

Biosecurity, health control, farming conception and management factors : impact on technical and economic performances

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This study analyzes the relationship between the characteristics of farms with regard to biosecurity, conception and management and their technical and economic performances.

Material and methods

- 166 farrow-to-finish pig herds.
- Questionnaires to gather information about farming characteristics and practices.
- Seven technical and economic indices selected:
 - sow productivity,
 - average daily gain (8-115kg),
 - feed conversion ratio (8-115kg),
 - mortality from weaning to sale,
 - medication costs,
 - lean meat percentage,
 - percentage of pigs within optimum carcass weight range.
- The standardized margin (in €/present sow/year) was calculated to have an economical estimation.
- The relationship between farming practices and each technical and economic indice is studied by multiple linear regression models.
- Then, the impact of good practices on technical and economic performances is assessed.



Results

- The influence of some farming practices and characteristics on the technical and economic performances is demonstrated:
 - diseases with symptoms,
 - good building conception,
 - strict management with a rigorous batch farrowing,
 - a complete protocol of cleaning and disinfecting.

Impact of farming conditions and practices on technical and economic performances

- There is an effect of the farming profile (unfavourable, average and favourable practices) on technical and economic indices following:
 - sow productivity,
 - average daily gain,
 - feed conversion ratio (8-115kg),
 - mortality from weaning to sale,
 - lean meat percentage,
 - standardized margin.
- The difference of the margin between farms with or without favorable practices is estimated at around 180 €/sow/year.
- For the medication costs and the percentage of pigs within optimum carcass weight range, the 3 profiles are not significantly different.

Average results of farms from the 3 profiles

Technical and economic indices	p	Practices			Δ Profile 3 – Profile 1
		Unfavourable Profile 1	Average Profile 2	Favourable Profile 3	
Number of farms		43	90	33	
Sow Productivity	<0,001	20.3 a*	21.0 a	22.2 b	+1.9
ADG (g/d)	<0,005	654 a	676 b	682 b	+ 28
FCR (kg/kg)	<0,0001	2.73 a	2.61 b	2.59 b	- 0.14
Death Rate (%)	<0,001	7.94 a	6.64 b	5.73 b	- 2.21
Carcass leanness	<0,005	61.35 a	61.76 b	61.89 b	+ 0.54
Standardized margin (€/sow/year)	<0,0001	863 a	960 b	1045 c	+ 182

Conclusion

An important number of factors influence the technical and economic performances.

These results help to argue in favour of the respect of recommendations with regards to biosecurity, health control, conception and farming management.

This study also constitutes a strong argument for the implementation of the Good Hygiene Practice Guide in pig farms.