

Session 23.

# EFFECT OF BREED AND CARCASS WEIGHT ON ADIPOSE TISSUE CONTENT IN PIG CARCASS BELLY

Citek, J., Stupka, R., Sprysl, M., Kratochvilova, H., Okrouhla, M., Zita, L.  
Czech University of Life Sciences Prague, Department of Animal Husbandry, 165 21 Prague 6-Suchdol, Czech Republic.  
Kamycka 129, Prague 6-Suchdol  
citek@af.czu.cz

## MATERIALS AND METHODS

Breed and carcass weight effects on carcass belly adipose tissues composition were compared in four breed or hybrid pigs. The experiment involved Large White (LW), Landrace (L), Large White sire line (LWs), Pietrain (PN) and Duroc (D) breed in combination: 1. pure breed LW, 2. hybrid LWxL, 3. hybrid (LWs x PN)x(LW x L), 4. hybrid (D x PN)x(LW x L).

Lipid content was measured in 162 pig belly parts of breed group carcass half with a large variation in carcass weight. The animals were slaughtered from 90 to 140 kg live weight and the left side was separated into primal cuts.

Representative samples were taken from primal cuts of belly and total fat content was determined by petrol ether extraction.

## CONCLUSIONS

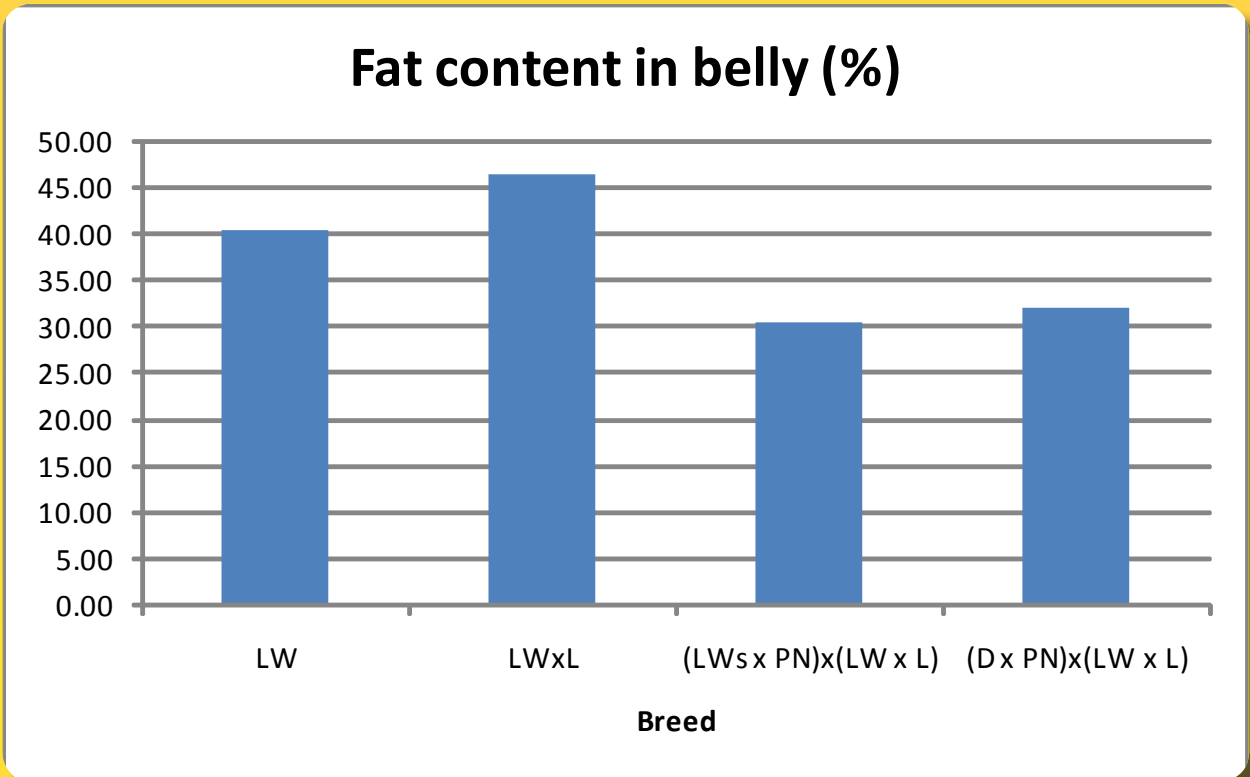
Hybrids (LWs x PN)x(LW x L) and (D x PN)x(LW x L) had lower fat tissue content (30.26 % and 31.83 %) (P<0.01) than LWxL (46.4 %) whereas LW hybrid had intermediate values (40.2 %). It was registered that Pietrain is a typical breed with excellent meat efficiency with low fat.

Relation between carcass body weight and fat content in belly was found. Increasing of carcass body weight by 1 kg was attached with increasing fat content in belly by 0.41 %. Correlation between carcass weight and fat content in belly was 0.51 (p<0.0001).

## RESULTS

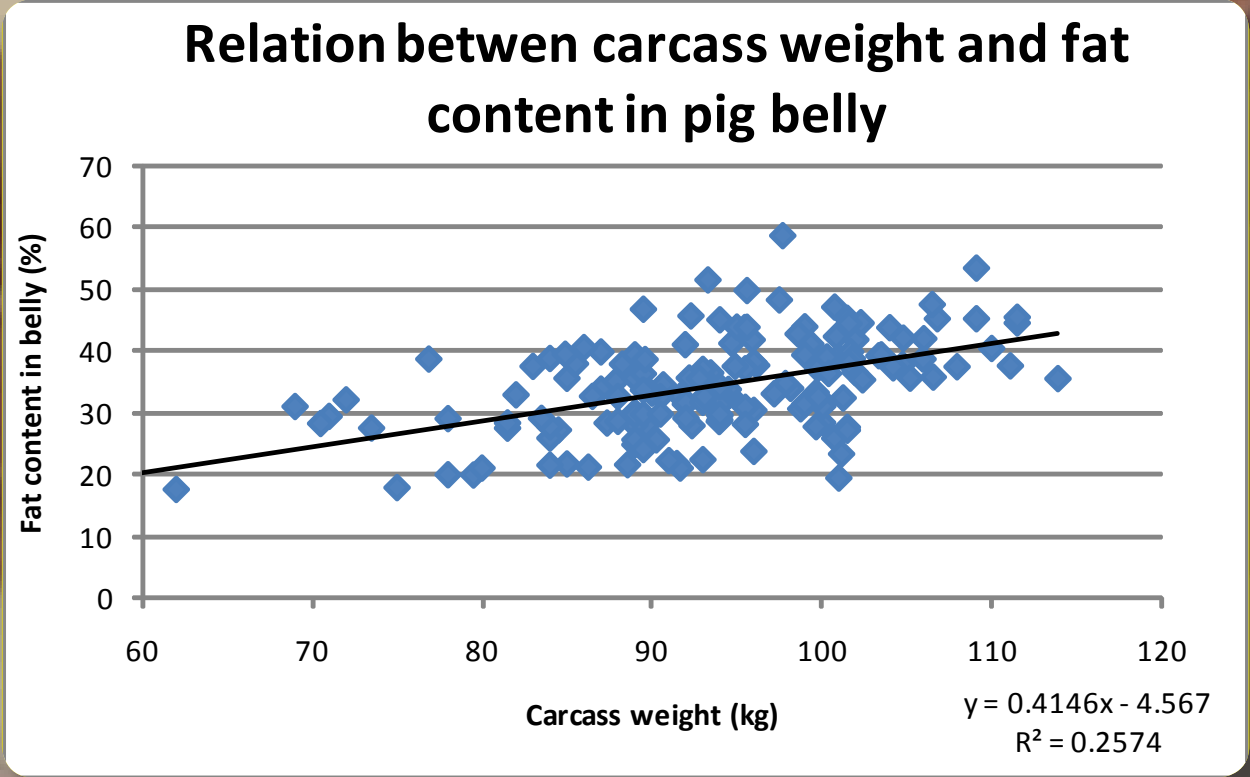
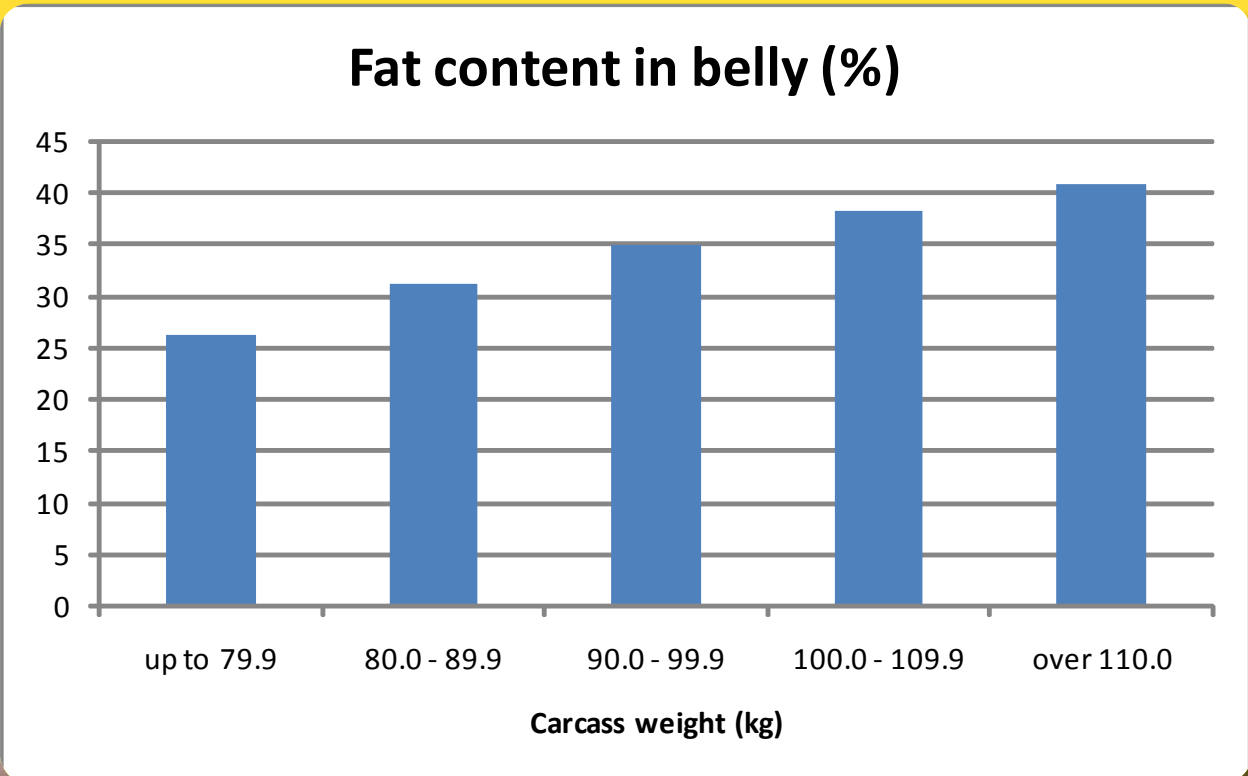
Fat content in belly with respect to breed

Part	LW (n=14)		LWxL (n=14)		(LWs x PN)x (LW x L) (n=40)		(D x PN)x (LW x L) (n=40)		F-value	p-value
	mean	sd	mean	sd	mean	sd	mean	sd		
Belly part 1	36.24	5.09	41.88	5.20	25.69	8.12	28.90	6.64	15.08	<.0001
Belly part 2	40.40	6.40	42.30	5.90	32.70	8.61	31.61	6.53	6.58	<.0001
Belly part 3	44.04	7.43	55.03	9.80	32.39	9.15	35.13	6.90	21.13	<.0001
Belly	40.20	4.72	46.40	5.60	30.26	7.54	31.83	5.44	22.17	<.0001



Fat content in belly with respect to carcass weight

Group	Carcass weight (kg)	n	Fat content in belly (%)	
			mean	sd
1	up to 79.9	12	26.18	6.51
2	80.0 - 89.9	41	31.17	6.40
3	90.0 - 99.9	65	34.81	7.33
4	100.0 - 109.9	39	38.05	7.10
5	over 110.0	5	40.65	4.28
F-value			10.19	
p-value			<.0001	



Y = -4.56698 + 0.41654 \* CW

R² = 0.2574

Y - Fat content in bely (%)  
CW - Carcass weight (kg)