

Gestation features of group-housed sows affecting finisher traits

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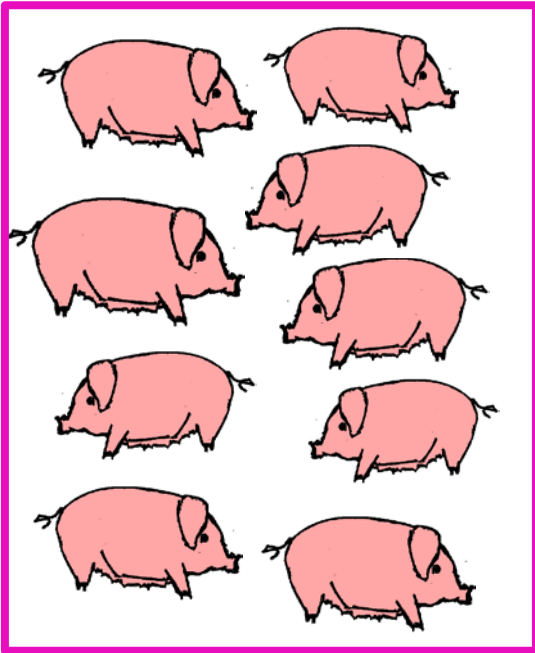
Sow group-housing

- New legislation for housing sows in gestation
- More interactions between sows

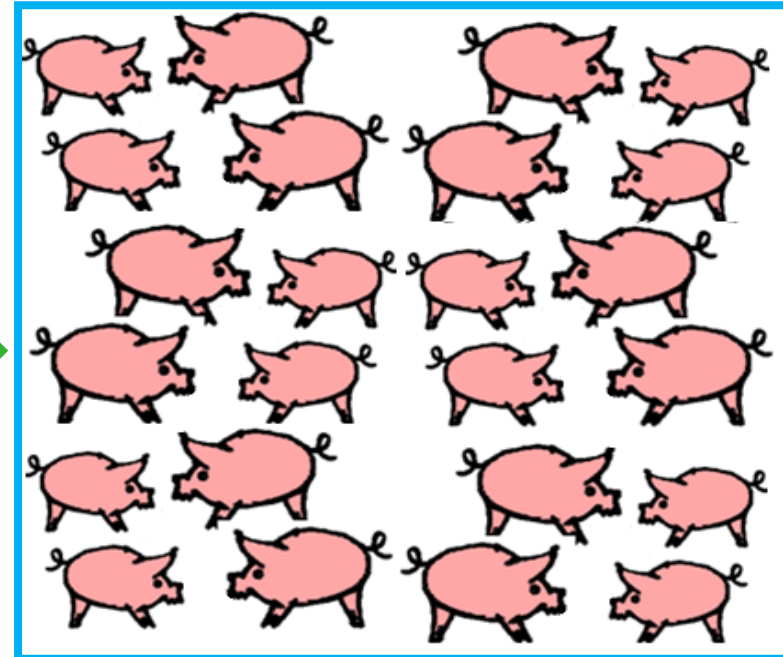
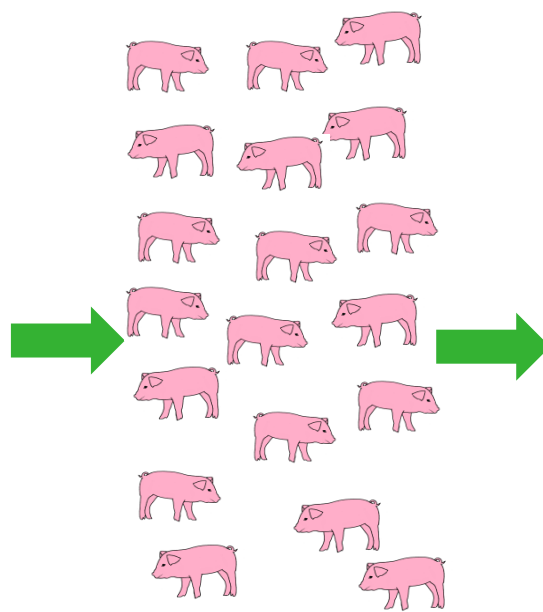
Possible limited access to feed

Negative effect on sow condition and on piglets

Sow group-housing affects finishers?



Group-housed sows



Finishers (25-115 kg)

Objective

Identify gestation features of group-housed sows
affecting finisher traits

growth rate (GR)

feed intake (FI)

Gestation features of group-housed sows

Sow feed refusals (FR)

average FR

#days with FR

during **1-28, 25-50, 45-80**
days in gestation

Sow gestation group

average parity

deviation from group parity

group size

day sow entered group

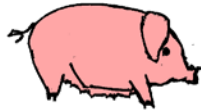
#sows with FR

average group FR

during **1-28** days in gestation

Data

Sows:



681 crossbred sows

1,533 litters

~22.5 - sows in gestation group

~3.8 - group parity

~4 - day of gestation sows were mixed

Finishers:



17,743 records

Parents: 604 sires and **681** sows

Farrow-to-finish farm

Traits:

- growth rate – 17,025 finishers
(restricted – 9,668, *ad libitum* – 7,357)
- feed intake – 7,728 fed *ad libitum*

Non-genetic model

Performed with MIXED procedure (SAS)

GR = μ + **gestation_feature** + sex + line + #penmates + compartment
+ **sow** + **litter** + **group** + **batch_compartment** + **e**

FI = μ + ...+ weight_start + ... + **e**

Results

Sow feed refusals effect on finisher traits

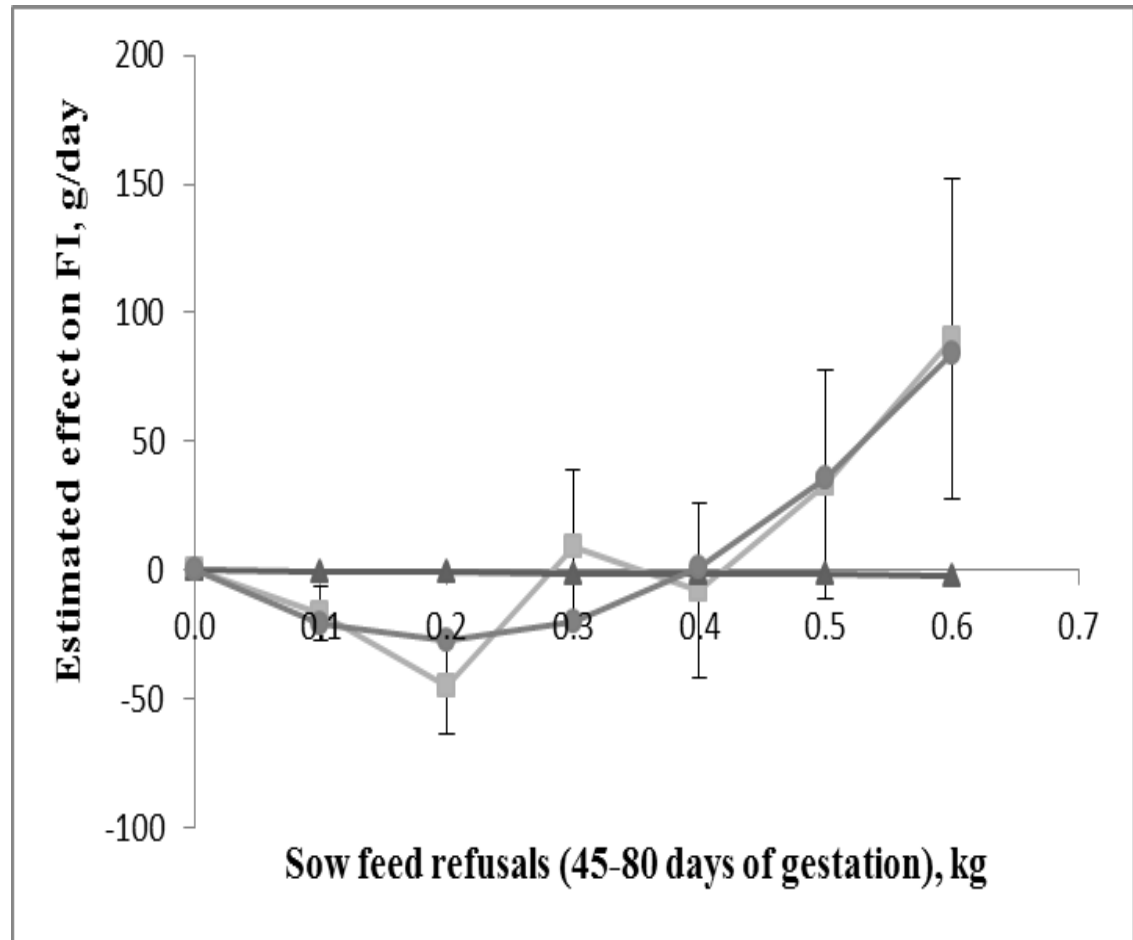
Sow feed refusals		GR	FI
Days with FR (25-50), (g/day)/day	linear	-1.1(0.5)**	n.s.
Days with FR (45-80), (g/day)/day (g/day)/day ²	linear	-1.2(0.3)*	n.s.
	linear+	n.s.	-5.7(2.7)**
	quadratic	n.s.	0.4(0.1)**
Average FR (45-80), (g/day)/kg (g/day)/kg ²	linear	-24(11)**	n.s.
	linear+	n.s.	-274(103)*
	quadratic	n.s.	689(236)*

*P<0.01, **P<0.05

Sow feed refusals effect on finisher traits

Substantially increased

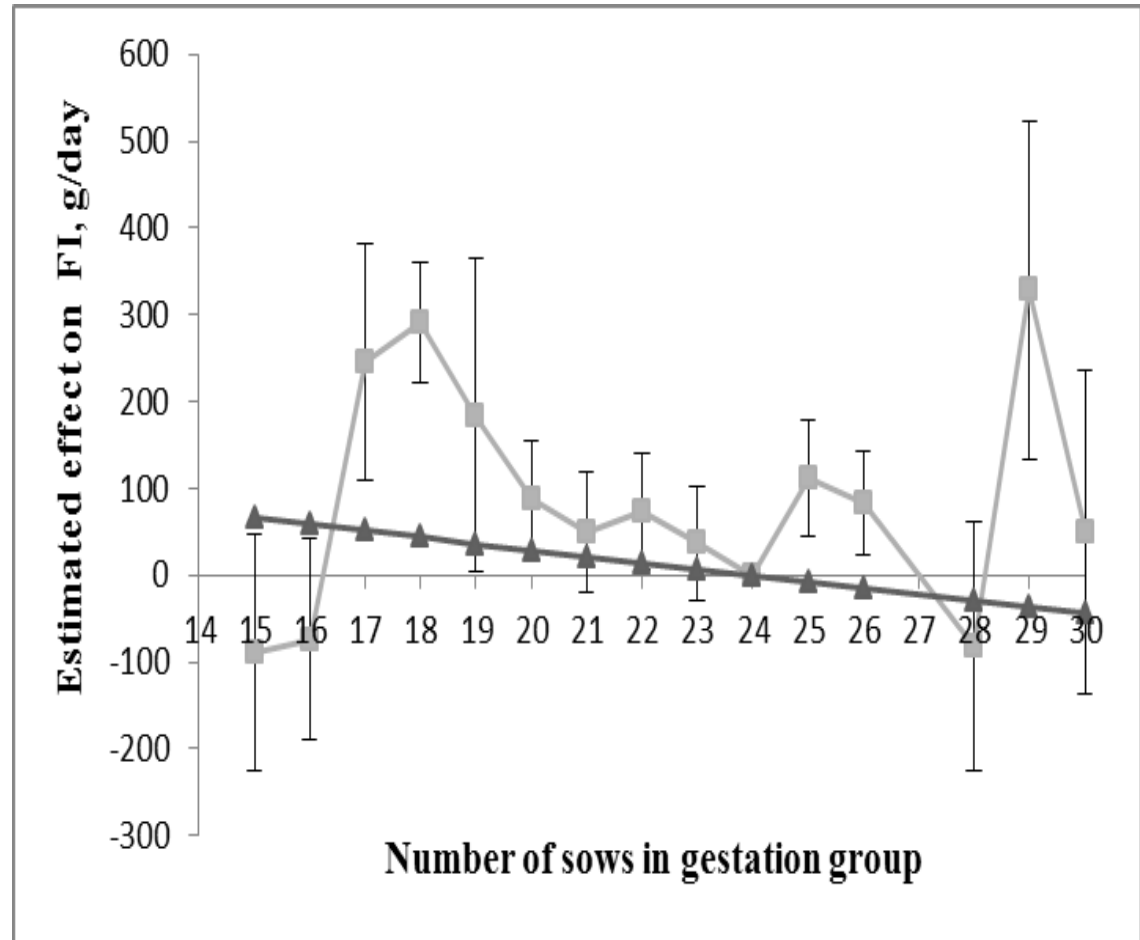
FR → increased FI



Sow gestation group effect on finisher traits

Gestation **group size**
estimated effect on **FI** was
-9 [g/day]/group_member
(P=0.04)

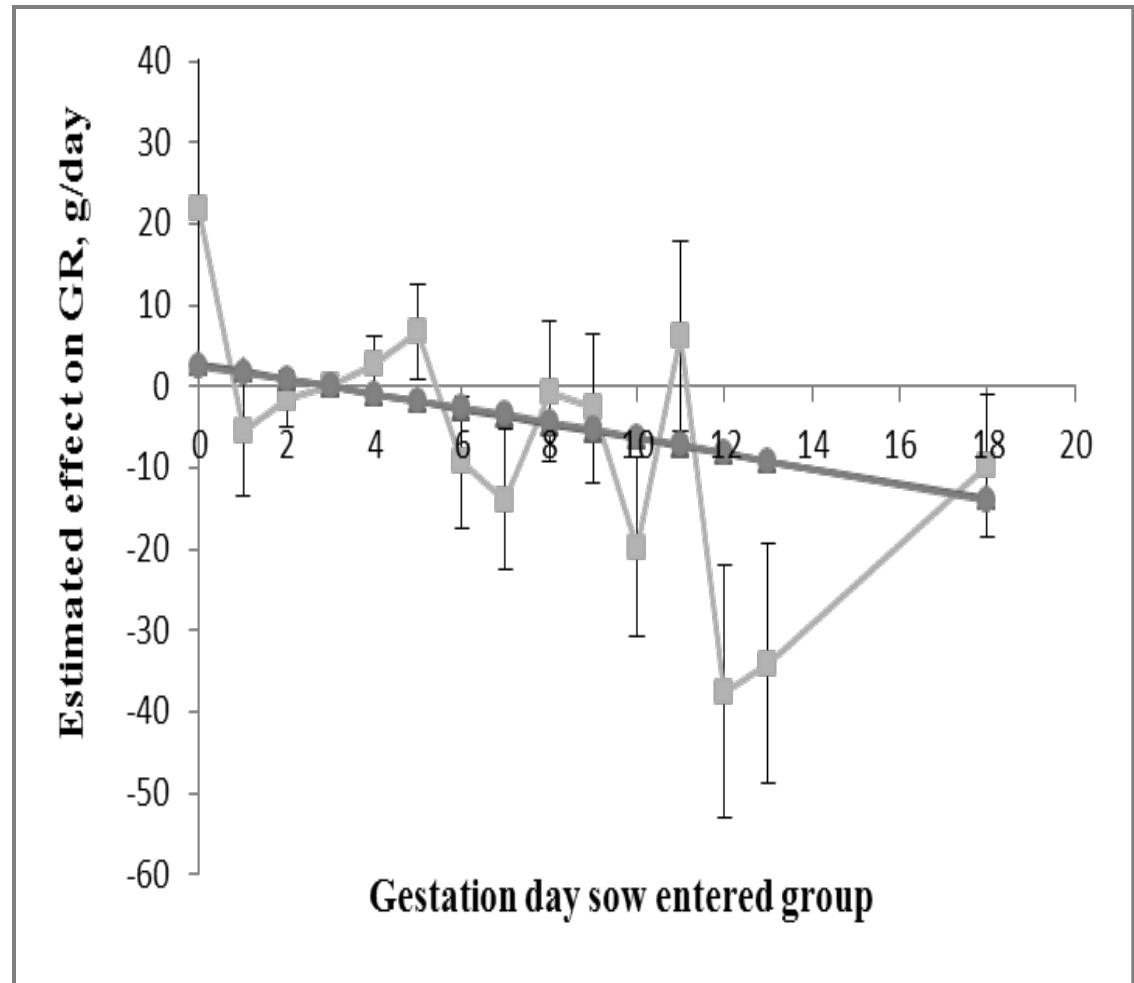
(Brouns *et al.* 1994; Boyle
et al., 2002; Anil *et al.*,
2006)



Sow gestation group effect on finisher traits

Day sow entered group
estimated effect on GR
was -0.9 [g/day]/day
($P=0.04$)

(Bokma *et al.*, 1990;
Kirkwood *et al.*, 2005)



Conclusions

- **FR** of group-housed sows had negative effect on **GR** and when substantially increased, increases **FI** (only in 25-50 and 45-80 days in gestation)
- **Day sow entered the group** had negative effect on **GR**
- **Group size** had negative effect on **FI**
- Their effects are small (explained 1-3% of total phenotypic variance)
→ no indication for management changes

Thank you for
your attention!

Full paper:

**Effect of gestating sow
body condition, feed
refusals, and group
housing on growth and
feed intake in grower-
finishing pigs**

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