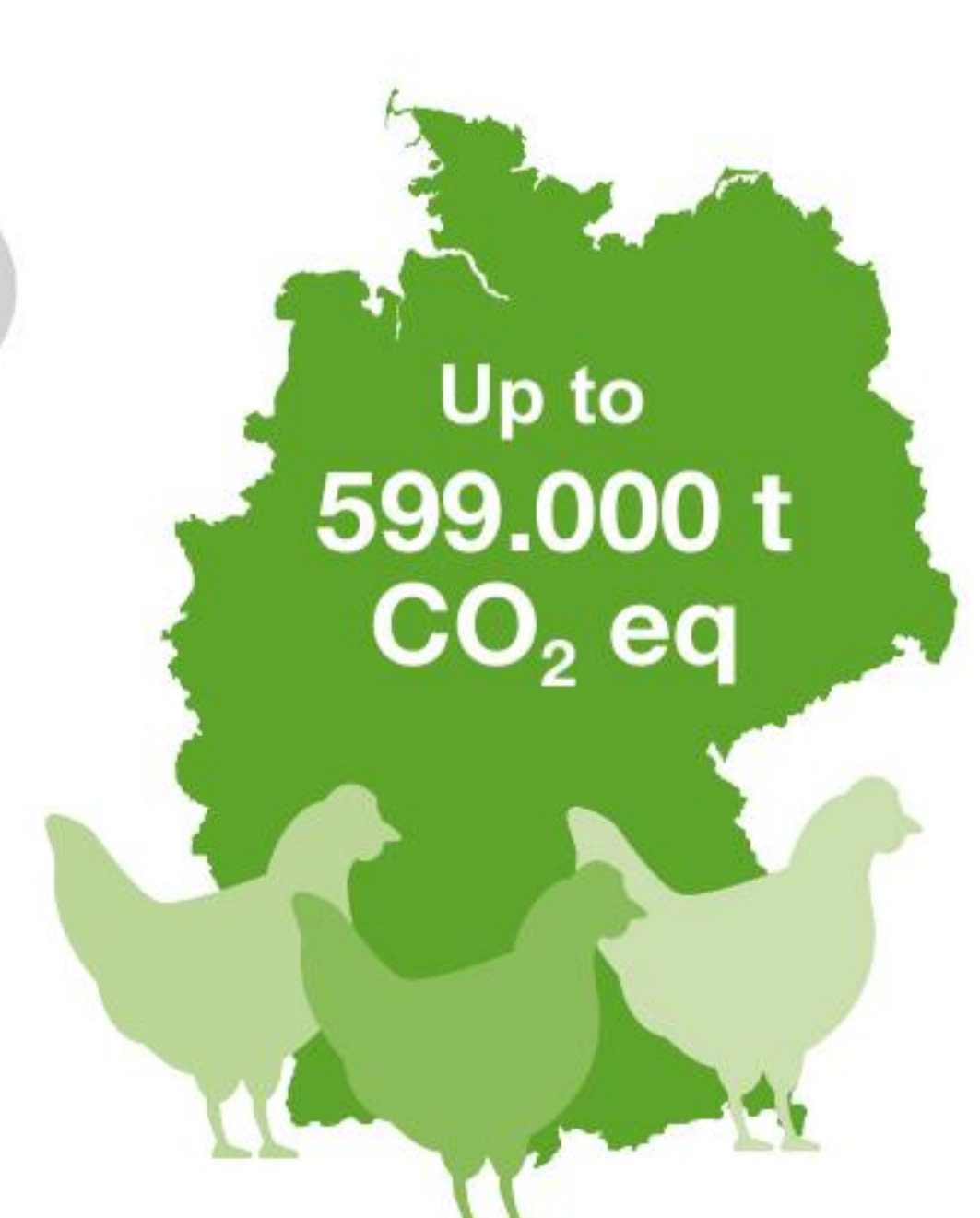
Based on the available data, the researchers at TiHo chose in this case to illustrate the negative impact of two significant diseases on the CO<sub>2</sub> balance of broilers. The study examined coccidiosis and colibacillosis, both of which had a strong negative impact on emitted CO<sub>2</sub> equivalents. However, effective preventative measures are available for both diseases. Additionally, in cases where prevention is no longer possible, effective therapeutic treatment exists as well.

### Balance Broiler

Impact on the carbon footprint in case of disease (per animal)



Carbon savings potential through disease prevention (in Germany per year)



### CHANGE THROUGH ...

#### Diseases associated with Porcine Circovirus 2 (PCV2)

Porcine Circovirus 2 (PCV2) is present worldwide and affects pigs in all farming systems. The virus can cause a variety of clinical symptoms, including growth retardation, pneumonia or diarrhea. Effective vaccines are available to prevent the disease, and PCV2 vaccination is considered a standard practice in pig farming.

#### ... PCV2 VACCINATION

Piglet rearing and fattening  
3.88 kg CO<sub>2</sub> equivalent/kg live weight to 3.41 kg CO<sub>2</sub> equivalent/kg live weight = -12.1%

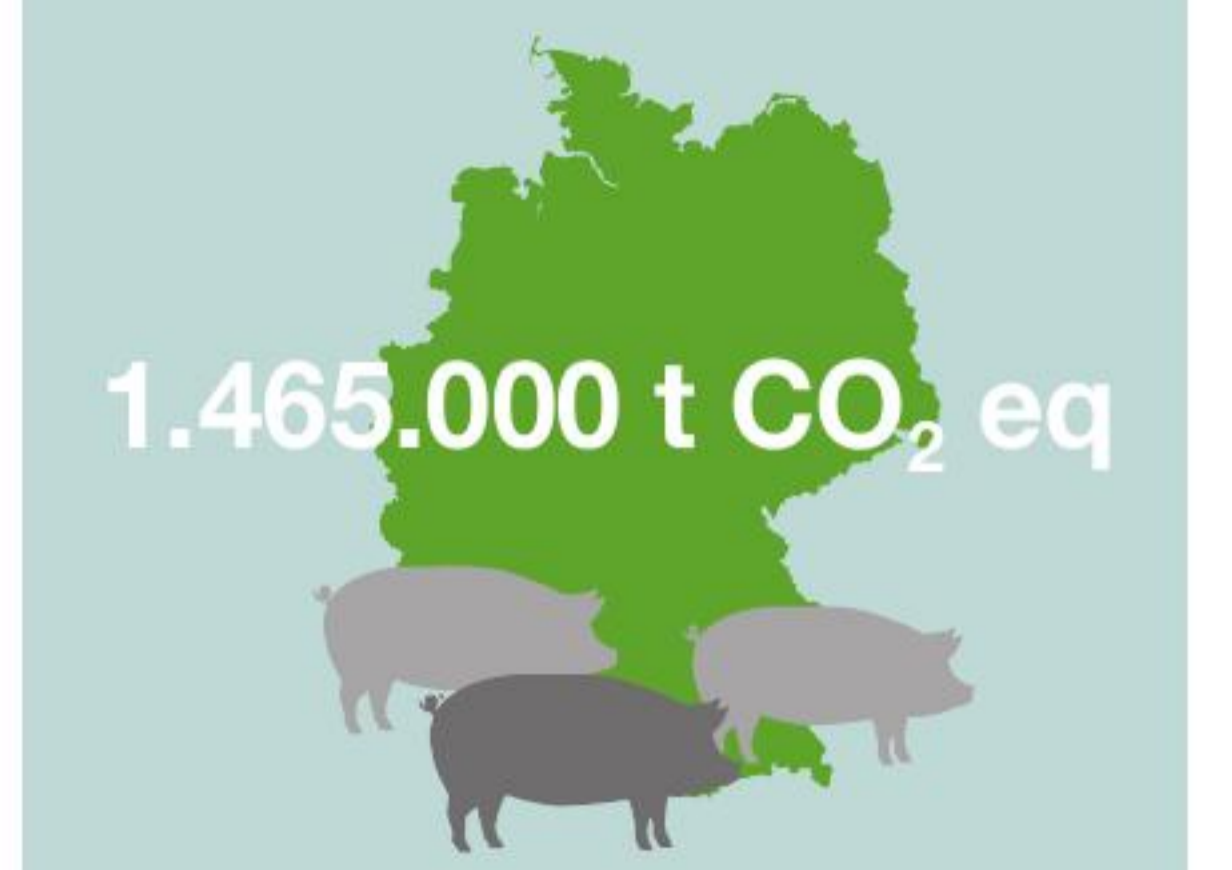
Average reduction of the carbon footprint

(per pig)



Calculated CO<sub>2</sub> savings potential<sup>1</sup> through disease prevention

(in Germany per year)



#### Enzootic Pneumonia (*Mycoplasma hyopneumoniae*)

*M. hyopneumoniae* is another very relevant pathogen in pigs and is present in most pig herds in Germany. It causes a specific form of pneumonia. Vaccines are available, and in infected herds, vaccination against the pathogen is commonly practiced.

#### ... M. HYO VACCINATION

Throughout the entire lifespan  
3.54 kg CO<sub>2</sub> equivalent/kg live weight to 3.45 kg CO<sub>2</sub> equivalent/kg live weight = -2.5%



#### Porcine Proliferative Enteropathy / Ileitis (*Lawsonia intracellularis*)

A large proportion of German pig herds are also infected with *L. intracellularis*. This bacterium damages the intestinal lining, leading to diarrhea and other related health issues.

#### ... L. INTRACELLULARIS VACCINATION

During the fattening period  
3.43 kg CO<sub>2</sub> equivalent/kg live weight to 3.31 kg CO<sub>2</sub> equivalent/kg live weight = -3.5%



### CHANGE THROUGH ...

#### Coccidiosis / Eimeria Infection

This disease is caused by single-celled parasites that live in the intestines of birds and cause damage, leading to diarrhea. These parasites are relevant for almost all broiler flocks in Germany. Various preventative measures are available to control the disease.

#### ... INFECTION / PREVENTION

Troughout the entire lifespan  
1.52 kg CO<sub>2</sub> equivalent/kg live weight to 1.99 kg CO<sub>2</sub> equivalent/kg live weight = +30.9%

Average impact on the carbon footprint with disease prevention

(per broiler)



Calculated carbon savings potential<sup>2</sup> through disease prevention

(in Germany per year)



#### Colibacillosis / E. coli Infection

The bacterium Escherichia coli causes various diseases in chickens, including inflammation of internal organs and joints. However, a vaccine is available for prevention, and effective therapeutic treatments are available as well.

#### ... INFECTION / PREVENTION

Troughout the entire lifespan  
1.71 kg CO<sub>2</sub> equivalent/kg live weight to 1.89 kg CO<sub>2</sub> equivalent/kg live weight = +10.5%



1: Assumed number of slaughtered fattening pigs: 43,8 million. Further details on the assumptions made can be found in the study report.  
2: Assumed number of slaughtered broilers: 631 million. Further details on the assumptions made can be found in the study report.

# HEALTHY ANIMALS FOR A HEALTHIER PLANET

Germany is taking a leading role in climate protection measures - in course of that the importance of an effective and environmentally friendly production of animal-derived food is highlighted. Farmers and veterinarians in Germany are already contributing with their expertise to keeping livestock healthy and there by reducing CO<sub>2</sub> emissions from animal husbandry. The key factor for a better carbon footprint is the improved animal performance, including lower feed consumption, reduced mortality, and higher weight gains.

Animal health companies support this effort with innovative solutions for disease prevention and treatment. The recent study by the University of Veterinary Medicine Hannover highlights the significant impact of diseases on the carbon footprint and demonstrates the effectiveness of disease prevention. Preventing major livestock diseases can save substantial amounts of CO<sub>2</sub> equivalents.



## DISEASES IN PIGS

### Change through:

#### PCV2 Vaccination throughout the entire lifespan

3.88 kg CO<sub>2</sub> equivalent/kg live weight to 3.41 kg CO<sub>2</sub> equivalent/kg live weight = -12.1%

#### M. HYO Vaccination throughout the entire lifespan

3.54 kg CO<sub>2</sub> equivalent/kg live weight to 3.45 kg CO<sub>2</sub> equivalent/kg live weight = -2.5%

#### L. INTRACELLULARIS Vaccination during the fattening period

3.43 kg CO<sub>2</sub> equivalent/kg live weight to 3.31 kg CO<sub>2</sub> equivalent/kg live weight = -3.5%

## DISEASES IN BROILERS

### Impact through:

#### Coccidia infection

throughout the entire lifespan

1.52 kg CO<sub>2</sub> equivalent/kg live weight to 1.99 kg CO<sub>2</sub> equivalent/kg live weight = +30.9%

#### E. COLI INFECTION

throughout the entire lifespan

1.71 kg CO<sub>2</sub> equivalent/kg live weight to 1.89 kg CO<sub>2</sub> equivalent/kg live weight = +10.5%

Average reduction of the carbon footprint (per pig)

Calculated carbon savings<sup>1</sup> (in Germany per year)

- 12,1 %

1.465.000 t CO<sub>2</sub> eq

- 2,5 %

303.000 t CO<sub>2</sub> eq

- 3,5 %

424.000 t CO<sub>2</sub> eq

Impact on the carbon footprint mit with disease prevention (per boiler)

CO<sub>2</sub> savings potential<sup>2</sup> through infection prevention (in Germany per year)

+30,9 %

447.000 t CO<sub>2</sub> eq

+10,5 %

152.000 t CO<sub>2</sub> eq

## POTENTIAL ANNUAL TOTAL SAVINGS

Solely through the prevention of the diseases considered in this study



2.791.000 t

CO<sub>2</sub> eq  
Equivalent to  
1.98 million cars<sup>3</sup>

1: Assumed number of slaughtered fattening pigs: 43.8 million. Further details on the assumptions made can be found in the study report. | 2: Assumed number of slaughtered broilers: 631 million. Further details on the assumptions made can be found in the study report. | 3: Assumed CO<sub>2</sub> emissions per car per year: 1.41 t. Assumptions: Average annual mileage: 12,300 km (Source: Traffic in Figures 2023/2024, Federal Ministry for Digital and Transport). Assumed CO<sub>2</sub> emissions per km: 114.9 g (Source: Kraftfahrt-Bundesamt Annual Report 2023, [https://www.kba.de/DE/Statistik/Fahrzeuge/Neuzulassungen/Jahresbilanz\\_Neuzulassungen/jahresbilanz\\_node.html](https://www.kba.de/DE/Statistik/Fahrzeuge/Neuzulassungen/Jahresbilanz_Neuzulassungen/jahresbilanz_node.html)). | For reasons of readability, the generic masculine is used in this brochure.

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