Conventional farrowing crates
vs.
Loose housed system

Effects on performances of sows and piglets

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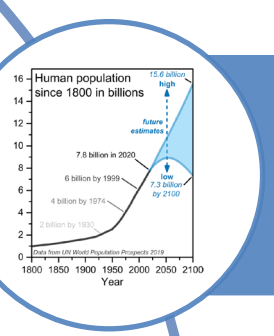
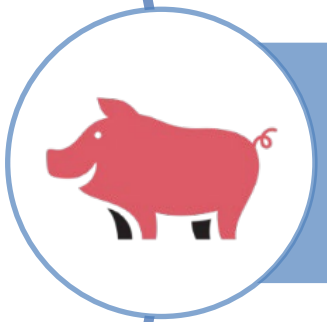
EAAP
European Federation
of Animal Science

Context



Higher needs of animal protein to humans

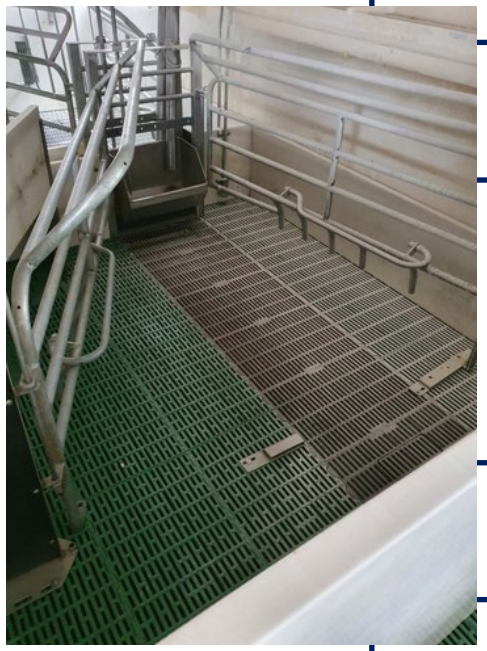


Pig welfare, End Cage Age,…

Costs, efficiency and economic viability of the pig farms

Objectives

Evaluation of two different farrowing crates systems



Effects on sows

Effects on piglets, before and after weaning

Methods:
Two different farrowing crates system

Conventional
(7 + 28days)

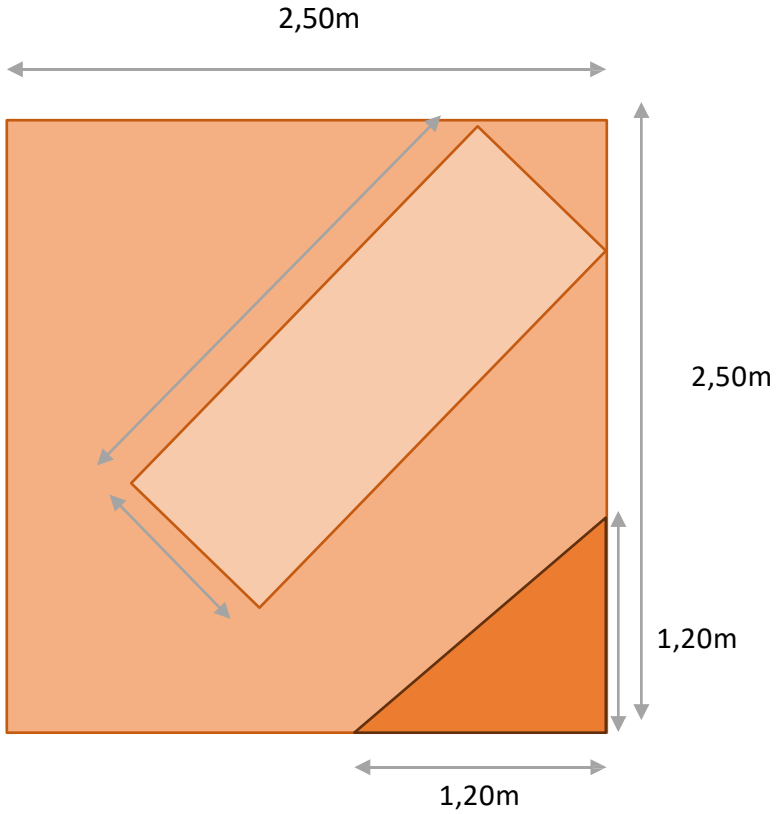
(Pen: 1,8m x 2,5m = 4,50m^2)

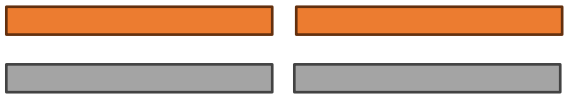
Temporary confinement
(7 + 4 + 24days)

4 days

(Pen: 2,5m x 2,5m = 6,25m^2)

Methods:
Farrowing crate - Temporary confinement



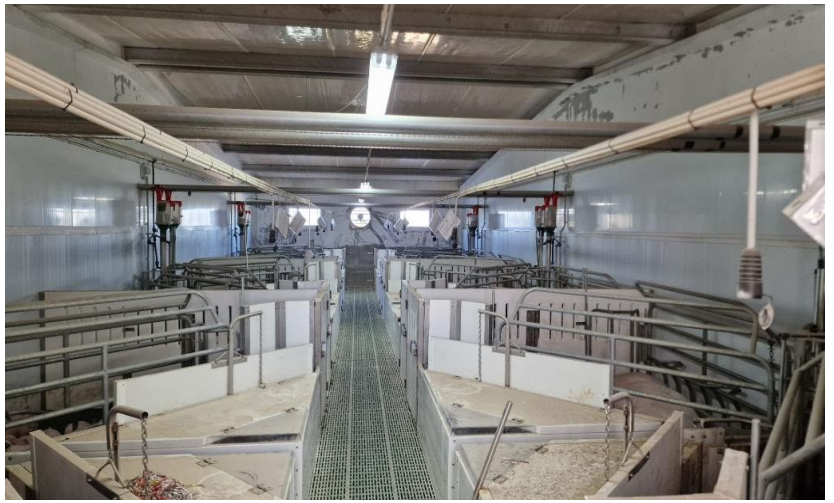


Methods:
Different views of the farrowing crate – temporary confinement (4 days)

Methods:
Farm (Camuaxe)

2 studies

1st: March/May
2nd: May/July



Farrowing
12 sows/room

1st: 48 sows
2nd: 44 sows

1st, 2nd, 3rd parity

Weaning
12 pens/room
20 piglets/pen

1st: 480 piglets
2nd: 456 piglets

Methods:

Sows Data

Number of piglets born

Sows Weight (Only in the first study)

(Before and after farrowing and at weaning)

Methods:

Piglets Data

Piglets Weight:

- 0h, at the end of the farrowing
- 24h, after equalization of the litters
- 28days, at weaning
- 68 days, at transition to fattening

Other Data:

- Piglets mortality, causes

Results

Sows Weight

1st study

System	Pre-farrowing weight (PFW; kg)	After-farrowing weight (AFW; kg)	Weight difference (AFW-PFW; kg)	After-weaning weight (AWW; kg)	Weight difference (AWW-AFW; kg)
Conv. (N=24)	270,2	254,0	-16,2	247,4	-6,6
Loos. (N=24)	266,3	249,0	-17,3	236,8	-12,3
Std Error	7,1329	6,9412	1,7469	6,3891	3,2917
P value	**0,7017**	**0,6135**	**0,6570**	**0,2446**	**0,2304**

Conv. – Conventional system
Loos. – Loose housing system

No differences, P>0,05, but…

Results

Piglets weight – 24h, 28days

	System	Piglets/litter (n)	Litter weight (24h; kg)	Piglet weight (24h, kg)	Weaning piglet weight (28d; kg)	Weaning piglets/litter (n)
1st study	Conv. (N=24)	13,9	20,7	1,499	8,173	12,3
	Loos. (N=24)	13,9	19,9	1,435	8,300	12,2
	Std Error	0,2439	0,9179	0,0675	0,2361	0,3396
	P value	**1,0000**	**0,5376**	**0,5080**	**0,7058**	**0,7958**
2nd study	Conv. (N=22)	14,2	21,4	1,528	7,850	12,8
	Loos. (N=22)	14,1	22,8	1,625	8,214	12,8
	Std Error	0,2442	0,8992	0,0639	0,2593	0,3141
	P value	**0,7936**	**0,2842**	**0,2438**	**0,3273**	**0,9190**

Conv. – Conventional system
Loos. – Loose housing system

No differences, P>0,05

Results

Piglets mortality (n)

	System	Crushing (1-4days)	Other causes (1-4days)	All causes (1-4days)	Crushing (5-28days)	Other causes (5-28days)	All causes (5-28days)	All causes (1-28days)
1st study	Conv. (N=24)	**1,38**	**0,96**	**2,33**	0,00	0,21	0,21	2,54
	Loos. (N=24)	0,75	0,29	1,04	**0,38**	0,29	**0,67**	1,71
	Std Error	0,2173	0,2083	0,3810	0,0714	0,1238	0,1389	0,4287
	Valor de P	**0,0478**	**0,0284**	**0,0207**	**0,0005**	**0,6363**	**0,0240**	**0,1760**
2nd study	Conv. (N=22)	0,82	0,82	1,64	0,14	0,23	0,36	2,00
	Loos. (N=22)	0,82	0,36	1,18	**0,32**	0,50	**0,82**	2,00
	Std Error	0,2474	0,2191	0,3328	0,1007	0,1783	0,2090	0,4239
	Valor de P	**1,0000**	**0,1499**	**0,3397**	**0,2086**	**0,2855**	**0,1316**	**1,0000**

Conv. – Conventional system
Loos. – Loose housing system

Some diferences: Crushing mortality was higher in loosing system

Results

Pos-weaning phase (20piglets/pen)

Study	System	Initial weight (kg)	Final weight (kg)	Survival (%)	ADG
1st study (27-68d)	Conv. (N=12pens)	8,722	21,4	97,5	0,308
	Loos. (N=12pens)	8,619	20,6	96,7	0,291
	Std Error	0,4047	0,8944	1,0511	0,0151
	P value	0,8595	0,5348	0,5807	0,4226
2nd study (28-66d)	Conv. (N=12pens)	8,210	20,0	97,8	0,310
	Loos. (N=12pens)	8,511	20,4	99,2	0,323
	Std Error	0,3538	0,6795	0,8142	0,0107
	P value	0,5537	0,6549	0,2405	0,4334

Conv. – Conventional system
Loos. – Loose housing system

No diferences (P > 0,05)

Results

Sow cycle (N+1)

Conv. – Conventional system
Loos. – Loose housing system

System	Parity (years)	Weaning/estrus (days)
Conv. (N=45)	2,53	3,91
Loos. (N=45)	2,51	4,67
Std Error	0,1083	0,3451
Valor de P	0,8850	**0,1252**

System	Fertility rate (n/n; %)	Parity rate (n/n; %)
Conv. (N=45)	45/45 (100%)	45/45 (100%)
Loos. (N=45)	43/45 (95,6%)	43/45 (95,6%)

Conclusions and considerations

Temporary confinement
(7 + 4 days)

=	Sow weight	=
⇑	Crushing piglets	⇓
=	Weaned piglets and weight	=
=	Piglets pos-weaning performances	=
=	Sow reproductive cycle n+1	=

⇑	? Welfare ?	⇓

⇓	Sow and piglet management	⇑
⇑	Costs	⇓
⇑	Pen area	⇓
⇓	Personal safety	⇑

Conventional farrowing crate
(7 + 28 days)

Thanks!...

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