

PERFORMANCE OF KRŠKOPOLJE PIGS IN EXTENSIVE AND INTENSIVE PRODUCTION SYSTEMS

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BACKGROUND AND AIM OF THE STUDY – Krškopolje pig - the only Slovenian autochthonous pig breed – was traditionally reared on small farms and fed with locally available feed sources. Data on productive traits of Krškopolje pigs is scarce, thus performance was evaluated at two farms; at first farm (EXT), the pigs (n=6) were fed a traditional meal (cooked root crops with an addition of ground cereals), at second (INT), the pigs (n=6) received complete feed mixture.

MATERIALS AND METHODS

Krškopolje pigs (n=12) were delivered to both farms at similar age (85.9±2.5 days) and body weight (26.3±2.1 kg). They were weighed 4 times during the study. After 138 days, the pigs were slaughtered and meat quality traits (*longissimus dorsi* muscle) were evaluated.

Table 1: Study design

	EXT (n=6)	INT (n=6)
Housing	Solid floor with straw bedding (2.5 m ² /pig) + outdoor access	Partly slatted floor (1.3 m ² /pig)
Feed	Traditional meal (cooked potatoes, fodder beet, carrots, turnip, swede) + grains	Complete feed mixture

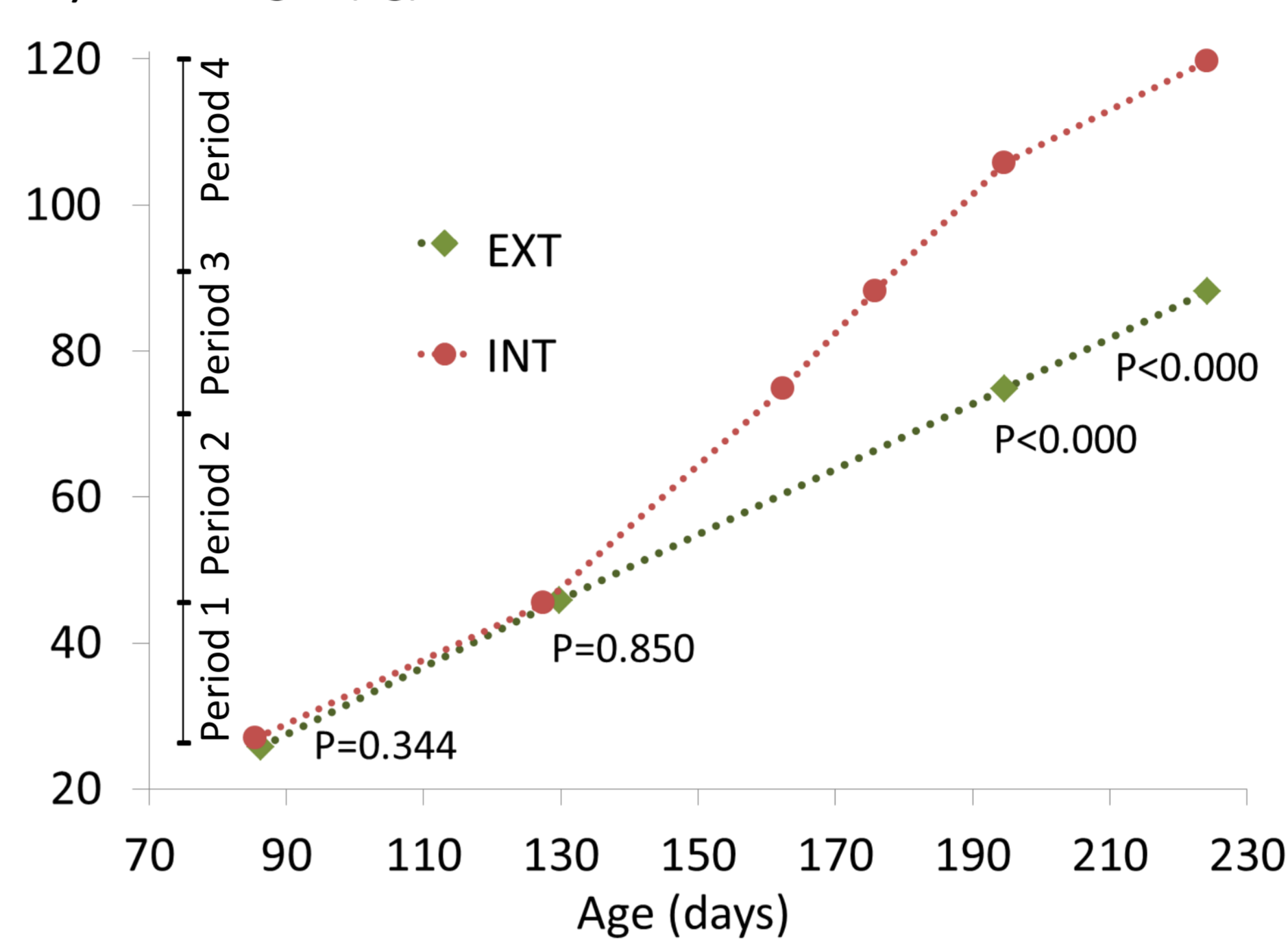
Estimation of daily intakes:

	DM (kg/d)	ME (MJ/d)	CP (g/d)	Lysine (g/d)	DM (kg/d)	ME (MJ/d)	CP (g/d)	Lysine (g/d)
Period 1 25-45 kg	1.5	22.3	264	13.8	1.5	20.1	261	15.6
Period 2 45-70 kg	2.9	43.5	307	12.0	2.5	33.5	435	26.0
Period 3 70-90 kg	2.9	43.5	307	12.0	3.0	41.4	480	31.2
Period 4 90-120 kg					3.0	41.4	480	31.2

DM – dry matter, ME – metabolizable energy, CP – crude protein.

RESULTS

a) Live weight (kg)



b) Average daily gain (kg/day)

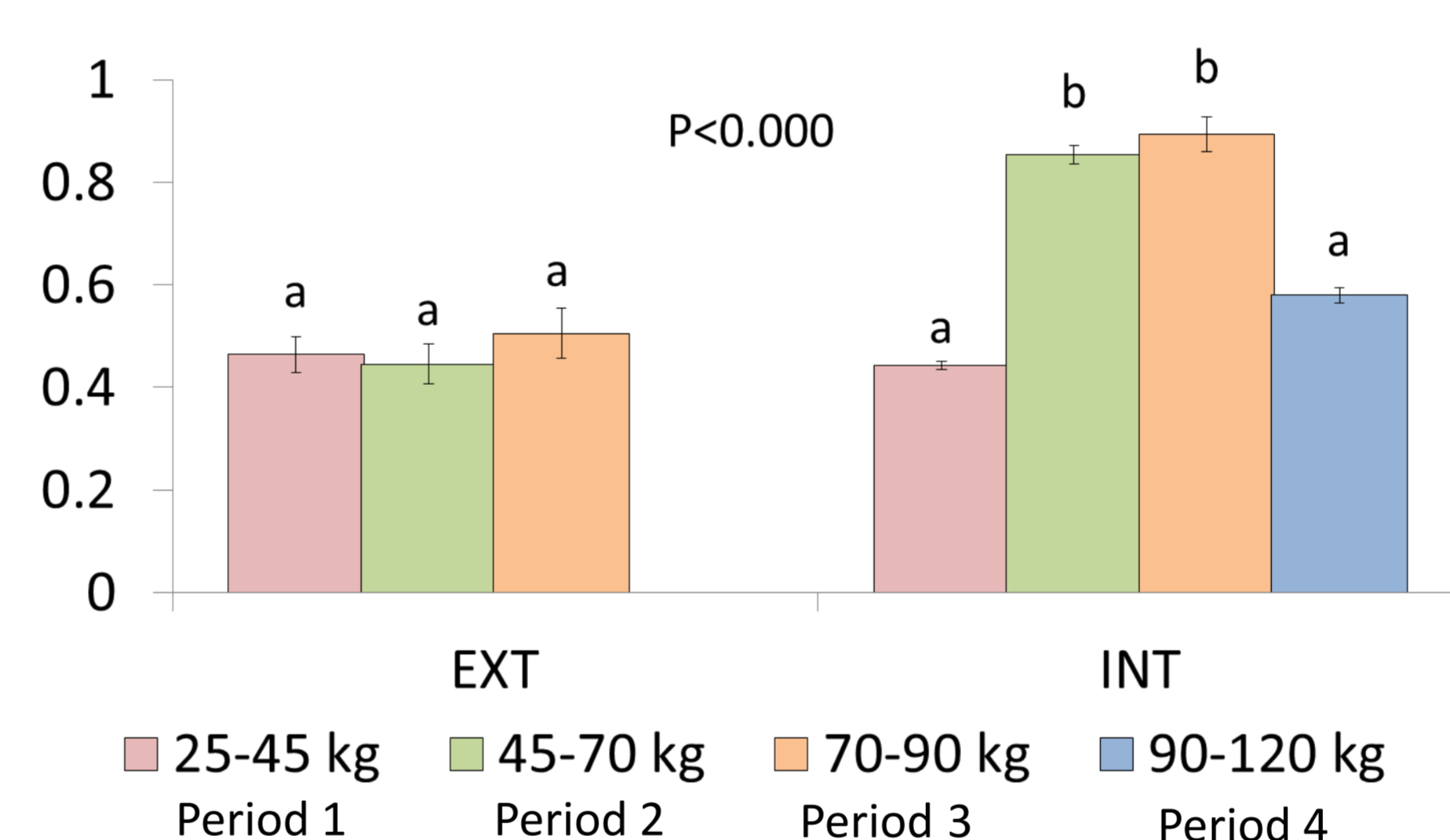


Figure 1: Body weight (a) and daily gain (b) of Krškopolje pigs reared in intensive (INT) or extensive (EXT) system

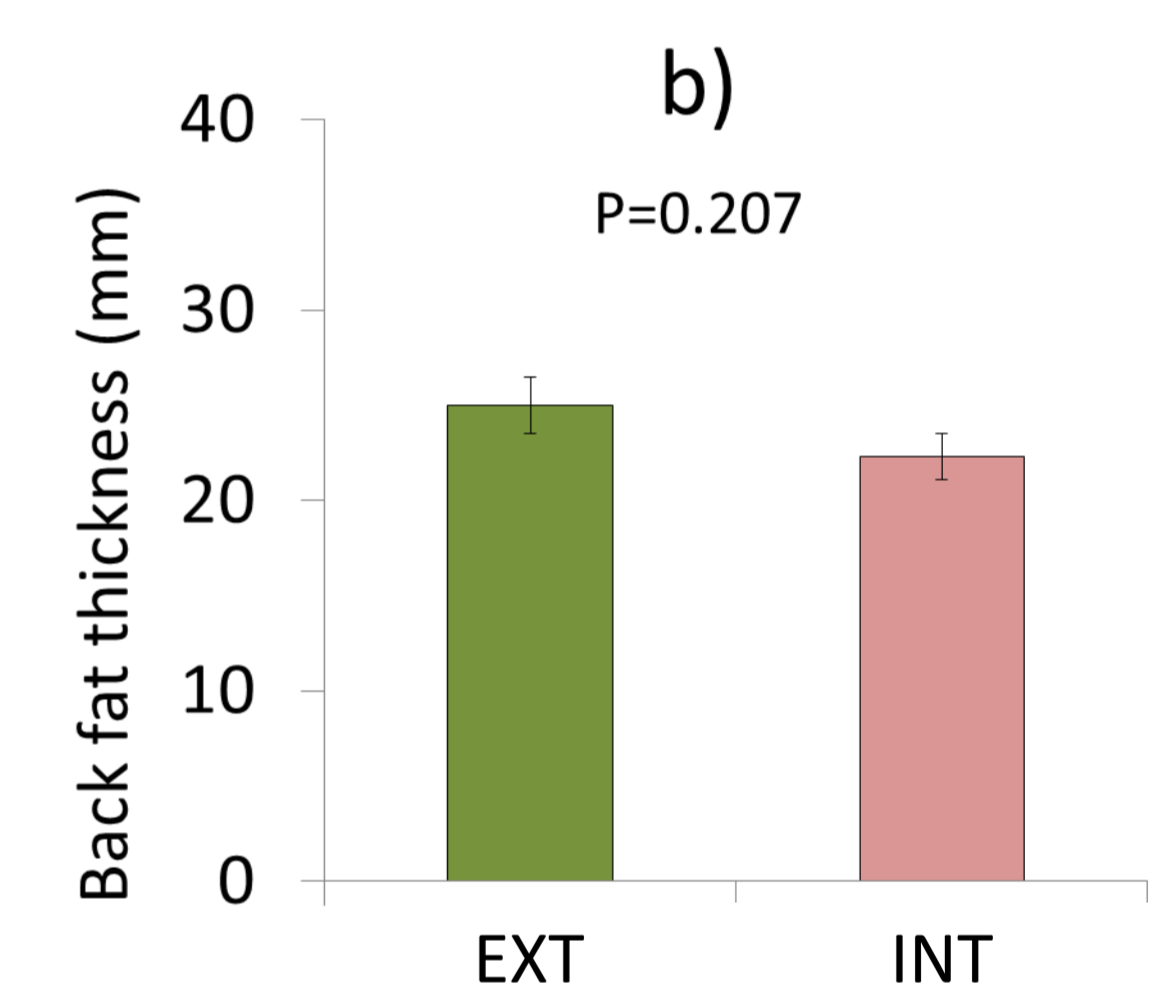
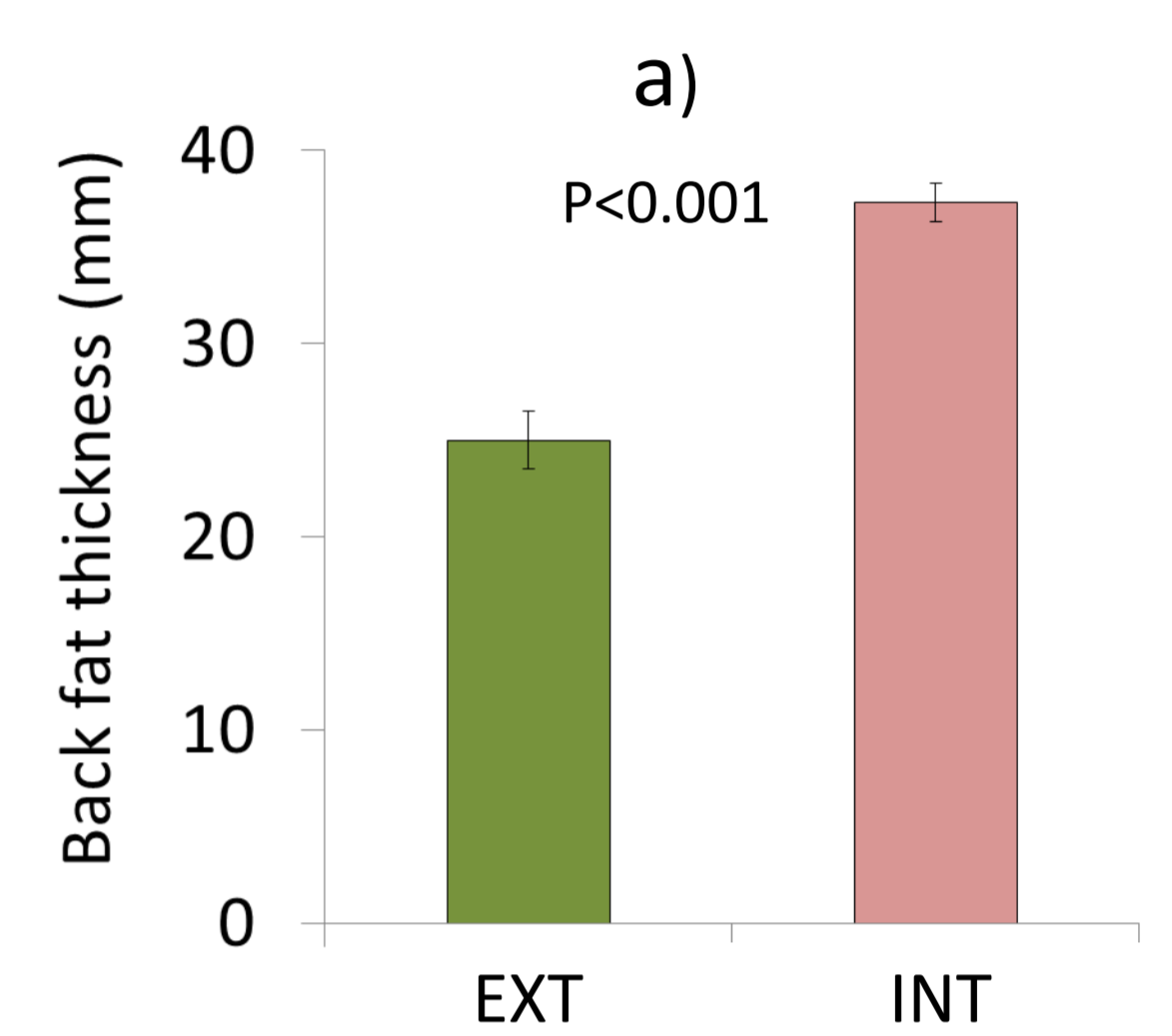


Figure 2: Back fat thickness of Krškopolje pigs at a) slaughter (the same age) and b) the same body weight (88 kg)

Table 2: Meat quality traits of Krškopolje pigs reared in extensive (EXT) or intensive (INT) production system

	EXT (n=6)	INT (n=6)	RMSE	P value
IMF, %	3.1	2.8	1.2	0.700
pH 24 h	5.43	5.46	0.13	0.671
Drip loss after 24 h, %	3.7	4.2	1.5	0.580
Drip loss after 48 h, %	5.4	5.8	1.7	0.714
Colour parameters:				
CIE L*	47.8	50.4	1.9	0.044
CIE a*	8.5	6.6	0.9	0.003
CIE b*	1.0	0.9	0.5	0.740

IMF – intramuscular fat

CONCLUSIONS

- Until 45 kg, growth rate was similar in INT and EXT pigs (comparable consumption of energy and nutrients).
- Between 45 and 90 kg, growth rate in INT pigs was 2-fold higher than in EXT pigs (protein and lysine deficiency).
- Growth rate of INT pigs declined after 90 kg.
- Protein and lysine intake of INT pigs after 45 kg was well above requirements.
- Redder and darker *longissimus dorsi* muscle of EXT pigs are implying higher oxidative muscle metabolism.

* This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 634476 (Project acronym: TREASURE). The content of this paper reflects only the author's view and the European Union Agency is not responsible for any use that may be made of the information it contains."