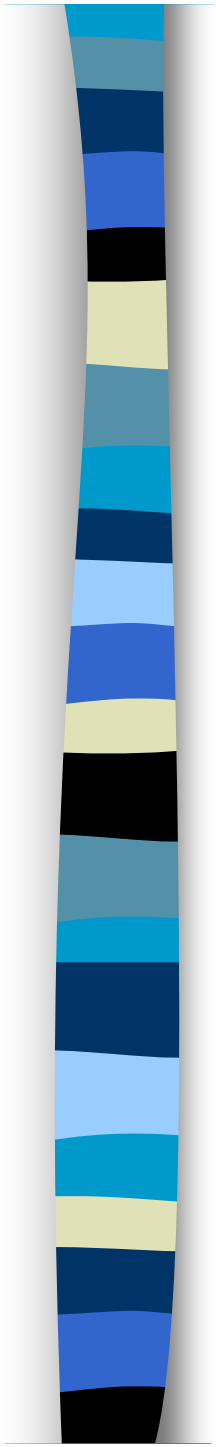
Effect of a bovine colostrum supplementation in piglet diet at weaning on growth performances, food ingestion and faecal *E. coli* concentrations

Boudry Christelle

gembloux
faculté universitaire
des sciences agronomiques

RÉGION WALLONNE



Introduction

Introduction

- Weaning stress:
  - Nutritional
  - Environmental
  - Social

Introduction

- Weaning stress
- Growth promoters:
  - Antibiotics → 2006
  - Alternatives:
    - → efficient
    - → competitive

Introduction

- Weaning stress
- Growth promoters
- Bovine colostrum:
  - Essential nutrients
  - Growth factors
  - Anti-microbial substances

Material and Methods

Material and Methods

- Animals
  - 15 litters of newly-weaned piglets
  - 96 piglets (48 M and 48 F)

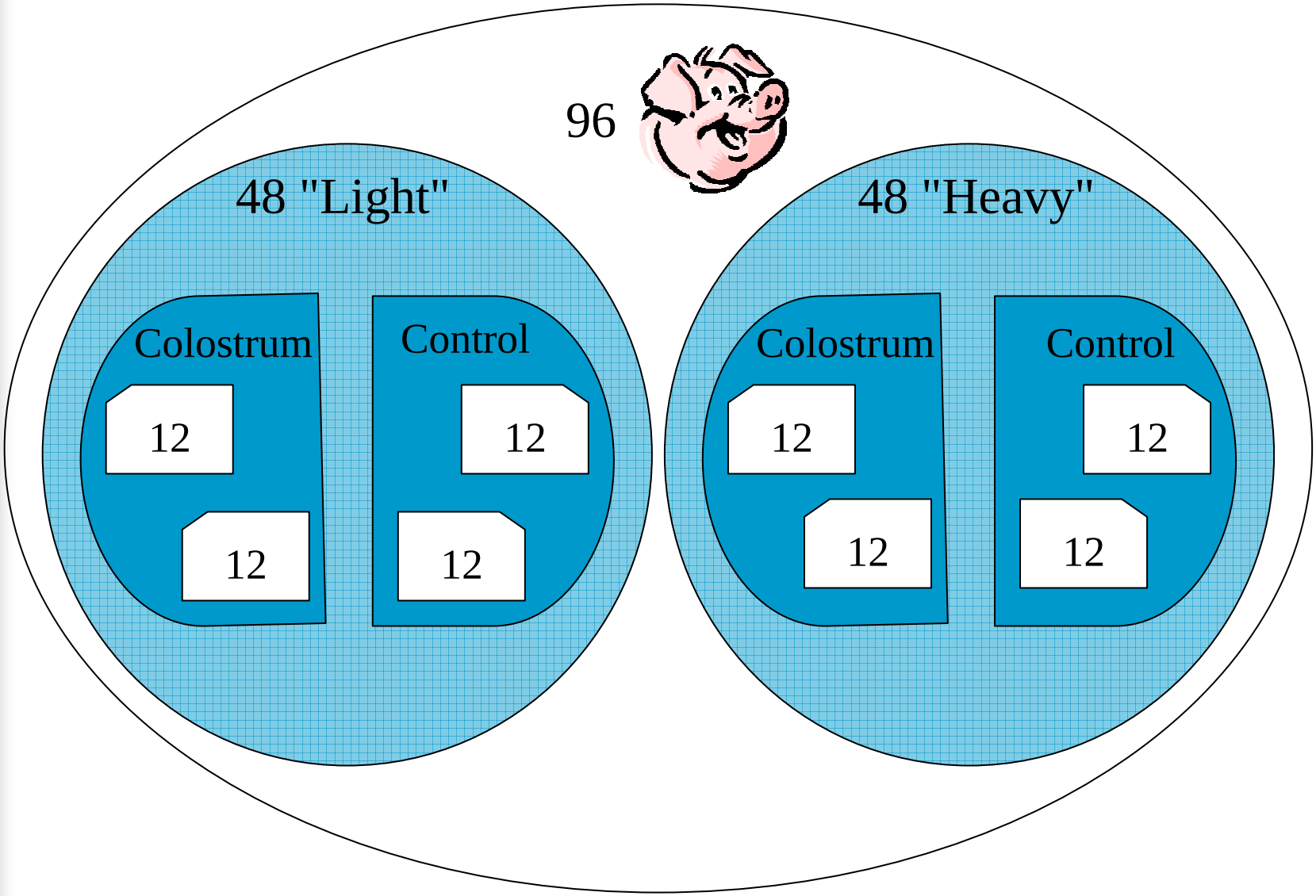
Material and Methods

- Treatments
  - Commercial starter diet
  - 2 supplements
    - Bovine colostrum serum = "Colostrum" treatment
    - Milk lactoserum = "Control" treatment
  - Incorporation rates
    - D 0 - D 14 : 2 %
    - D 14 - D 28 : 1 %

Material and Methods

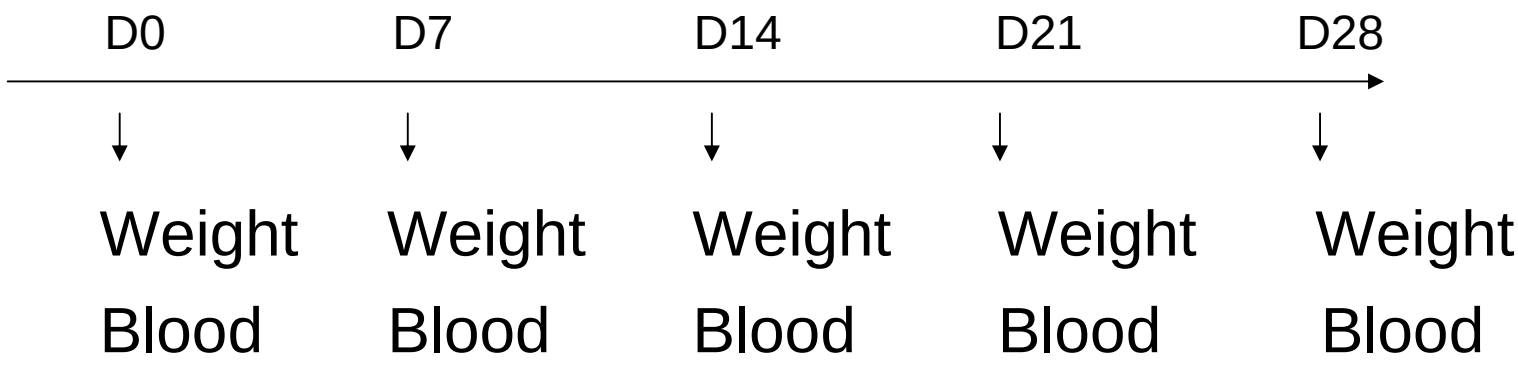
- Animal distribution

15 litters


96
48 "Light"
Colostrum
12
12
Control
12
12
48 "Heavy"
Colostrum
12
12
Control
12
12

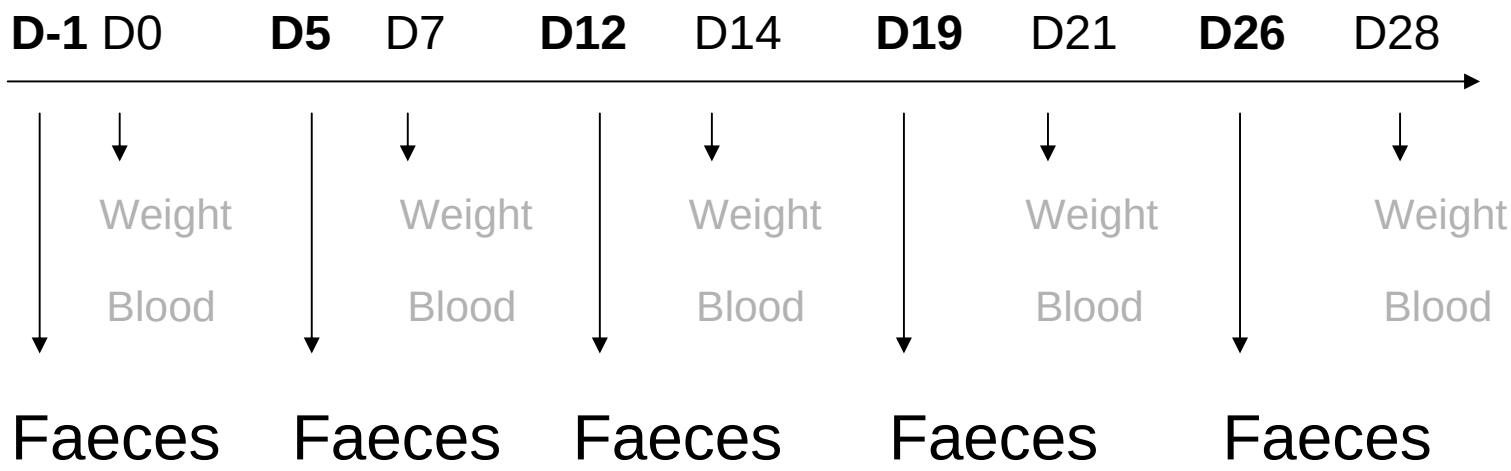
Material and Methods

- Sampling



Material and Methods

- Sampling



Weighting : 48 piglets / treatment
Blood sampling : 24 piglets / treatment
Fresh Faeces : 20 piglets / treatment

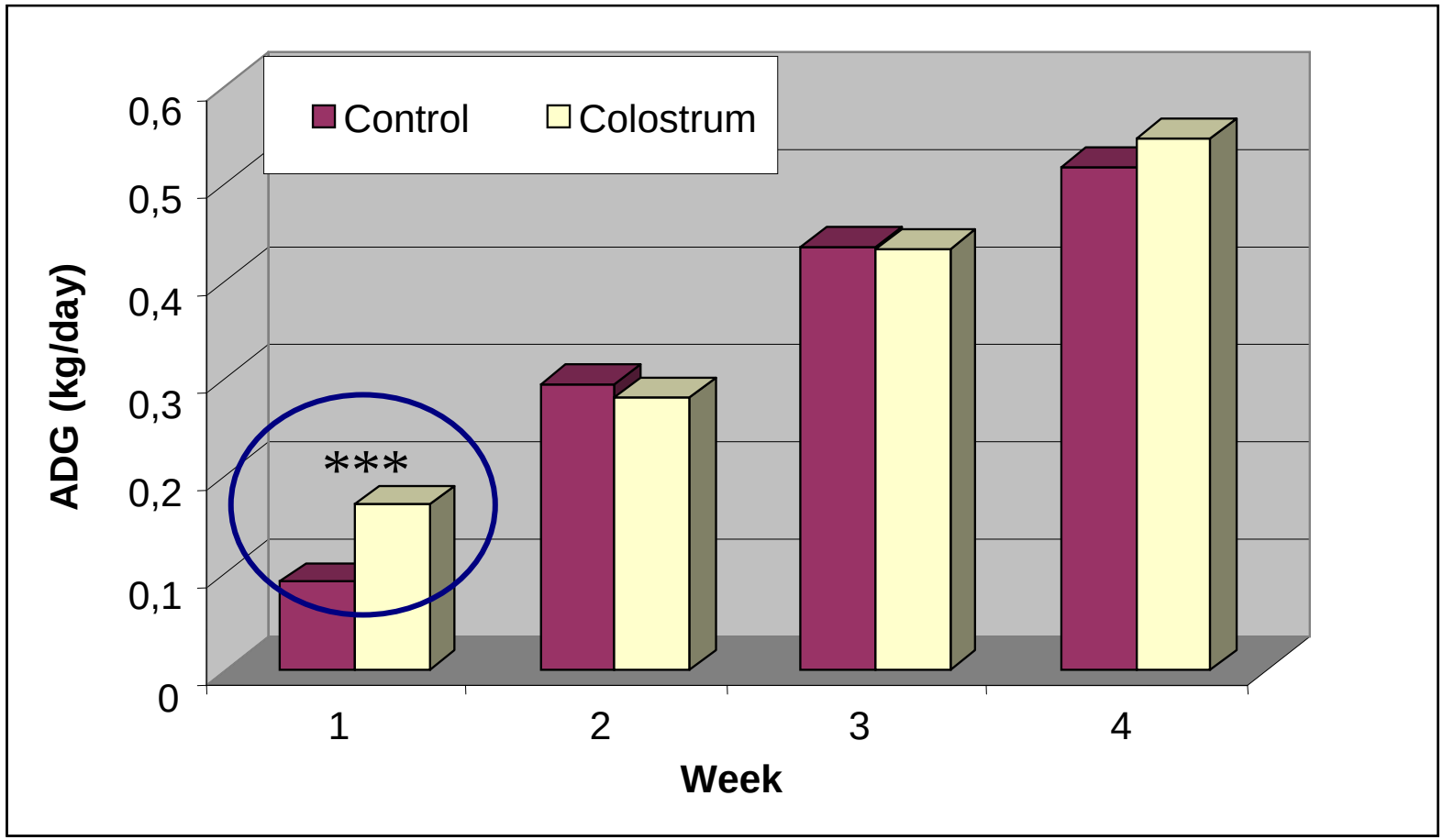
Material and Methods

- Analyses:
  - Faeces: *E. coli* (selective culture media)
  - Blood: Cell counter: red & white corpuscles
    Flow cytometer: T, B, Th and Tc cells
    ELISA: IgG, IgA and IgM

Results

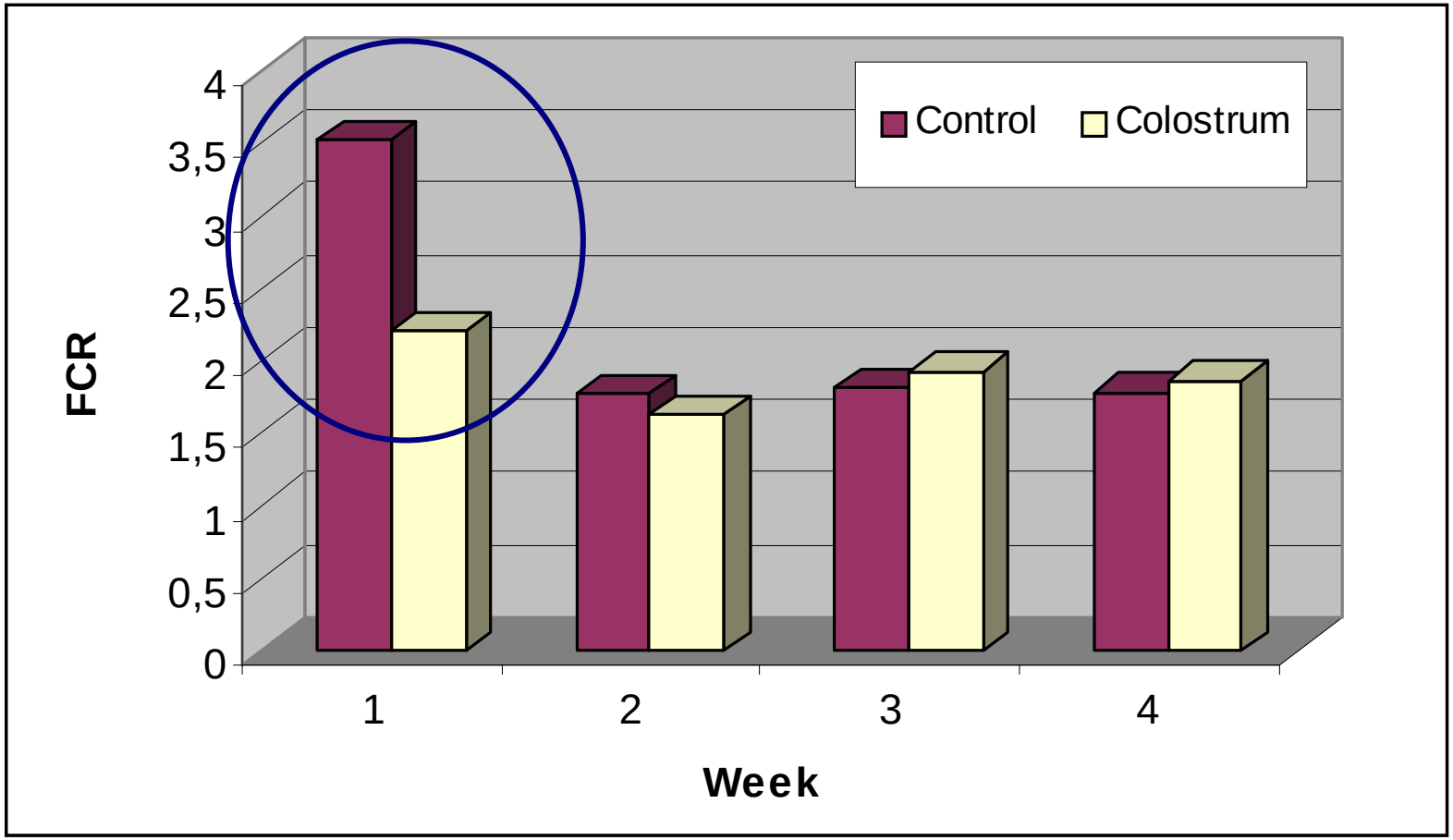
Results

- Growth performances



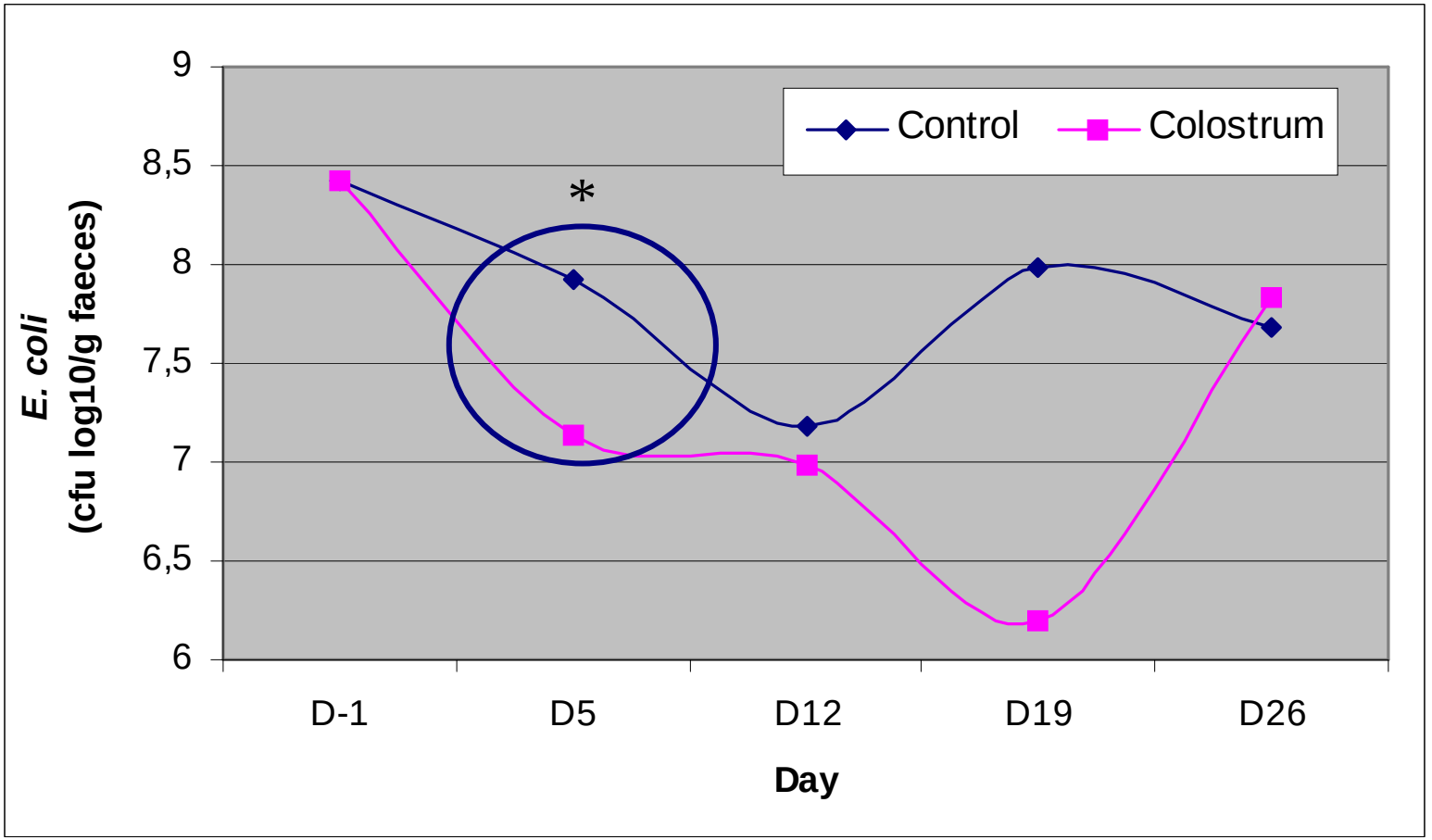
Results

- Food conversion ratio



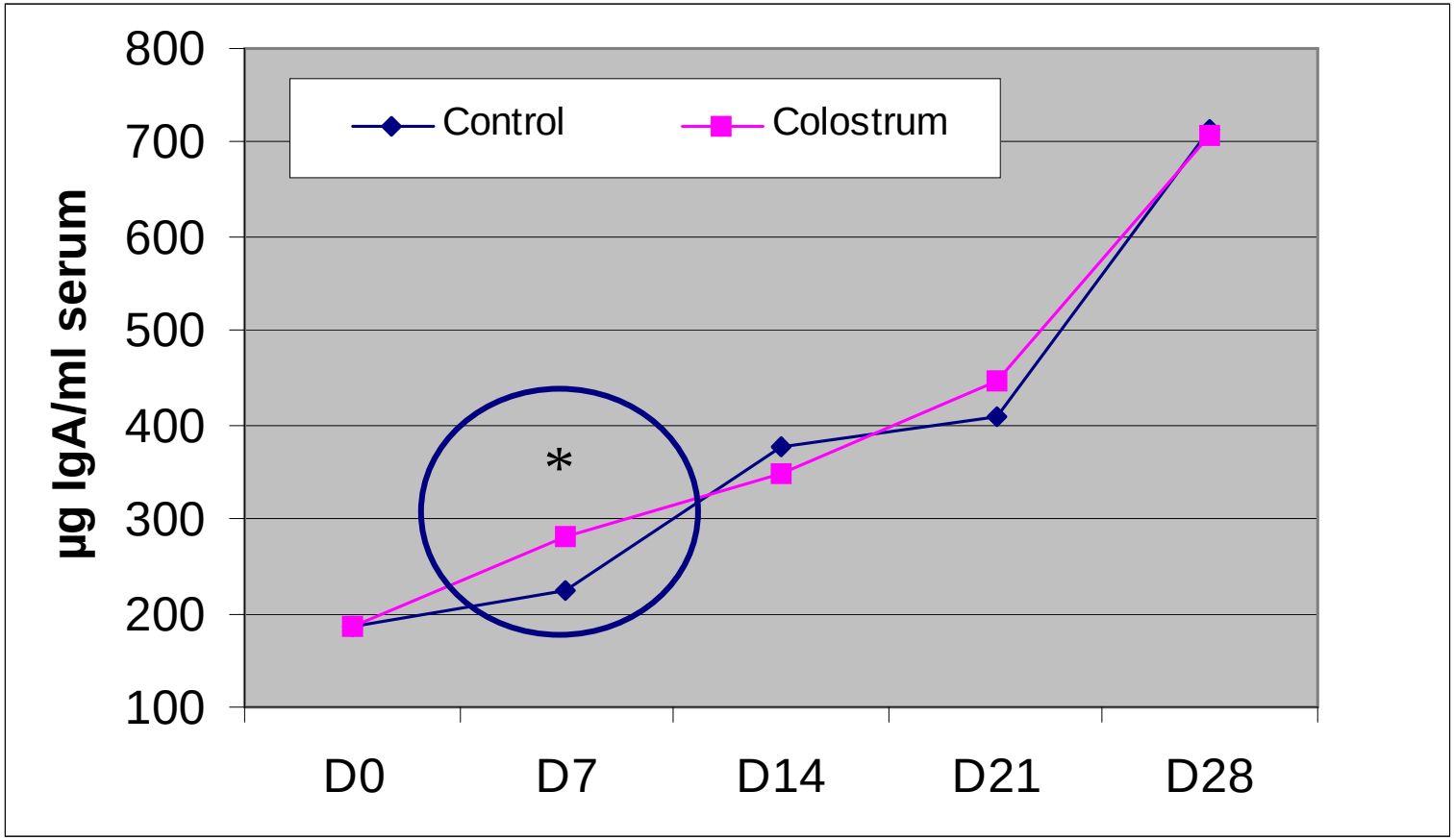
Results

- Faecal *E. coli* population



Results

- Serum IgA concentration



Conclusions and Implications

Conclusions

- Bovine colostrum:
  - ↗ growth performances
  - ↘ FCR
  - ↘ faecal *E. coli* population
  - ↗ serum IgA concentration

D0 - D7

↗ nutrient assimilation

↘ digestive troubles

Implications

- In the future:
  - Distribution during 1 week after weaning
  - Distribution before weaning