

Effect of fermented liquid feed on the performance of weaned piglets

(Session 27; lanupro@UGent.be)

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Background

- Weaning difficult transition period
- In feed antibiotics forbidden since 2006
- Fermented liquid feed (FLF):
 - May reduce coliforms and diarrhoea
 - May improve feed:gain ratio

(Brooks *et al.*, 2003; Jensen & Mikkelsen, 1998)

- **Aim:** see if FLF inoculated with a probiotic product could result in better performances after weaning

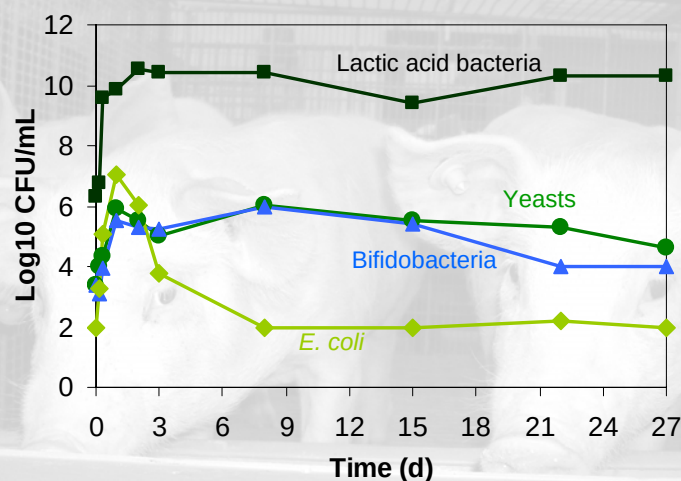
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Experimental set-up

- 30 piglets (7.9 ± 1 kg at weaning, 4 weeks old)
- 3 pens of 5 animals/treatment
- **Control**: dry weaner feed
- **FLF**: weaner feed:water (1:2.5),
inoculated with Bactocell®
(*Pediococcus acidilactici* CNCM MA 18/5)
30°C; 100L; 50% replaced/day
- Euthanasia and sampling after 4 weeks

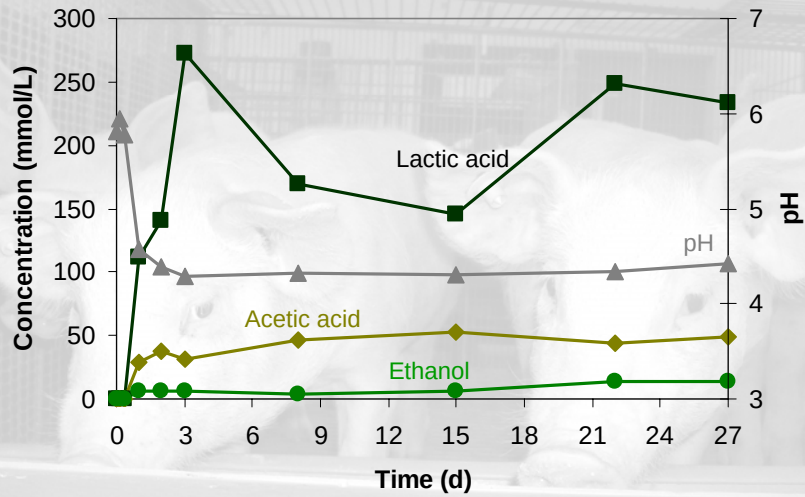
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Characteristics FLF



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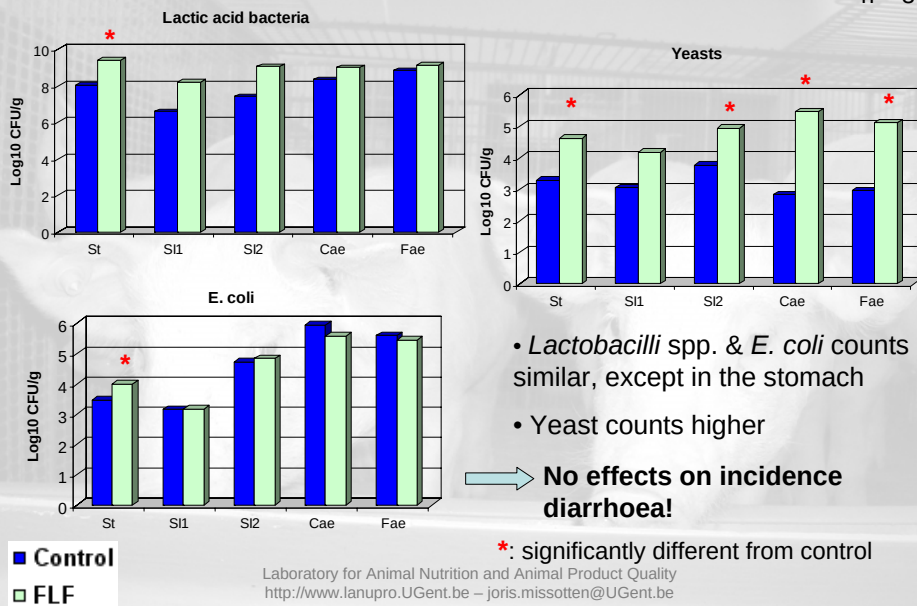
Characteristics FLF (2)



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Bacterial counts GIT

n = 3



Gut histo-morphology

n = 9

	SI1		SI2	
	Control	FLF	Control	FLF
Villus height, μm	573 $\pm$ 100	595 $\pm$ 68	550 $\pm$ 68	501 $\pm$ 50
Crypt depth, μm	280 $\pm$ 38	267 $\pm$ 37	<u>289 $\pm$ 31^A</u>	<u>264 $\pm$ 23^B</u>
Villus/crypt	2.1 $\pm$ 0.4	2.3 $\pm$ 0.2	1.9 $\pm$ 0.1	2.0 $\pm$ 0.3
IEL/100 enterocytes	33.9 $\pm$ 7.8	30.5 $\pm$ 7.2	24.3 $\pm$ 5.5	26.7 $\pm$ 4.4

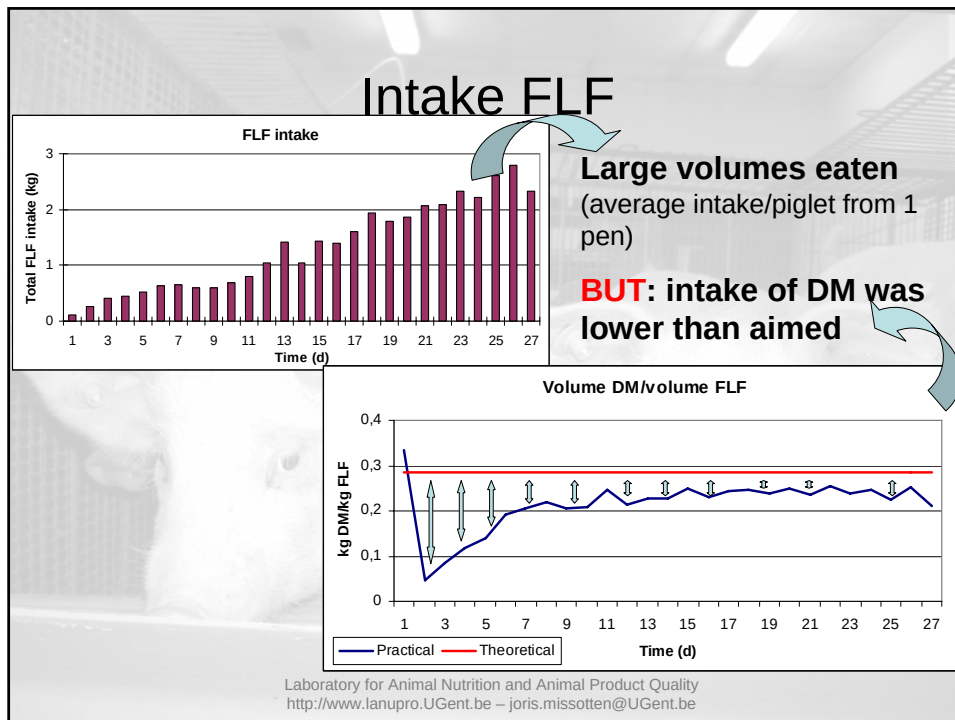
SI1 and SI2 = proximal and distal small intestine, respectively;
A,B: means within a row with different superscript differ significantly (P<0.1)

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Performance (28 days)

Feed	Weight gain (kg/pig)		Dry matter intake (kg/pig)		Feed/gain ratio
Control	245 g/day	9.1 $\pm$ 1.6	374 g/day	12.5	1.38
		6.6 $\pm$ 1.8		10.2	1.54
		4.9 $\pm$ 2.3		8.7	1.78
FLF	176 g/day	4.6 $\pm$ 2.1	325 g/day	8.2	1.78
		4.7 $\pm$ 1.9		9.3	1.99
		5.5 $\pm$ 1.1		9.8	1.78

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Conclusions

- FLF with good characteristics
- Higher yeast count for FLF fed piglets & lower crypt depth
- BUT: poor performance
 - Biogenic Amines?
 - Degradation Vitamins?
 - Energy loss (uptake large volume ↔ DM)

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Thank you for your attention

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