Improving Sperm Resistance

Viability following incubation at 37ºC in function of time

TIME	CONTROL	maXipig®	SIGNIFICANCE
0 min.	93,5 ±2,0%	**92,1 ±1,6%**	NS
15 min.	92,8 ±2,4%	**93,0 ±1,1%**	NS
30 min	92,1 ±1,9%	**93,0 ±2,1%**	NS
60 min	66,8 ±1,0%	**90,5 ±1,9%**	*
90 min	60,3 ±1,2%	**94,6 ±2,3%**	*

Source: Yeste M. et al.**Specific LED-based red light photo-stimulation procedures improve overall sperm function and reproductive performance of boar ejaculates.** Scientific Reports 2016 Mar 2;6:22569

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Improving Sperm Resistance

Acrosome integrity following incubation at 37ºC in function of time.

TIME	CONTROL	maXipig®	SIGNIFICANCE
0 min.	95,0 ±2,1%	**95,8 ±2,3%**	NS
15 min.	94,1 ±2,0%	**95,8 ±2,3%**	NS
30 min	93,7 ±1,5%	**95,0 ±1,9%**	NS
60 min	85,1 ±1,1%	**96,3 ±2,4%**	*
90 min	70,7 ±1,1%	**92,8 ±2,5%**	*

Source: Yeste M. et al.**Specific LED-based red light photo-stimulation procedures improve overall sperm function and reproductive performance of boar ejaculates.** Scientific Reports 2016 Mar 2;6:22569

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Improving Sperm Resistance

Total Motility following incubation at 37ºC in function of time.

Time	CONTROL	maXipig®	SIGNIFICANCE
0 min.	95,2 ±2,2%	**95,4 ±2,1%**	NS
15 min.	62,1 ±6,4%	**67,9 ±7,8%**	NS
30 min	62,8 ±5,1%	**63,0 ±6,1%**	NS
60 min	45,9 ±6,2%	**67,9 ±6,0%**	*
90 min	41,8 ±6,7%	**79,6 ±7,0%**	*

Source: Yeste M. et al.**Specific LED-based red light photo-stimulation procedures improve overall sperm function and reproductive performance of boar ejaculates.** Scientific Reports 2016 Mar 2;6:22569

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Fertility and Prolificacy

"In vivo" Fertility parameters of boar sperm ejaculates subjected to a previous photo-stimulation procedure

Treatment	N	Farrowing rate (%)	Total piglets at parturition	Live-born piglets at parturition
Control	800	83,7	13,5±0,2	12,7±0,2
maXipig®	**520**	**88,1***	**14,9±0,3***	**14,0±0,2***

N = Number of sows

Source: Yeste M. et al.**Specific LED-based red light photo-stimulation procedures improve overall sperm function and reproductive performance of boar ejaculates.** Scientific Reports 2016 Mar 2;6:22569

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Fertility

"In vivo" Farrowing rate of boar sperm ejaculates subjected to a previous photo-stimulation procedure. Extended tests*.

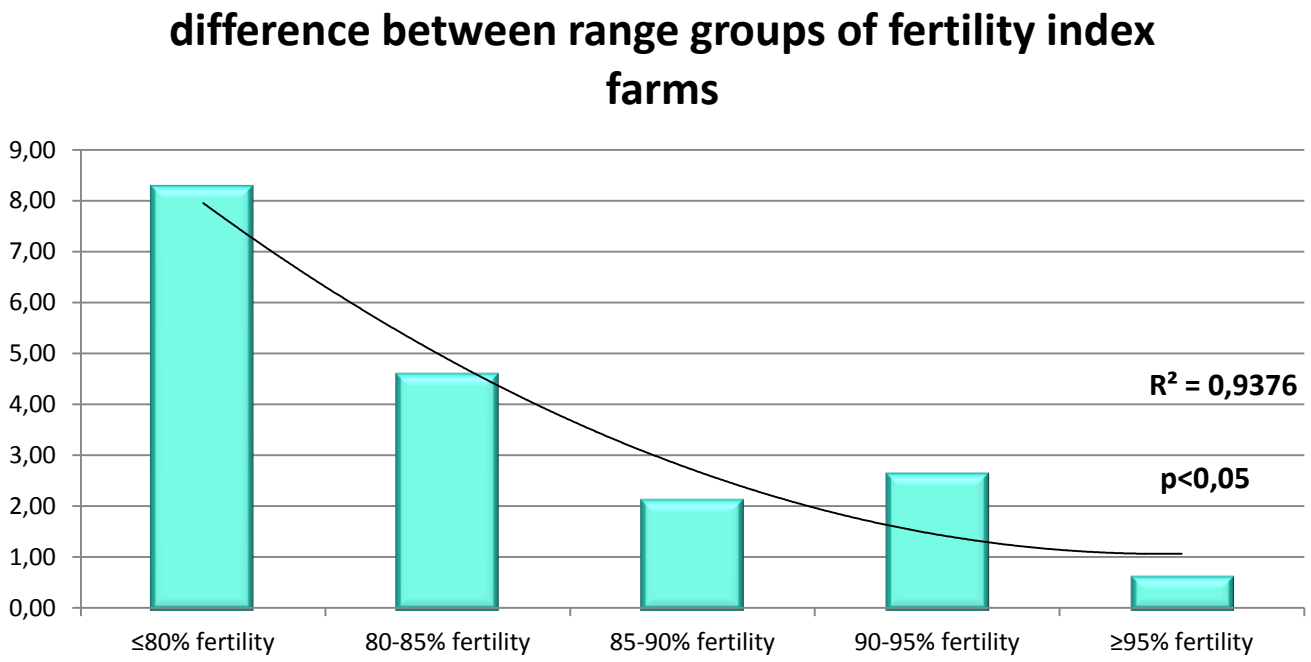
Treatment	N	Farrowing rate (%)
Control	6833	90,0
Photo-stimulated	3044	92,3

N = Number of sows

* 2 years tests carried in 9 farms. Data from Ge Pork – alea!

Fertility

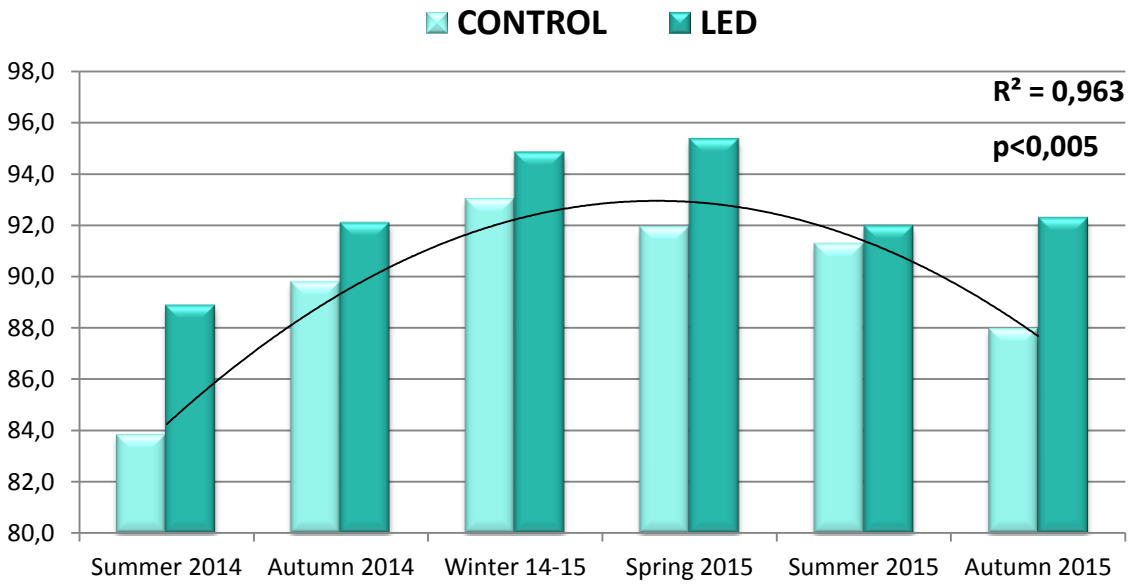
Range	Nº sows CONTROL	Nº sows LED	% Fertility CONTROL	% Fertility LED	LED batch improvement
≤80% fertility	118	116	77,119	85,345	+8,226
80-85% fertility	1338	191	83,931	88,482	+4,551
85-90% fertility	1865	1032	89,383	91,472	+2,089
90-95% fertility	1958	1407	90,500	93,105	+2,605
≥95% fertility	1554	298	96,396	96,979	+0,583



* 2 years tests carried in 9 farms. Data from Ge Pork – alea!

Fertility

Fertility	nº sows CONTROL	nº CONTROL repeated sows	CONTROL Fertility	nº sows LED	nº LED repeated sows	LED Fertility	LED batch improvement
Summer 2014	328	53	83,841	207	23	88,889	**+5,048**
Autumn 2014	411	42	89,781	278	22	92,086	**+2,305**
Winter 14-15	372	26	93,011	213	11	94,836	**+1,825**
Spring 2015	483	39	91,925	323	15	95,356	**+3,431**
Summer 2015	2141	187	91,266	910	73	91,978	**+0,712**
Autumn 2015	2836	341	87,976	856	66	92,290	**+4,314**



* 2 years tests carried in 9 farms. Data from Ge Pork – alea!

Prolificacy

"In vivo" Fertility parameters of boar sperm ejaculates subjected to a previous photo-stimulation procedure

Treatment	N	Total piglets at parturition	Live-born piglets at parturition
Control	3822	13,22	12,15
maXipig®	**2179**	**14,00**	**12,85**

N = Number of births

* 2 years tests carried in 9 farms. Data from Ge Pork – alea!

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Farms

"*in vivo*" test in productive farms

Farm	Start date	Finish date	Nº sows	Genetic line	Semen supplier	AI type	Boar breed
5 *	02/08/2014	31/12/2015	1320	A	a	60ml/2 billion sp	Duroc / Pietrain
2	28/04/2015	31/12/2015	750	A	a	60ml/2 billion sp	Landrace / Largewhite / Duroc / Pietrain
3	01/07/2015	31/12/2015	2200	A	b	90ml/3 billion sp	Pietrain
4	02/07/2015	31/12/2015	1500	B	c	45ml/1,5 billion sp	Pietrain
7	02/07/2015	31/12/2015	1500	C/D	a	45ml/1,5 billion sp	Duroc
6	06/07/2015	31/12/2015	500	A	a	45ml/1,5 billion sp	Pietrain
9	10/07/2015	31/12/2015	750	B	a	45ml/1,5 billion sp	Pietrain
8	16/07/2015	31/12/2015	1000	A	a	90ml/3 billion sp	Pietrain
10	02/09/2015	31/12/2015	800	A	a	45ml/1,5 billion sp	Pietrain

* First "in vivo" test farm

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Ge PORK alea!