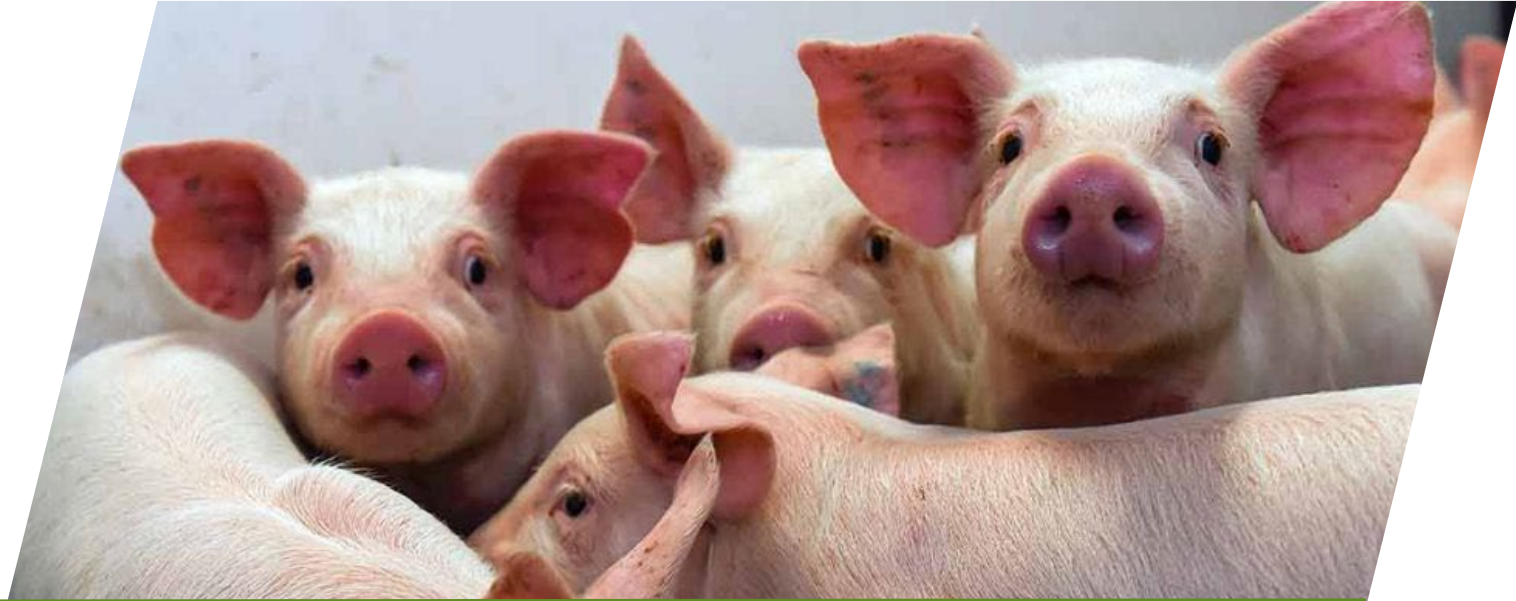
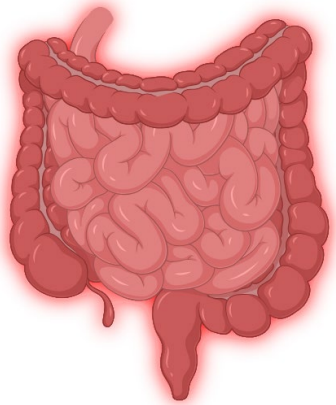




Intestinal health status and dietary Spry Dried Porcine Plasma inclusion on faecal calprotectin and performance in weaned piglets

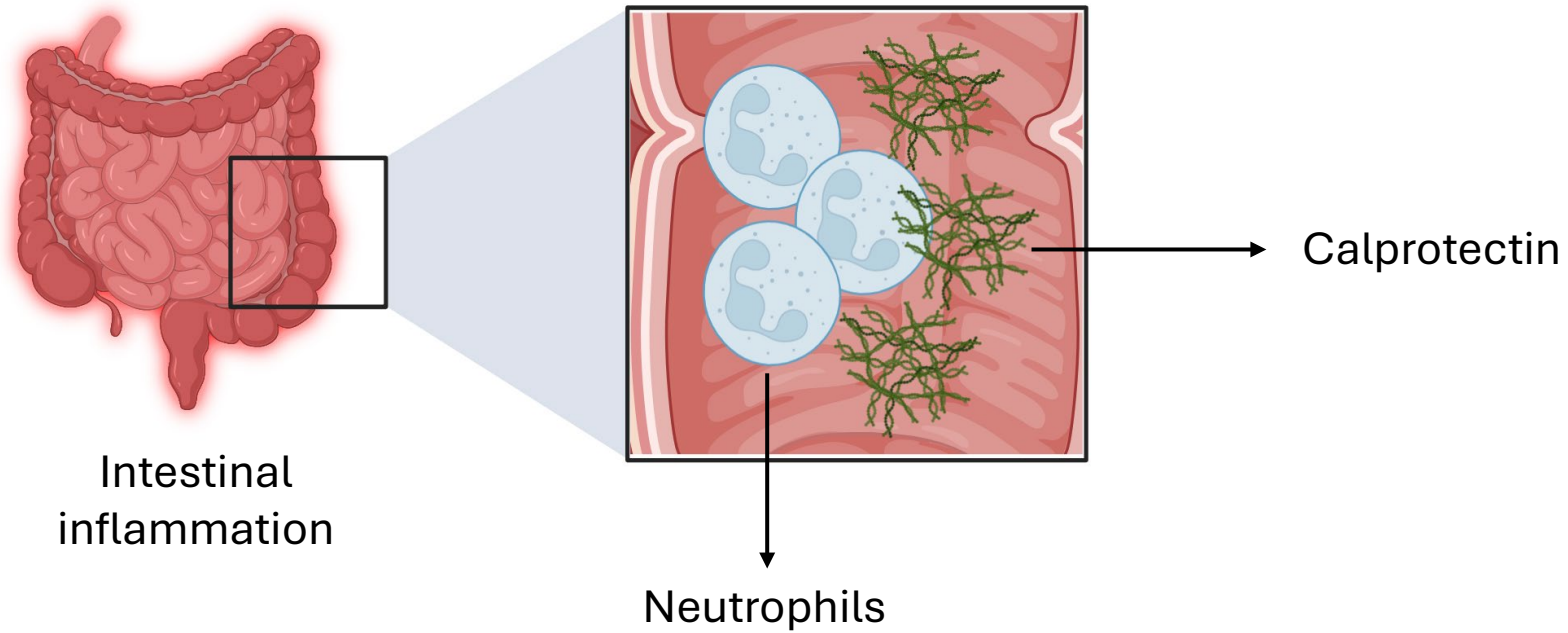
J. Suppi, E. Llauradó-Calero, P. Aymerich, A. Pelegrí-Pineda, Y. Saco, A. Bassols and D. Solà-Oriol

BACKGROUND

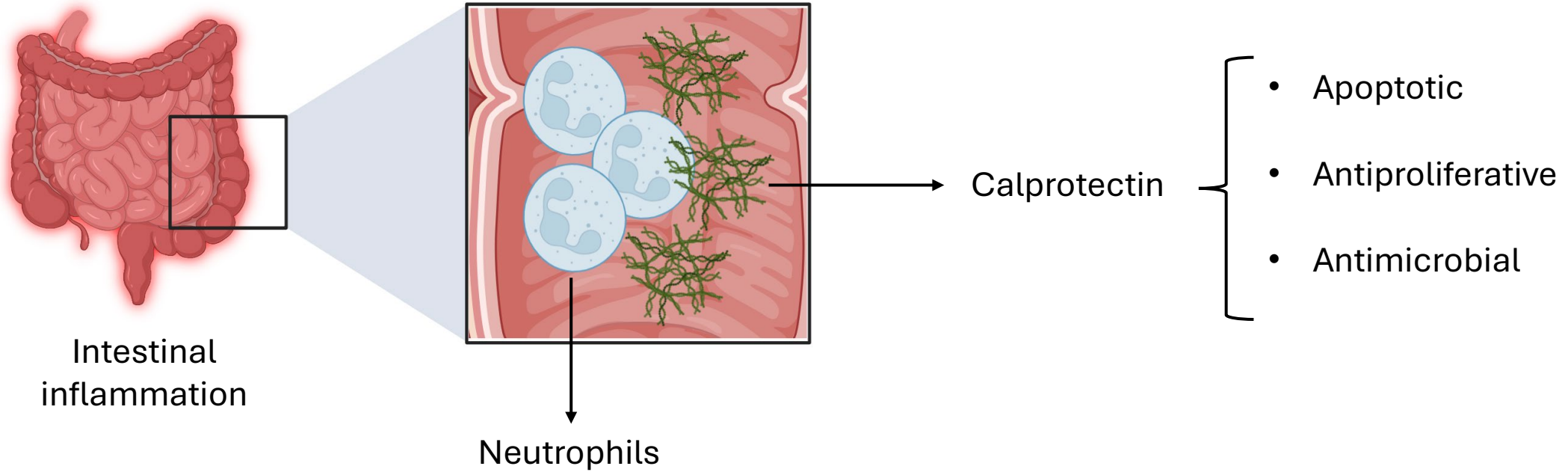


Intestinal
inflammation

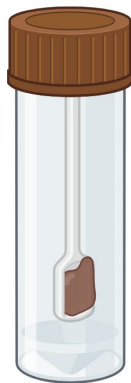
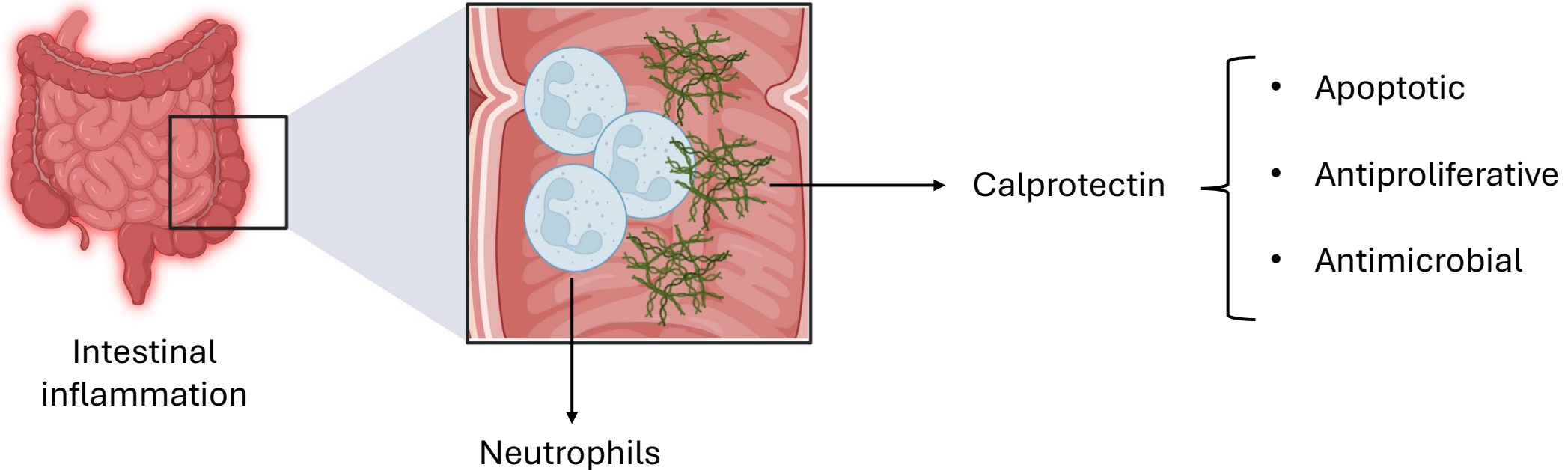
BACKGROUND



BACKGROUND



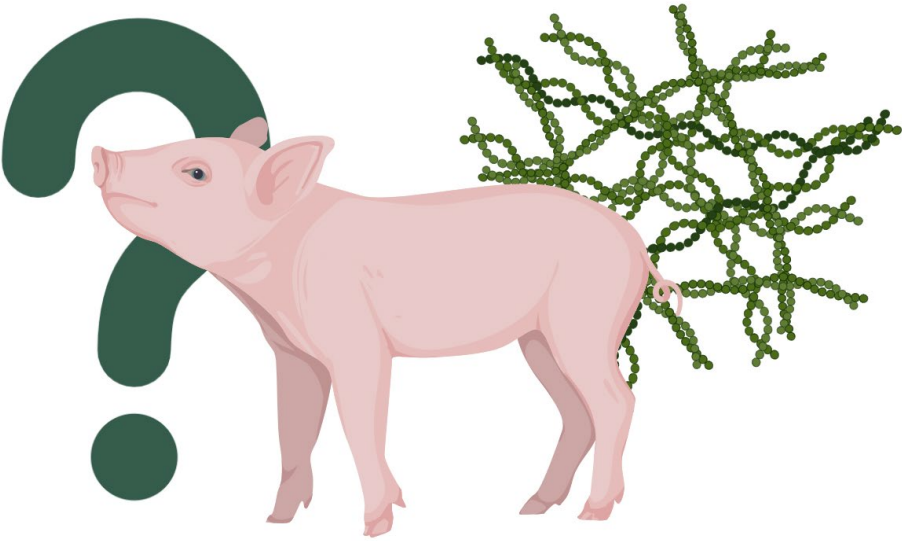
BACKGROUND



Faecal biomarker to diagnose gastrointestinal inflammatory disorders in humans.

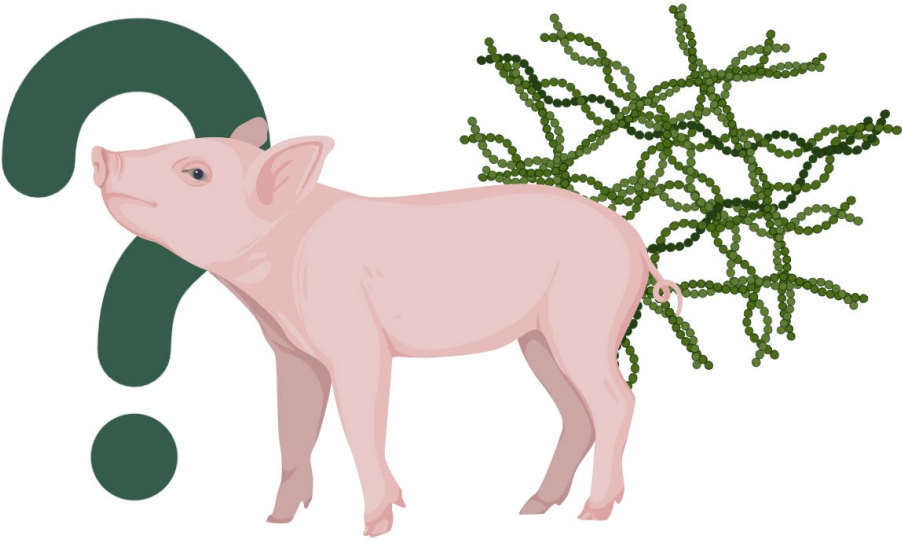
- Strongly correlated with other inflammatory markers
- Sample easy to collect
- Stable in faeces

BACKGROUND



Calprotectin

BACKGROUND

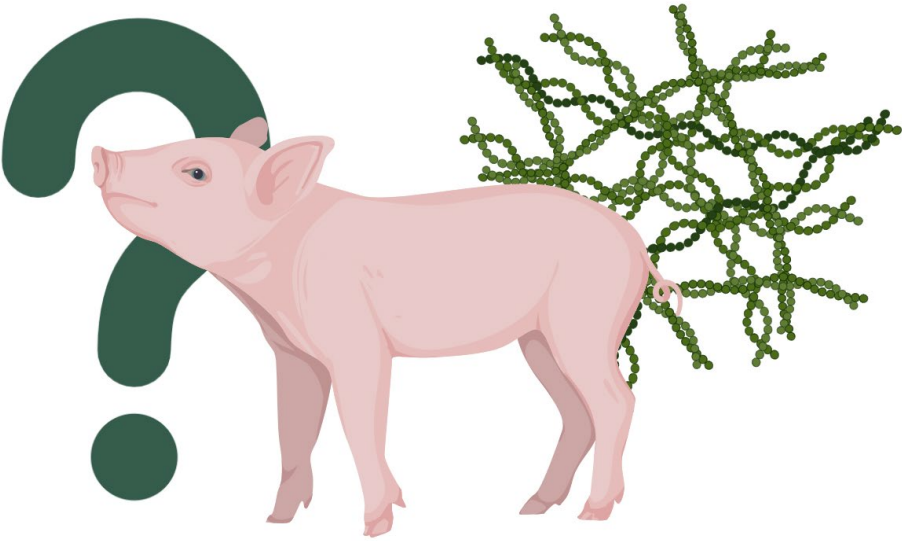


Calprotectin



Marker of intestinal Health status ?

BACKGROUND



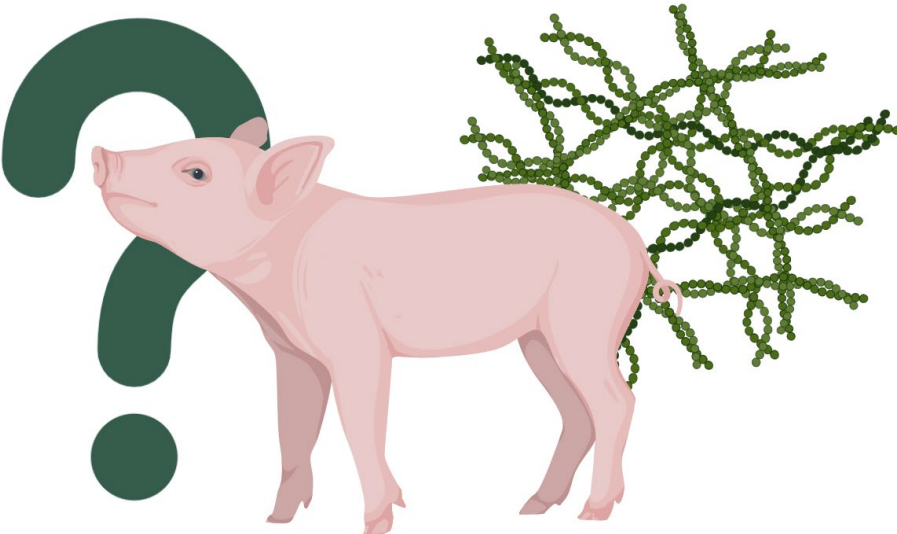
Calprotectin



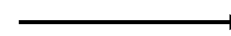
Marker of intestinal Health status ?

Two challenges that may
affect **Intestinal Health
Status** and **Growth**

BACKGROUND

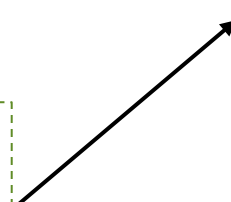


Calprotectin



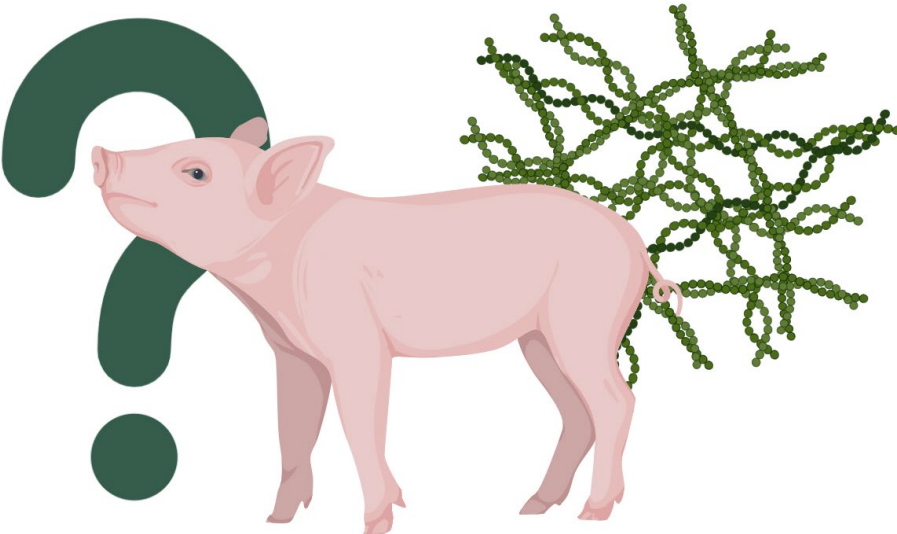
Marker of intestinal Health status ?

Two challenges that may
affect **Intestinal Health
Status** and **Growth**



Farm intestinal Health status

BACKGROUND



Calprotectin



Marker of intestinal Health status ?

Two challenges that may
affect **Intestinal Health
Status** and **Growth**

Farm intestinal Health status

Protein source

EXPERIMENTAL DESIGN

1) Farm



High intestinal
Health status
(HIH)

n = 294 piglets
M + F



Low intestinal
Health status
(LIH)

n = 380 piglets
M

Chosen regarding their
diarrheal incidence

EXPERIMENTAL DESIGN

1) Farm



High intestinal
Health status
(HIH)

n = 294 piglets

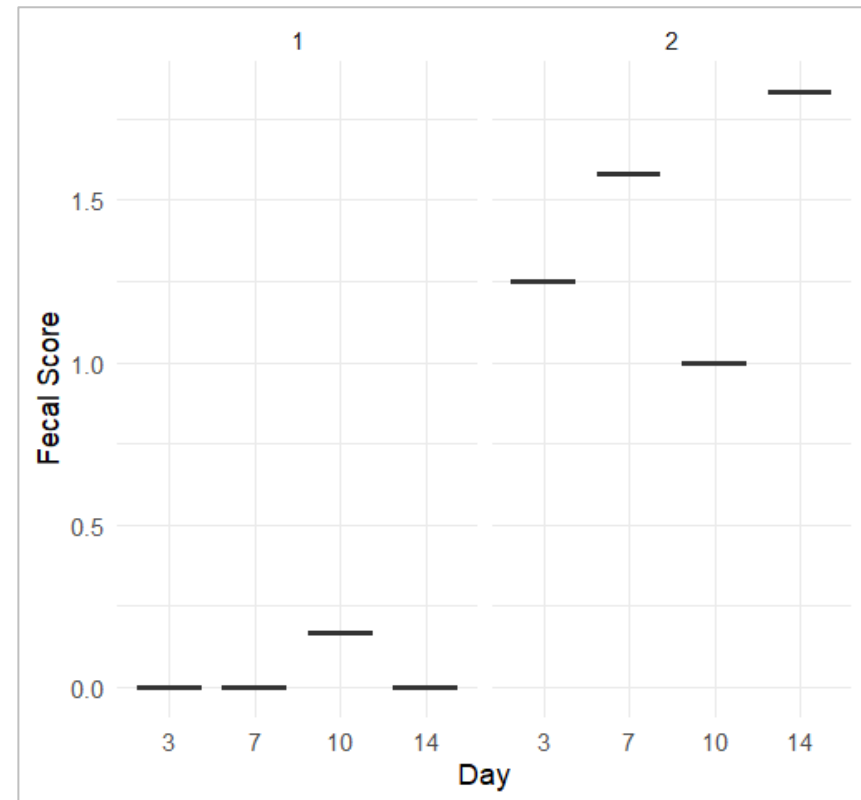


Low intestinal
Health status
(LIH)

n = 380 piglets

Chosen regarding their
diarrheal incidence

Average Fecal Score per farm and day



1. HIH
2. LIH

	Pr(>F)
Farm	0.00261**
Day	0.4798
Farm*Day	0.56422

EXPERIMENTAL DESIGN

1) Farm



High intestinal
Health status
(HIH)

n = 294 piglets



Low intestinal
Health status
(LIH)

n = 380 piglets

Chosen regarding their
diarrheal incidence

2) Feed



Spry Dried Porcine Pasma
(SSPP) inclusion at 4%
(P)



Soy as protein
source
(C)

Pre-starter phase
(d 0 to d 14 post-weaning)

EXPERIMENTAL DESIGN

HIH

LIH

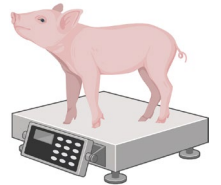
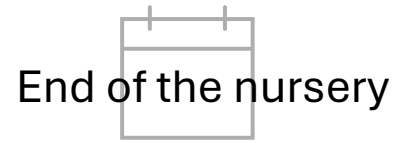
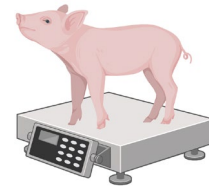
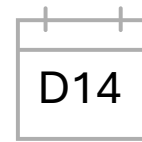
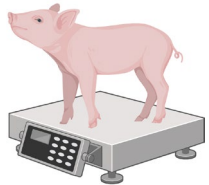
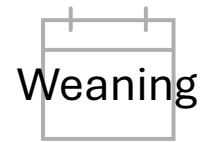
X

P

C

PRE-STARTER

STARTER



EXPERIMENTAL DESIGN

HIH

LIH

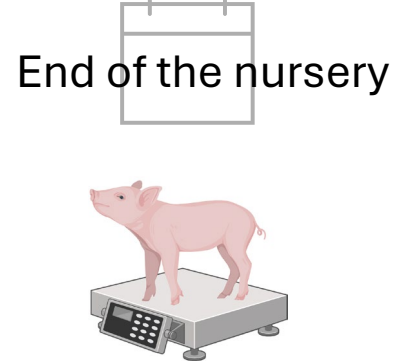
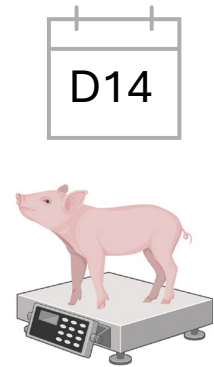
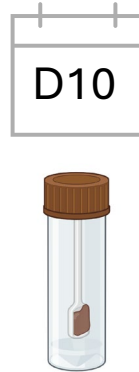
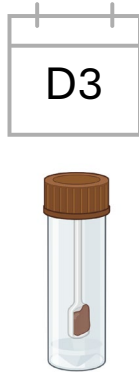
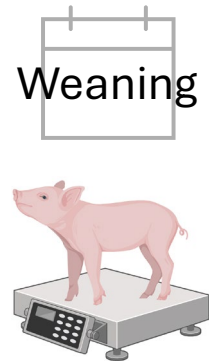
X

P

C

PRE-STARTER

STARTER



*Bühlmann fCal turbo test
Procediment described at
Pato et al., (2020)*



RESULTS

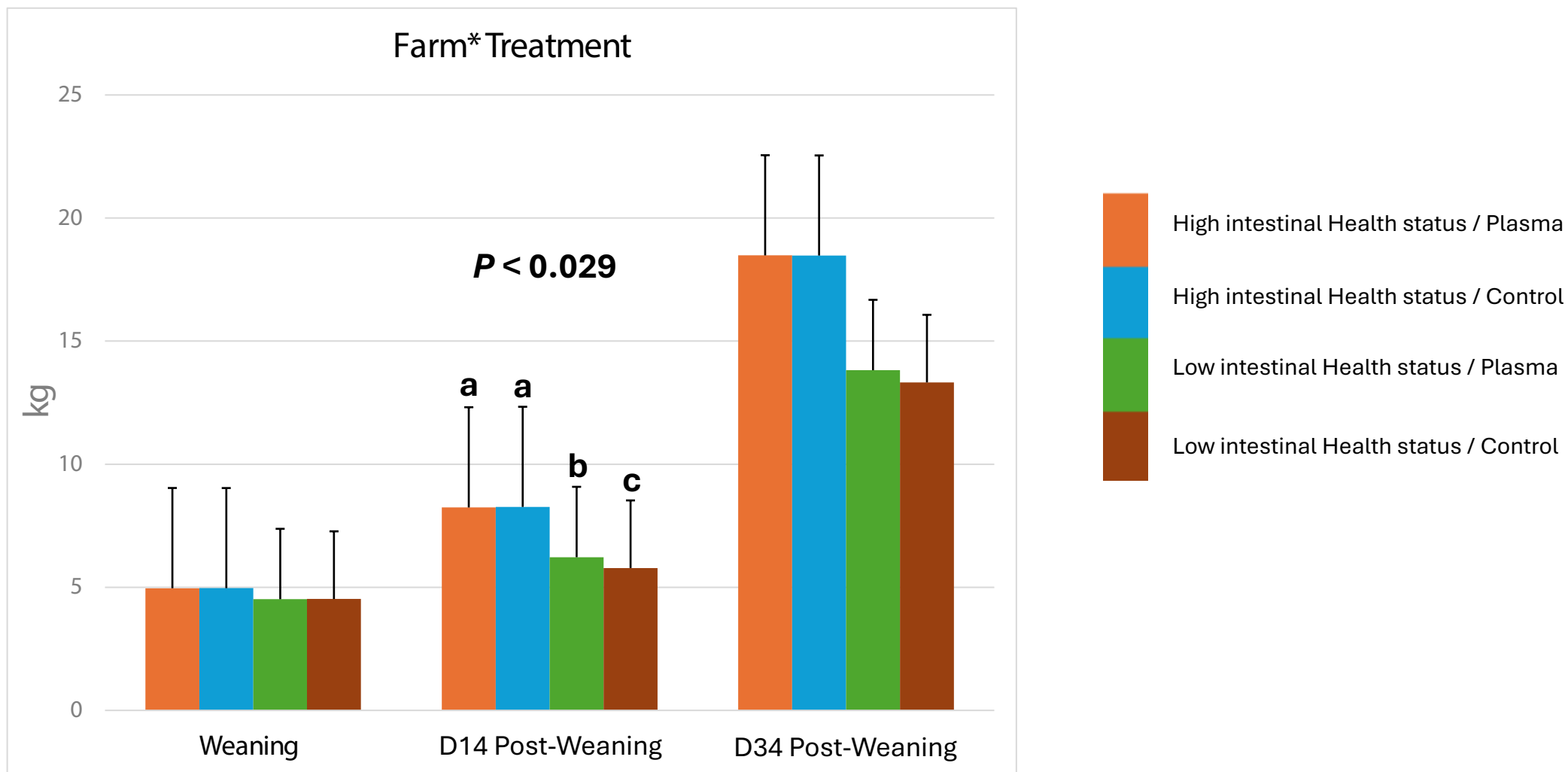
1 BODY WEIGHT

2 ADG

3 ADFI

4 FCR

5 CALPROTECTIN



RESULTS

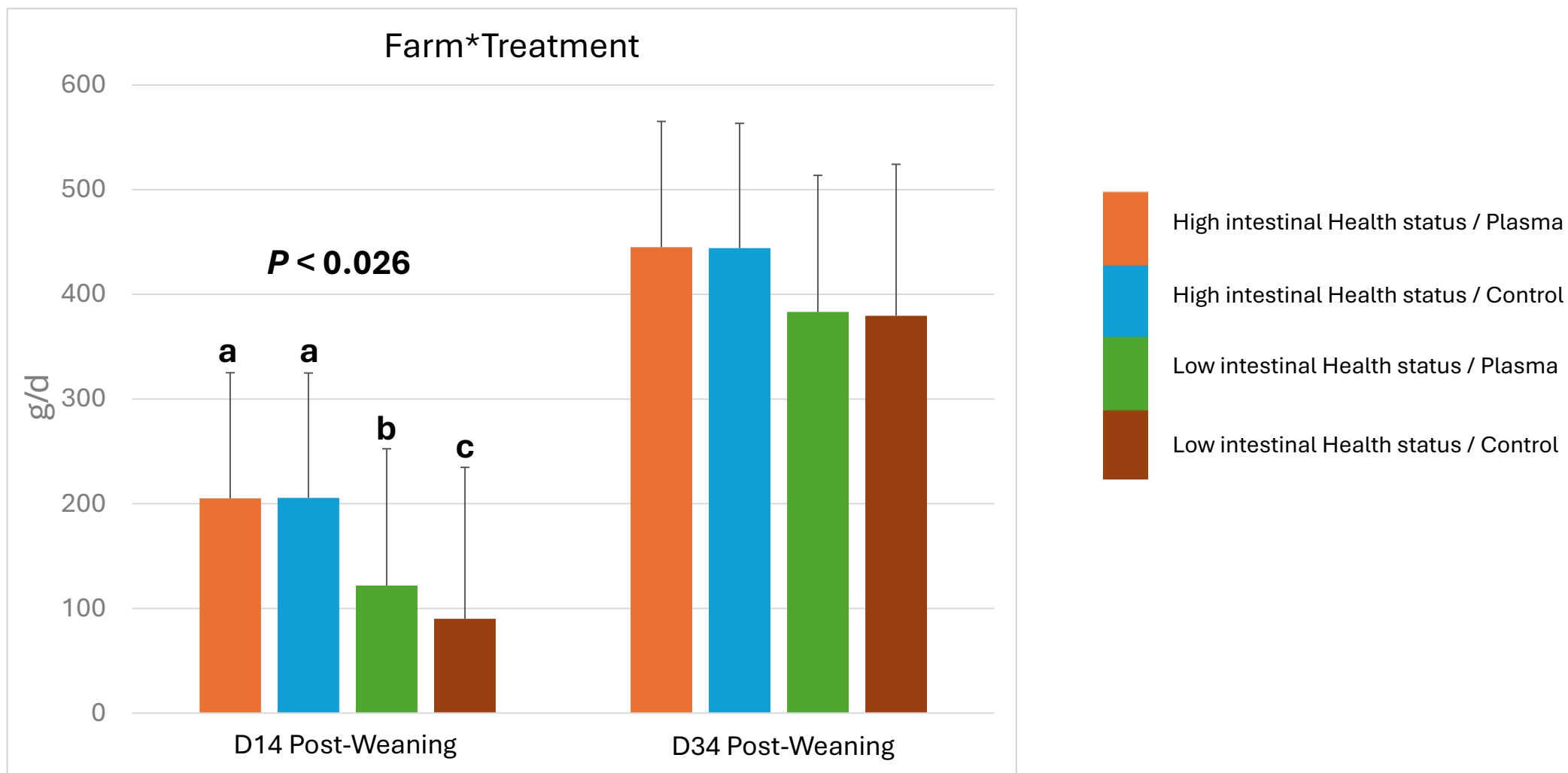
1 BODY WEIGHT

2 **ADG**

3 ADFI

4 FCR

5 CALPROTECTIN



RESULTS

1 BODY WEIGHT

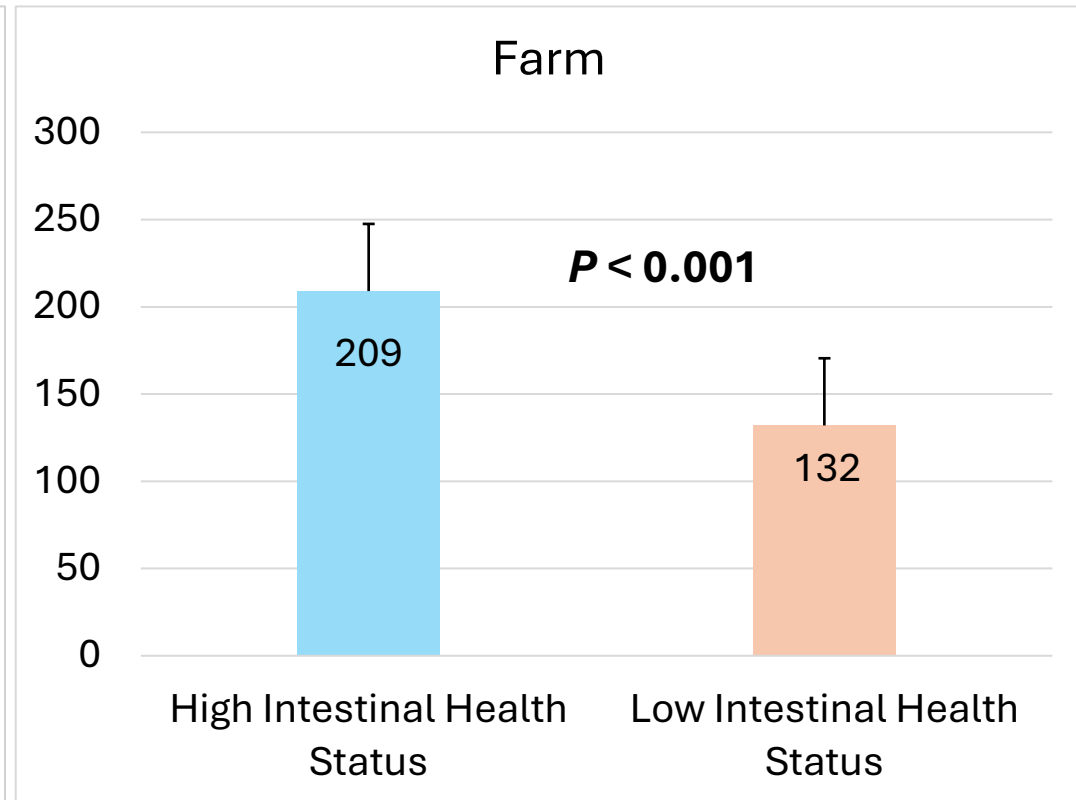
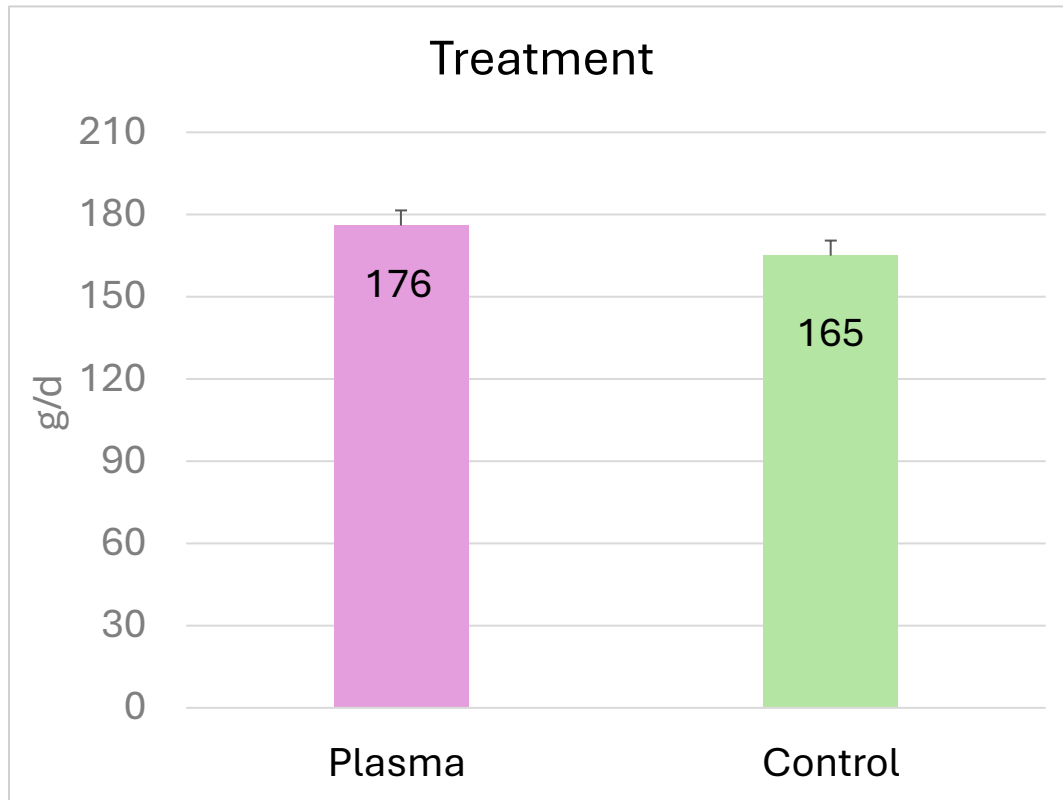
2 ADG

3 ADFI

4 FCR

5 CALPROTECTIN

NO INTERACTION – $P\text{ val} = 0.104$



(Pre-starter period; 0-d14 post-weaning)

RESULTS

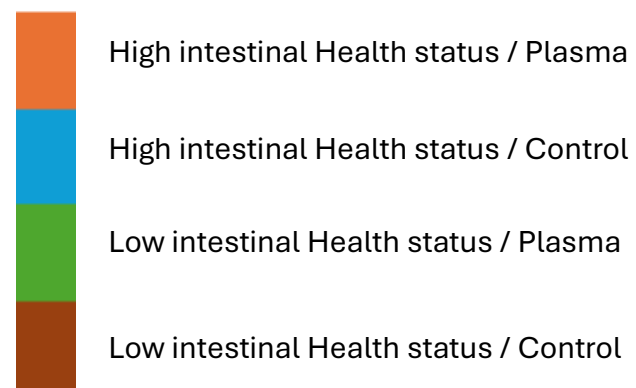
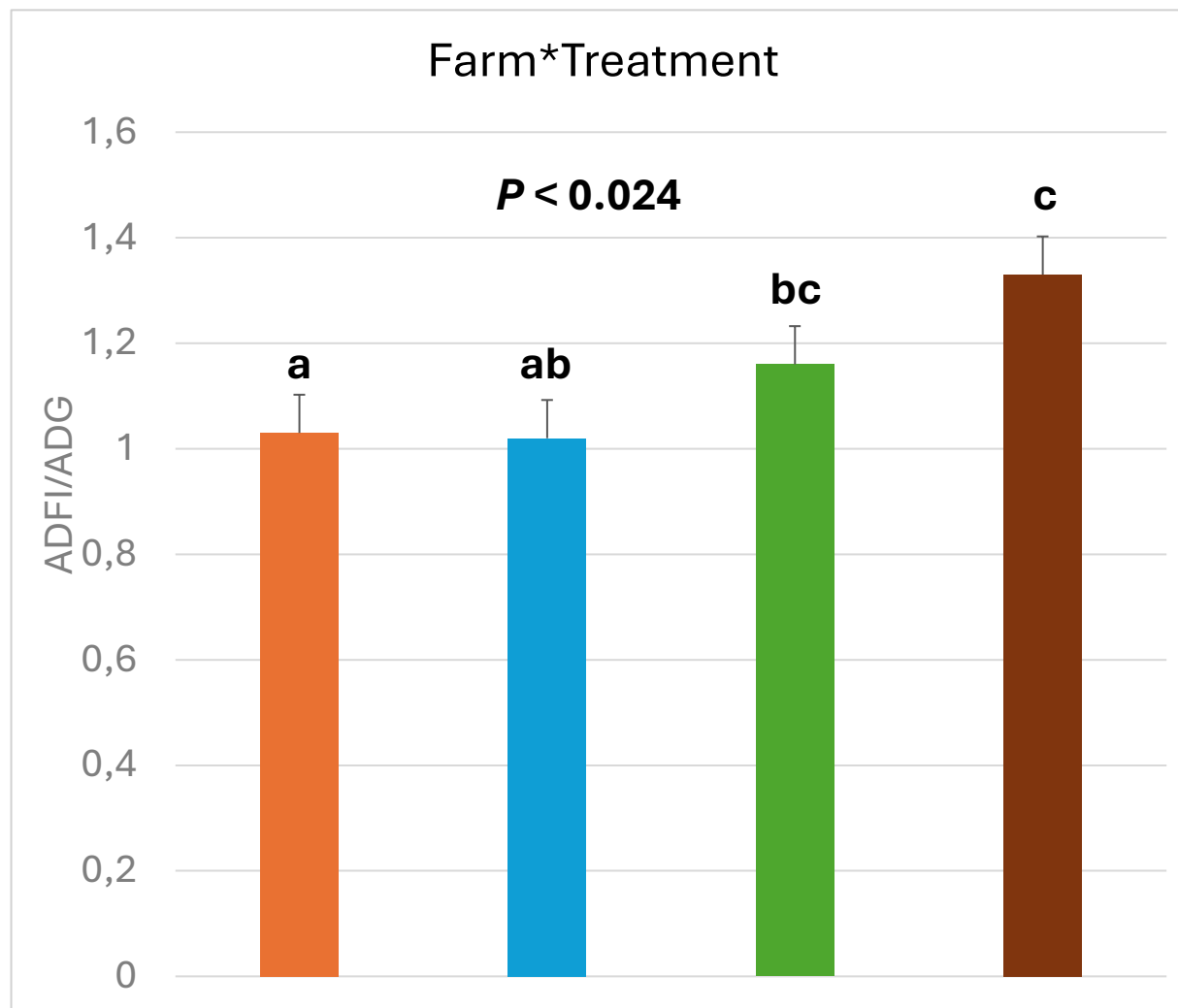
1 BODY WEIGHT

2 ADG

3 ADFI

4 **FCR**

5 CALPROTECTIN



(Pre-starter period; 0-d14 post-weaning)

RESULTS

1 BODY WEIGHT

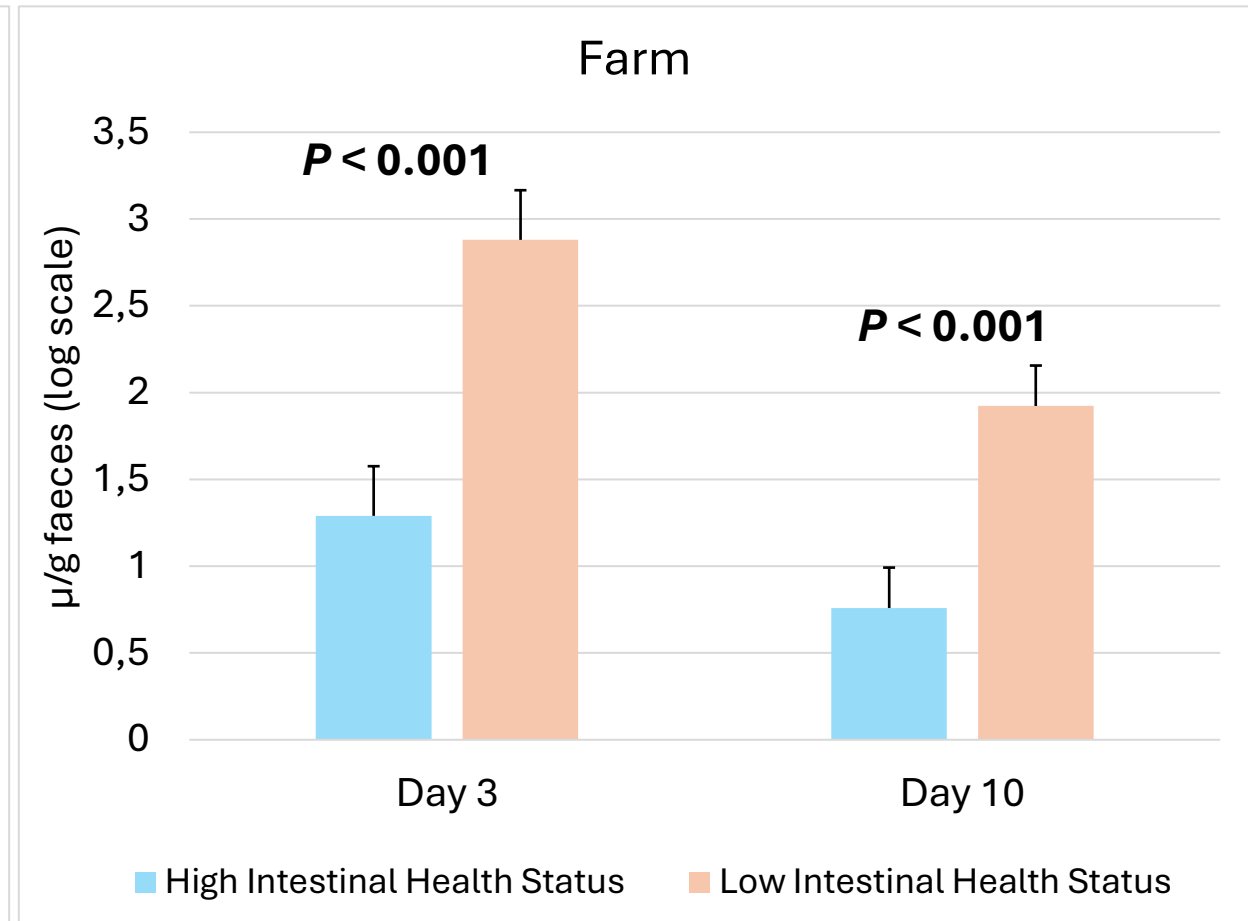
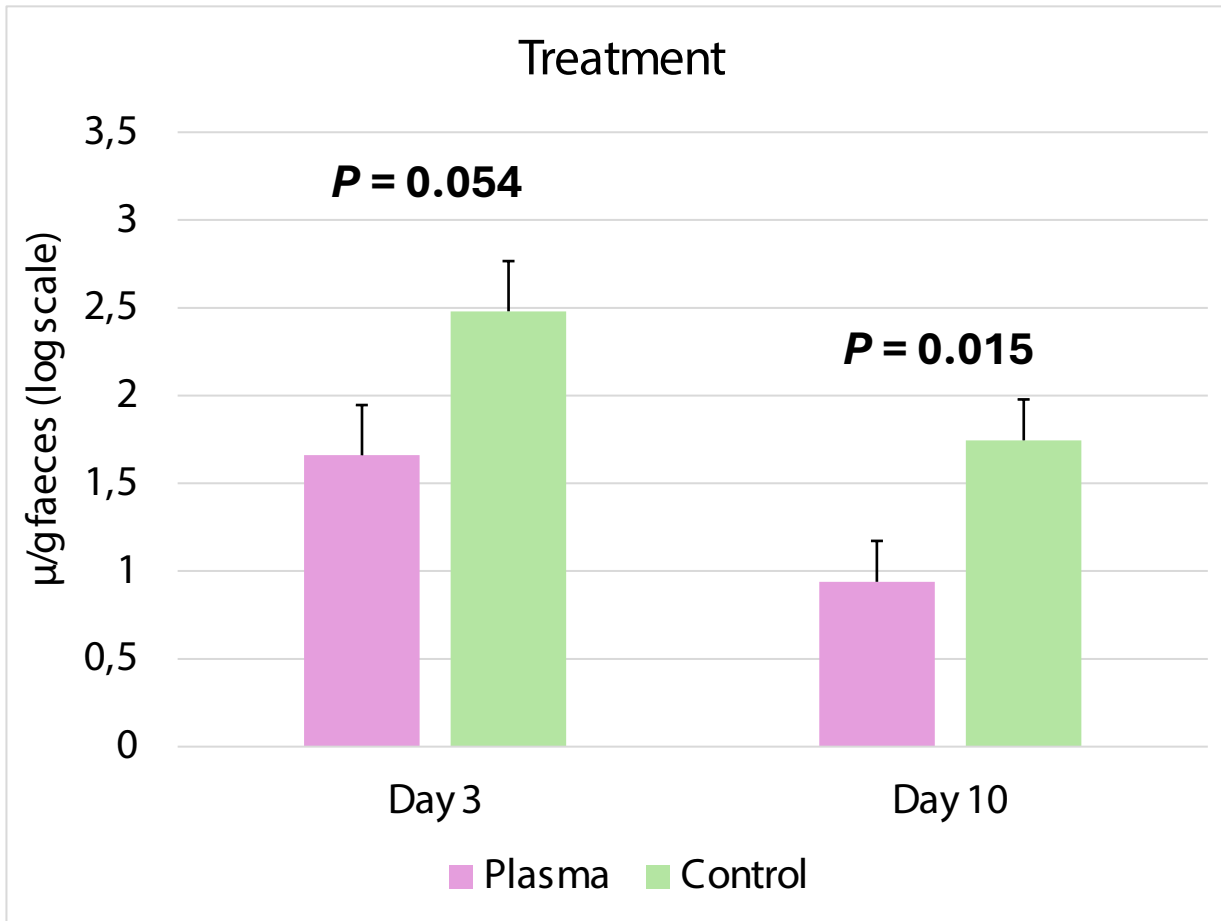
2 ADG

3 ADFI

4 FCR

5 CALPROTECTIN

NO INTERACTION – Day 3: P val = 0.552; Day 10: P val = 0.703



CONCLUSIONS

1

2

3

4

CONCLUSIONS

1

The **quality of protein** in pre-starter feed **mainly affects** piglet growth under **poor sanitary conditions**.

3

2

4

CONCLUSIONS

1

The **quality of protein** in pre-starter feed **mainly affects** piglet growth under **poor sanitary conditions**.

3

2

Good quality pre-starter feed has a secondary impact on growth, while **sanitary status has a primary impact**.

4

CONCLUSIONS

①

The **quality of protein** in pre-starter feed **mainly affects** piglet growth under **poor sanitary conditions**.

②

Good quality pre-starter feed has a secondary impact on growth, while **sanitary status has a primary impact**.

③

In **high sanitary** status farms, piglets show **lower calprotectin** values, correlating with **less intestinal inflammation**.

④

CONCLUSIONS

①

The **quality of protein** in pre-starter feed **mainly affects** piglet growth under **poor sanitary conditions**.

②

Good quality pre-starter feed has a secondary impact on growth, while **sanitary status has a primary impact**.

③

In **high sanitary** status farms, piglets show **lower calprotectin** values, correlating with **less intestinal inflammation**.

④

Piglets fed **high-quality protein** (SDAP) have **lower calprotectin** values, suggesting **fewer inflammatory processes** compared to those fed soy-based feed.



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E INNOVACIÓN



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Thank you for your attention !

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julia.suppi@uab.cat

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