

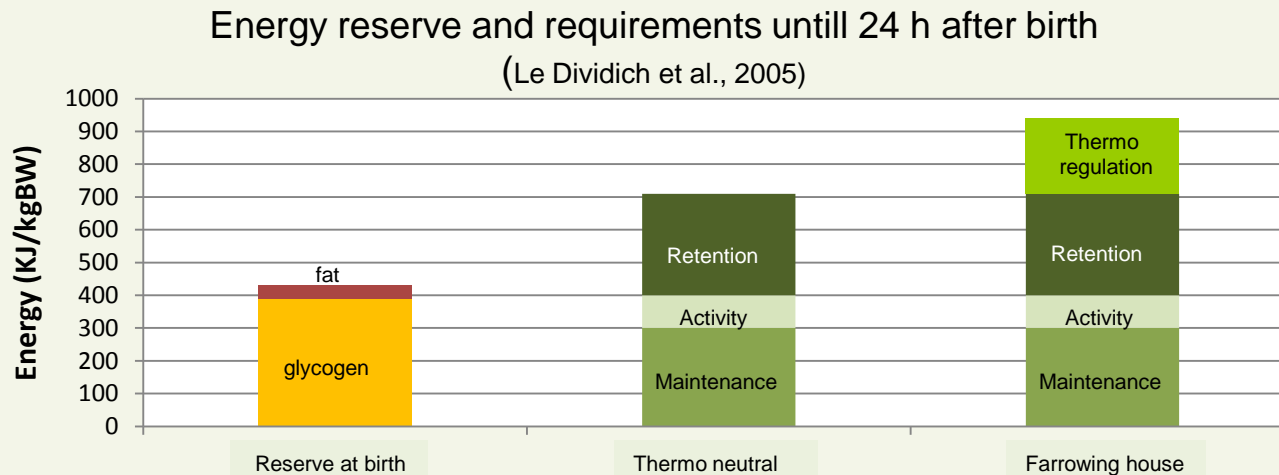
# Better colostrum distribution increases piglet survival in high prolific sows

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# Introduction

- Sufficient and early colostrum intake is decisive for piglet survival and development. Colostrum provides:
  - Energy for thermo regulation and homeostasis during the first 24 hours



- Protection against infections before full activation of their immune system (only source of IgG for piglets)



# Colostrum distribution

- Total colostrum volume ranges between 1.91 and 5.31 kg<sup>(1)</sup>
- Colostrum volume is independent of litter size<sup>(2)</sup>
- Bottle fed piglets consume over 450 g/kg BW<sup>(1)</sup> → Sow is a limiting factor

Number piglets born alive	Average weight at birth (kg)	Minimum <sup>(1)</sup> colostrum need (kg)	Colostrum <sup>(2)</sup> needed at avg. consumption
12	1.50	3.06	5.22
14	1.45	3.45	5.89
16	1.40	3.81	6.50
18	1.35	4.13	7.05

(<sup>1</sup>) minimum need = 170 g/kg BW, (<sup>2</sup>) avg. consumption = 290 g/kg BW

Colostrum **distribution** becomes critical especially in hyper prolific breeds



# Objective

To investigate the impact of colostrum distribution  
on pre-weaning piglet survival in high productive  
SOWS



# Materials and Methods

- Commercial sow farm, 1600 sows
- 220 litters included (parity 1 and 2)
- Tail docking procedure standard at 3 days of age
- Blood drop from tail end sufficient for testing



- 6 piglets per litter were sampled (no fostered piglets)

# Materials and Methods

- DAS-ELISA (Colostrum Quality Counter™)
- Absolute IgG serum concentration in mg/ml
- Standard deviation/litter average = Coefficient of Variance (CV IgG) as a measure for colostrum distribution
- Relevant reproductive data retrieved from the farm data recording system



# Results

- CV IgG ranges from 18 to 208% (avg. 55%), showing an important variation in colostrum distribution between sows
- Mortality rate and litter size are highly correlated ( $p < 0.0001$ )
- Within the same litter size, survival rate is positively correlated with better colostrum distribution (low CV IgG)

CV IgG	Number of litters	Piglets with sow	Mortality (%)
≤ 50% (avg. 36%)	117	12.5	5.1 <sup>a</sup>
> 50% (avg. 76%)	103	12.6	7.7 <sup>b</sup>

<sup>ab</sup>: difference with p-value of 0.0259



# Discussion

- Bigger litters call for
  - a higher colostrum yield
  - an optimal transfer from sow to piglet
- An even distribution of colostrum amongst litter mates positively affects piglets survival
  - piglets vitality
  - accessibility of colostrum
    - Physically (teat quality, positioning and spacing)
    - Practically (position and behavior of the sow)





# Conclusion

- Piglet mortality is significantly reduced when colostrum distribution improves, irrespective of litter size
- Good colostrum management implies all measures that increase the accessibility of the piglet to the udder during the first (24) hours





300 ml

300 ml

300 ml

300 ml

300 ml

300 ml