

# Monitoring **respiratory symptoms** in weaned piglets using a **cough monitor**

Lenny van Erp-van der Kooij



# **Respiratory Health Status and the cough monitor**

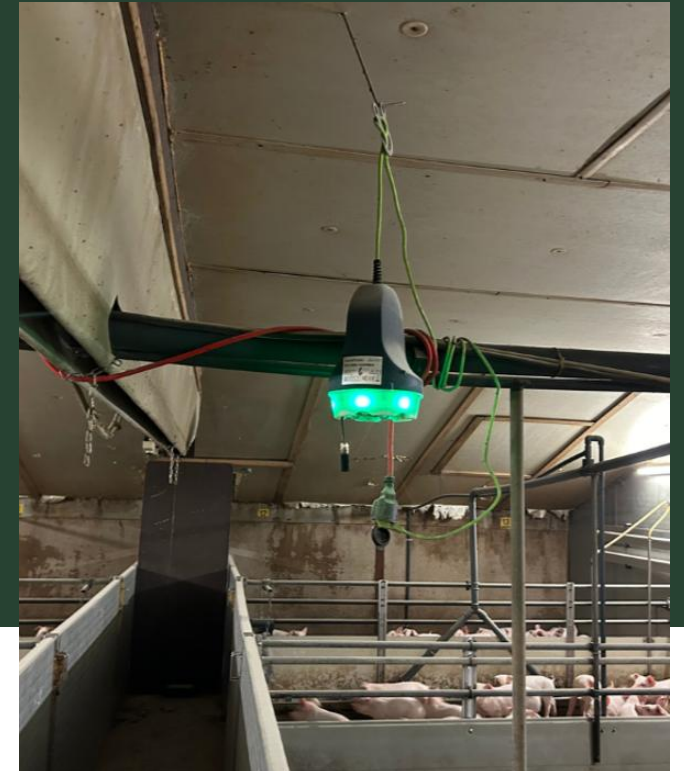
# Methods



6 units, 2 pens each



Weekly weights of appr.  
20 piglets/pen



SoundTalks monitor:  
ReHS, T, RH

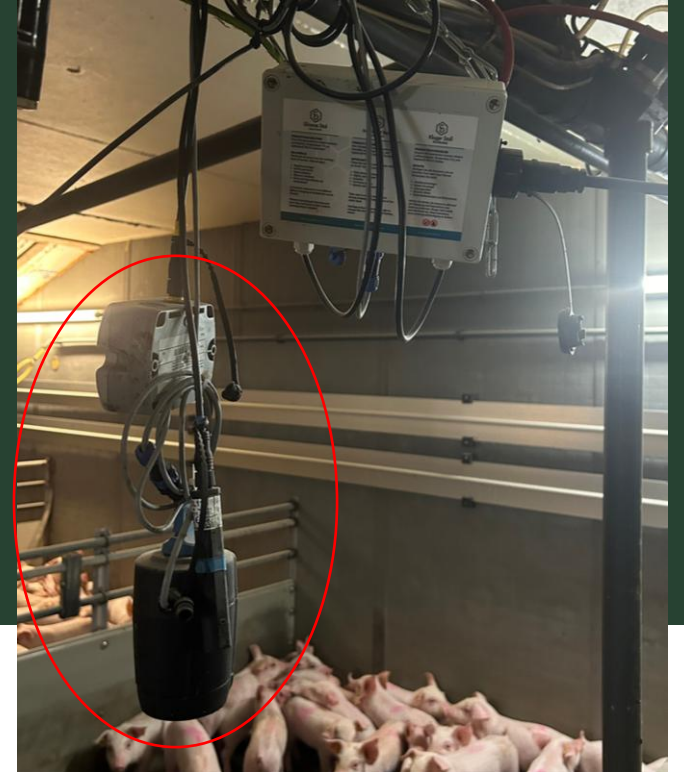
# Methods



**Growth, weight variation**



**Josene box:**  
**PM2.5, PM10, CO<sub>2</sub>**



**Smart barn: NH<sub>3</sub>**

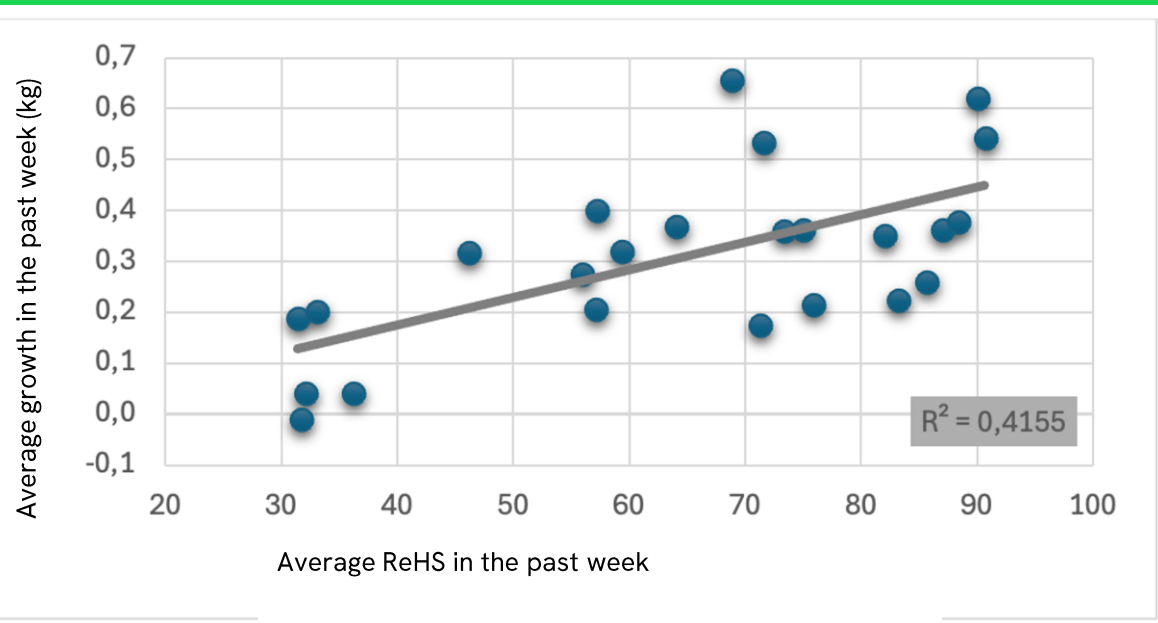
## Research questions:

- 1) Is ReHS related to growth?
- 2) Is indoor climate related to ReHS?

*NB High Respiratory Health Status (ReHS) = less coughing*

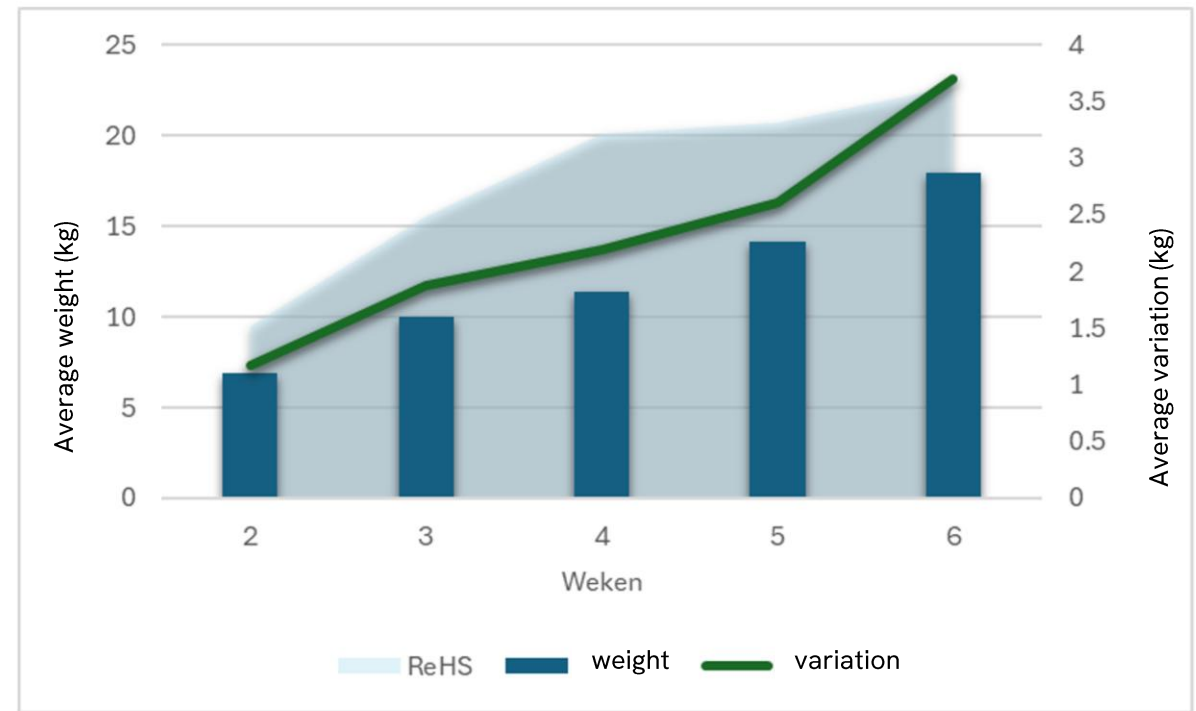


# GEE analysis: Growth = ReHS



Positive relation between ReHS and average growth  
( $P < 0.001$ )

# GEE analysis: Average weight = ReHS VARWeight = ReHS



Positive relation between average weight and ReHS, and  
weight variation and ReHS ( $P < 0.001$ )

# GEE analysis:

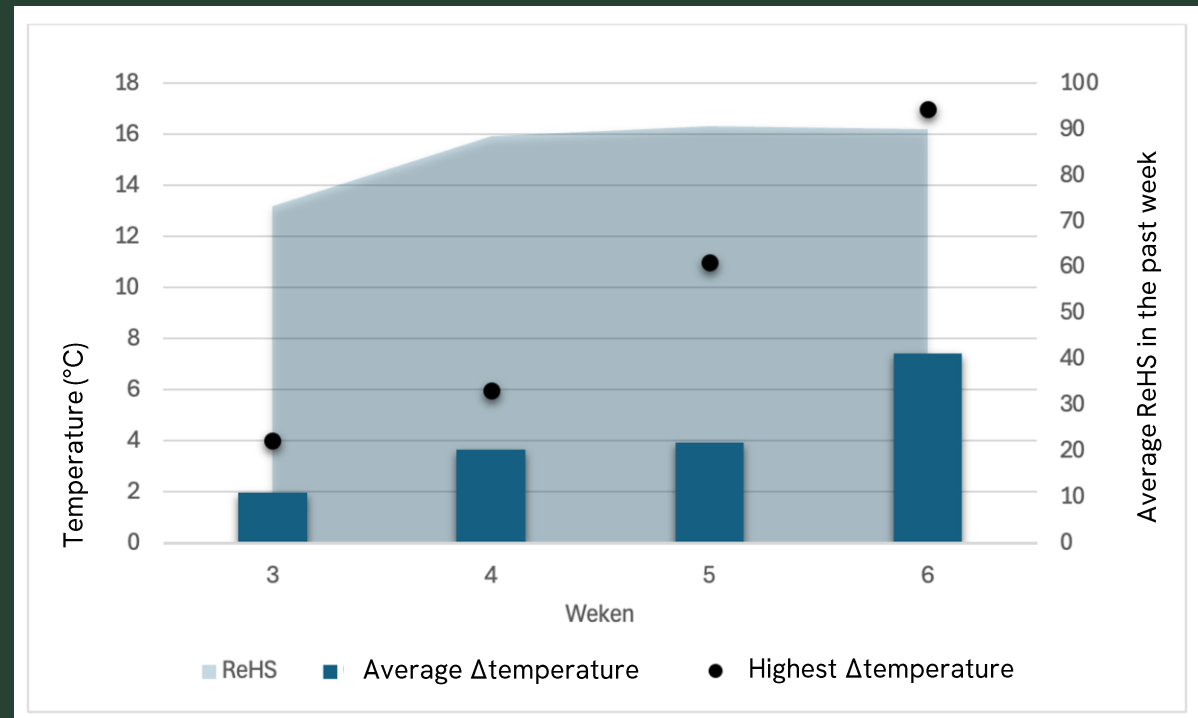
## 25%heavy-25%light piglets = ReHS



Positive relation between ReHS and differences between 25% heavy and light piglets ( $P < 0.001$ )

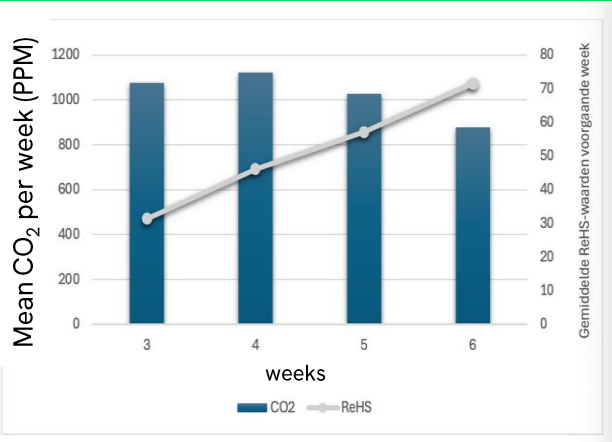
# GEE analysis:

## ReHS = temperature differences

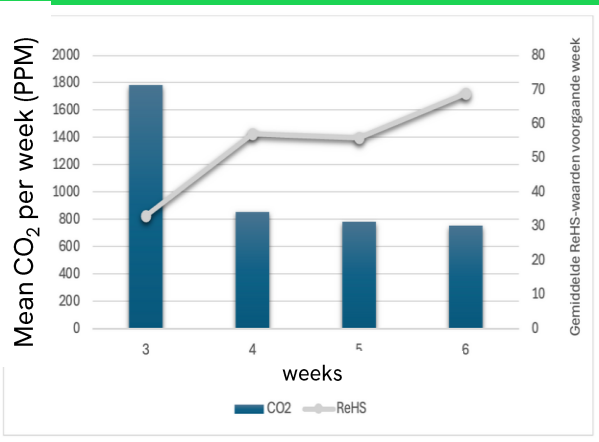


Positive relation between ReHS and average as well as highest temperature difference per week ( $P < 0.001$ )

GEE analysis:  
ReHS = carbon dioxide

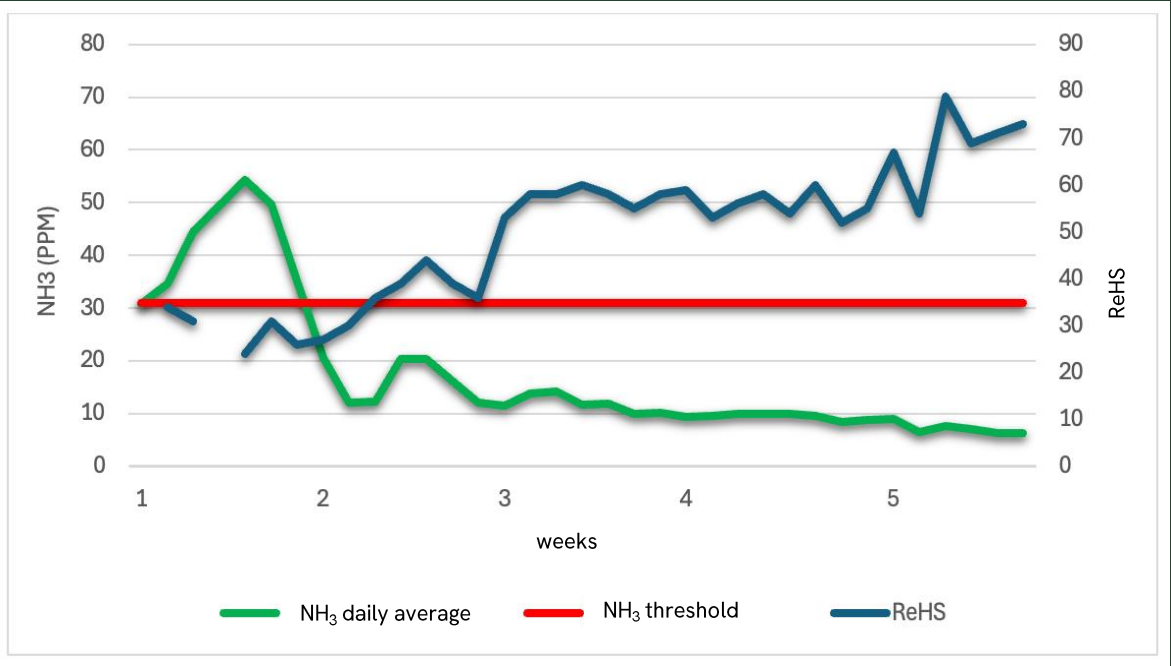


Unit 3



Unit 4

GEE analysis:  
ReHS = ammonia



Unit 4

# Conclusion & discussion

- Positive relation between average growth and ReHS

*Coughing piglets grow less*

- Positive relation between weight variation and ReHS

*Healthy piglets show more weight variation, due to differences in genetic potential?*

# Conclusion & discussion

- Positive relation between ReHS and temperature differences

???

- Negative trend between ReHS and CO<sub>2</sub> and between ReHS and NH<sub>3</sub>

*Better air quality leads to less coughing*

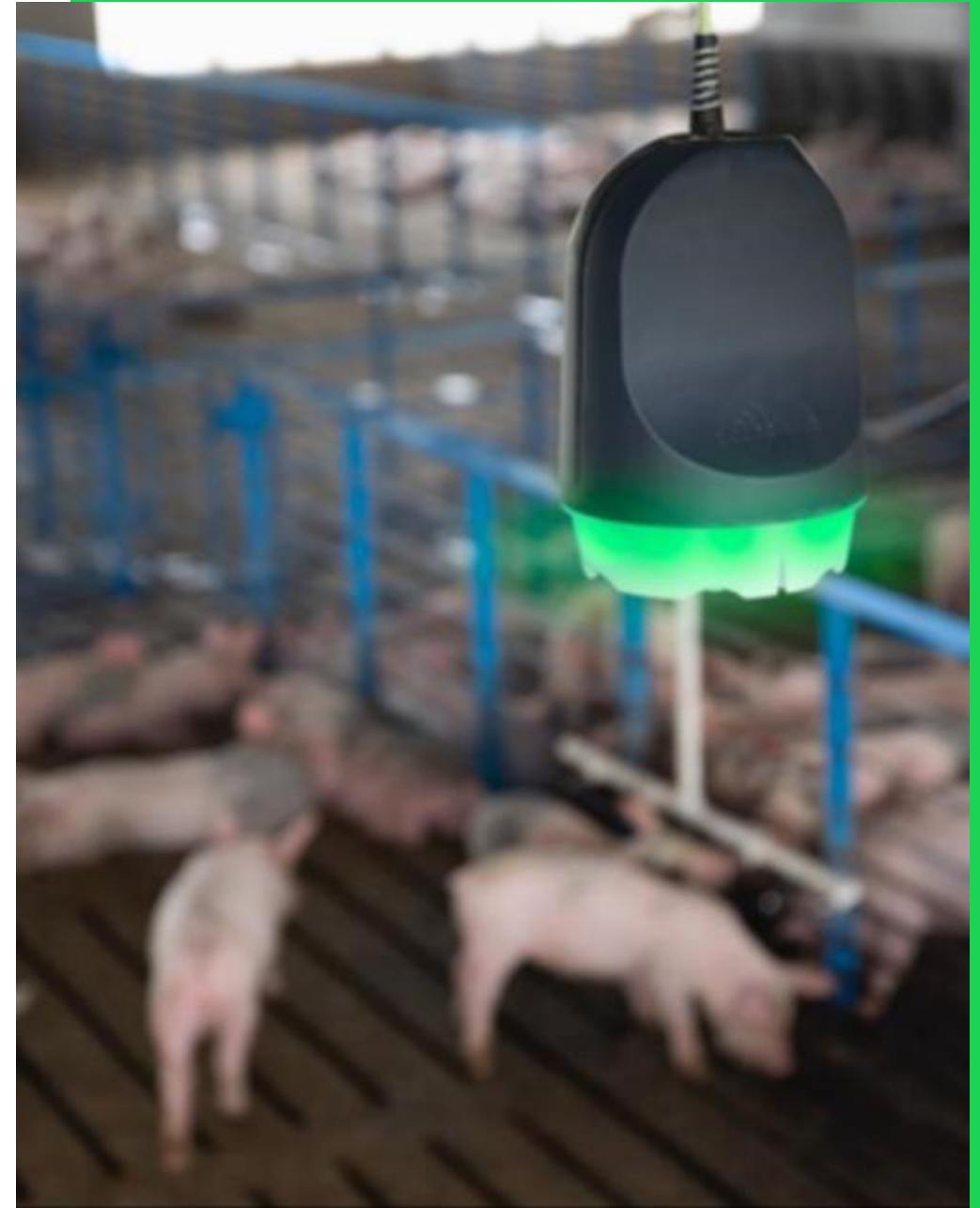
## Future research:

- 1) Will the farmer use ReHS info to
  - treat piglets more timely
  - use less medication

*study: record treatments in units with visible versus blinded monitors for farmers*

- 2) Can we use the SoundTalks monitor to follow-up on respiratory health within and between farms?

*study: from piglet to fattening pig*



# Team



**Merijn Janssen**



**Lenny van Erp**



**Jeroen van Poppel**



**Aylanka Trommelen**



**Romy van Lieshout**

**& pigs and personnel  
of Berkhout farm**