EVALUATION OF THE FORMATION OF THE BELLY LEAN MEAT PART IN RELATION TO THE ACHIEVED CARCASS LEAN MEAT SHARE*

R. Stupka, M. Šprysl, J. Čítek

Czech University of Agriculture, Faculty of Agronomy, Department of Pig and Poultry Science, Prague, Czech Republic

The tests included 194 final pig hybrids of the genotypes currently used in the Czech Republic in the balanced sex. The evaluation was focussed on the formation of the belly lean meat part from the viewpoint of its total percentage in the carcass, the percentage of lean meat and formation of the belly in the monitored part in relation to the achieved carcass lean meat share. It has been proved that with the increasing meat share in the carcass, the weight of the belly decreases (8.22 kg ± 0.20 and 7.41 kg ± 0.09, respectively) with the total increase of meat (2.06 kg ± 0.08; 2.34 kg ± 0.04, respectively) and the percentage of meat in the belly (46.64% ± 1.16 and 57.32% ± 0.57, respectively). The total area of the belly increases in the direction of sections 1–3. The increase in genotypes with a higher meat share is represented primarily by a higher increase of meat between sections 1 and 2, between sections 2–3 there already occurs a higher increase of the share of fat. Section 1 shows minimal differences in the total area of the belly between individual weight groups. These differences are more evident in case of the following sections 2 and 3 and the highest values are achieved by animals with a low carcass lean meat share. The lowest values are manifested in animals with a high carcass lean meat share. Differences in the deposition of meat and fat in individual sections (1, 2, 3) have been observed in pigs with a higher share of meat as compared to animals with a lower share of meat. The percentage of the meat share in individual sections of the belly documents that animals with a lower carcass lean meat share show in section 2 a significant decrease of the meat share as compared to sections 1 and 3. Animals with a high carcass lean meat share achieve in section 2 in most cases the highest meat share.

pig; belly; lean meat share; quality

INTRODUCTION

In order to achieve the required higher carcass lean meat share it is purposeful to focus on the increase of the share of meat in individual parts of the carcass. A highly interesting part in this respect seems to be the belly and its quality in terms of the meat: fat ratio. As opposed to other significant parts of the carcass, the ratio of meat and fat in the belly may considerably differ (Pfeiffer et al., 1993; Schreinemachers et al., 1999; Vališ et al., 2001).

The evaluation of the belly is quite complicated as the layers of meat and fat mingle here. The application of certain methods of the evaluation of the belly is dealt with e.g. by Baulain et al. (1998).

Pfuhl and Glodek (1996) point out the fact that it is impossible to determine the meatiness of the belly on the basis of the total share of the lean meat in the carcass ($r = 0.53$). Subjective evaluation of the meatiness of the belly does not provide exact results, either ($r = 0.68$).

Tholen et al. (1998) prefer to estimate the meatiness of the belly by means of the VIA method (video image analysis) evaluating it between 13th and 14th rib. The method using the estimate by means of regression ranges in the interval of $r = 0.61–0.81$.

According to Sönnichsen et al. (2002) the VIA method in the operational conditions seems to be an exact method of the estimate both of the total share of the lean meat and the share of the meat in the belly.

Pulkrábek et al. (2001) state that the share of the meat in the belly markedly fluctuates between one and two thirds. The authors emphasize that from the viewpoint of the current requirements of consumers this carcass part may be used in favourable terms only in case when the meat share is close to the upper limit of the given range.

Lonergan et al. (2001) have arrived to the conclusion that selection from the viewpoint of high growth of lean meat in pigs is connected with an improved formation of meat and its percentage in the belly meat part, a greater MLLT area and reduced fat formation.

MATERIAL AND METHODS

The analysis of the belly meat part included in total 194 slaughter pigs of final hybrids tested between 2000

* Research was sponsored by the CMEPt No.412 100 003.

and 2002 in the testing station of the branch of the Department of Pig and Poultry Science, Faculty of Agronomy of the Czech University of Agriculture in Prague. The pigs were slaughtered at the age of 166—175 days.

For the purpose of an objective analysis of the impact of the carcass lean meat share in the formation of the belly meat part, the examined group has been divided according to the achieved carcass lean meat share (by using of FOM equipment) into the following categories:

- up to 50.0% of lean meat in the carcass,
- 50.0–52.4% of lean meat in the carcass,
- 52.5–54.9% of lean meat in the carcass,
- 55.0–57.4% of lean meat in the carcass,
- 57.5–60.0% of lean meat in the carcass,
- over 60.0% of lean meat in the carcass.

The slaughter pigs included in the test were fed according to the standards of the need of nutrients after Šimeček et al. (2000) ad-libitum in three phases with a continuous transition by means of self-feeders Duräumat.

Feeding complex mixtures (FCM) used in the tests were three-component mixtures using wheat, barley, soyameal and a feeding supplement. Prior to the beginning of tests analyses were made of individual components used in the feeding mixtures in terms of the content of nutrients and based on the identified values feeding mixtures were composed in relation to age and live weight of the tested pigs. The feeding mixtures were mixed for each pen separately according to the designed scheme of the test.

Feeding scheme:

Nutrients in FCM	Feeding phase		
	up to 35 kg	35–65 kg	over 65 kg
Crude protein (g/kg)	196.70	184.00	156.30
ME (MJ/kg)	13.30	13.20	12.90
Crude fiber (g/kg)	39.84	38.76	40.75
Lysine (g/kg)	11.40	10.20	8.30
Threonine (g/kg)	7.20	6.50	5.40
Methionine (g/kg)	3.20	2.90	2.40
Ca (g/kg)	7.20	6.80	6.10
P (g/kg)	5.50	5.40	4.60

Dissection of the belly was made according to the EU methodology, separating the frontal part of the belly between 4th and 5th rib, the anterior part of the belly was separated by a section made 4 cm caudally behind the last rib the first vertically and subsequently cranially close to the row of mammary glands ducts.

In order to evaluate the belly-formation with the subsequent determination of the estimate of the belly lean meat share, radiographs were made of the section of the carcass part of the EU belly in three points according to the methodology of Schwerdtfeger et al. (1993). The LUCIA programme (Laboratory Imaging Ltd.) was used to measure in sections 1, 2, 3 the area of the belly (mm^2), meat (mm^2) and the ratio of lean meat in the section area of the belly to the total area of the belly (%) (Fig. 1).

Lean meat and its share in the belly was calculated by Čítek (2002):

$$y = 42.63841413 + 0.24603687 \times PLPODIL2 - 3.43803239 \times HMEU - 0.00098125 \times PLCELK3 + 0.00254507 \times PLMASO3 + 0.00088281 \times PLMASO1$$

$$r^2 = 0.857$$

where: PLPODIL2 – the ratio of the area of lean meat to the total area of the belly at the point of section 2 (%)
HMEU – weight of the part of the belly dissected according to EU (kg)
PLCELK3 – total area of the belly at the point of section 3 (mm^2)
PLMASO1 – the area of lean meat at the point of section 1 (mm^2)
PLMASO3 – the area of lean meat at the point of section 3 (mm^2)

RESULTS AND DISCUSSION

The values of selected parameters of the fattening performance are calculated in Table 1. No statistically significant difference between the reached age has been recorded in the monitored group at the end of the test. It is interesting that practically no statistically significant differences in the slaughter weight have been found out between the examined groups. The group with the lowest

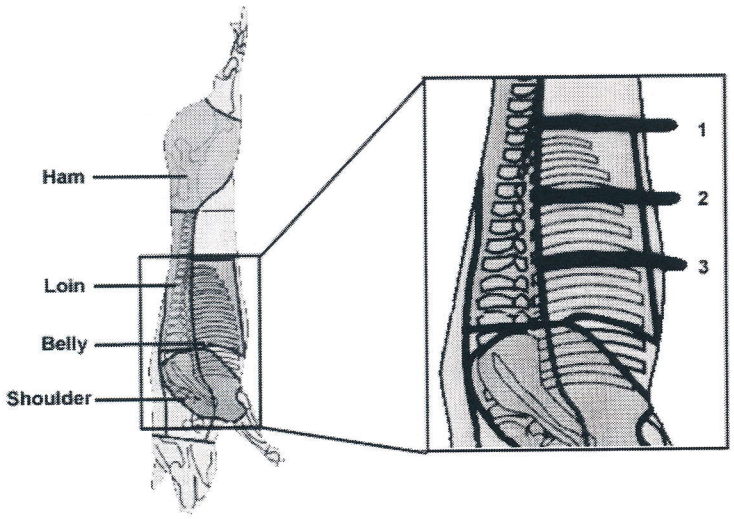

Fig. 1. Estimation of the belly sections

Table 1. Estimation of the fattening select traits with respect to lean meat share in pig carcasses

Indicator	Less than 50.0%			50.0–52.4%		
	n	$\bar{x} \pm s_{\bar{x}}$	s	n	$\bar{x} \pm s_{\bar{x}}$	s
Initial live weight (kg)	9	23.0 ± 1.07	3.20	26	24.5 ± 0.79	4.03
Finishing live weight (kg)	9	107.9 ± 1.81	5.42	26	109.2 a ± 1.51	7.72
Total daily weight gain in test (g)	9	888 ± 24.32	72.96	26	923 Aab ± 17.10	87.17
Indicator	52.5–54.9%			55.0–57.4%		
	n	$\bar{x} \pm s_{\bar{x}}$	s	n	$\bar{x} \pm s_{\bar{x}}$	s
Initial live weight (kg)	43	24.1 ± 0.65	4.25	54	24.8 ± 0.56	4.10
Finishing live weight (kg)	43	108.2 ± 0.98	6.46	54	106.4 ± 0.83	6.09
Total daily weight gain in test (g)	43	898 B ± 14.25	93.43	54	870 a ± 11.90	87.42
Indicator	57.5–60.0%			over 60.0%		
	n	$\bar{x} \pm s_{\bar{x}}$	s	n	$\bar{x} \pm s_{\bar{x}}$	s
Initial live weight (kg)	31	24.4 ± 0.75	4.19	30	25.1 ± 0.67	3.69
Finishing live weight (kg)	31	105.7 a ± 1.32	7.34	30	105.2 ± 1.14	6.25
Total daily weight gain in test (g)	31	834 AB ± 16.74	93.18	30	863 b ± 16.68	91.36

$P \leq 0.01$ A, B; $P \leq 0.05$ a, b

meat share below 50% achieved the live slaughter weight of 107.9 kg and the group with the highest meat share above 60% the slaughter weight of 105.2 kg. The total weight gain during the period of the test was decreasing with the increasing meat share which corresponds to the conclusions of S t u p k a et al. (2001) that animals with a higher intensity of growth deposit more fat and vice versa.

Based on the evaluation of the percentage of the belly meat part in the carcass in Table 2 (Fig. 2), it may be stated that the total share of the belly as well as the percentage of the belly evidently decrease with the growing carcass lean meat share, namely in case of the belly in total from 8.22 ± 0.20 kg down to 7.41 ± 0.09 kg and in the total share of the belly in the carcass from 18.66% to 17.47%. The weight of the EU belly also decreases with the increasing meat share in the carcass while the percentage of the EU belly in the total belly remains practically the same similarly as the share of the EU belly in the carcass.

As concerns the belly meat indicator, there occurs a statistically significant increase of meat in groups with a higher carcass lean meat share. At the same time, the percentage of the increase of meat share in the belly has grown from 46.64% to 57.32% and the difference amounted to 10.68%. The same trend has been observed in the total meat share in the carcass where the difference achieved was even bigger.

In general, it may be stated that in pigs with an increasing meat share the weight of the carcass belly decreases and at the same time, meat in the belly increases, i.e. the share of meat in belly grows.

Table 3 shows the evaluation of the measuring of the area of the belly in individual sections. In the total area of belly, in individual sections the same trend is observed of the growth of the area between section 1 and 3 in all examined groups and significant increase of the area has been revealed in the points 2 and 3 of measuring. Fig. 3b shows that in section 1 the differences of the total belly area between individual groups are minimal. In the fol-

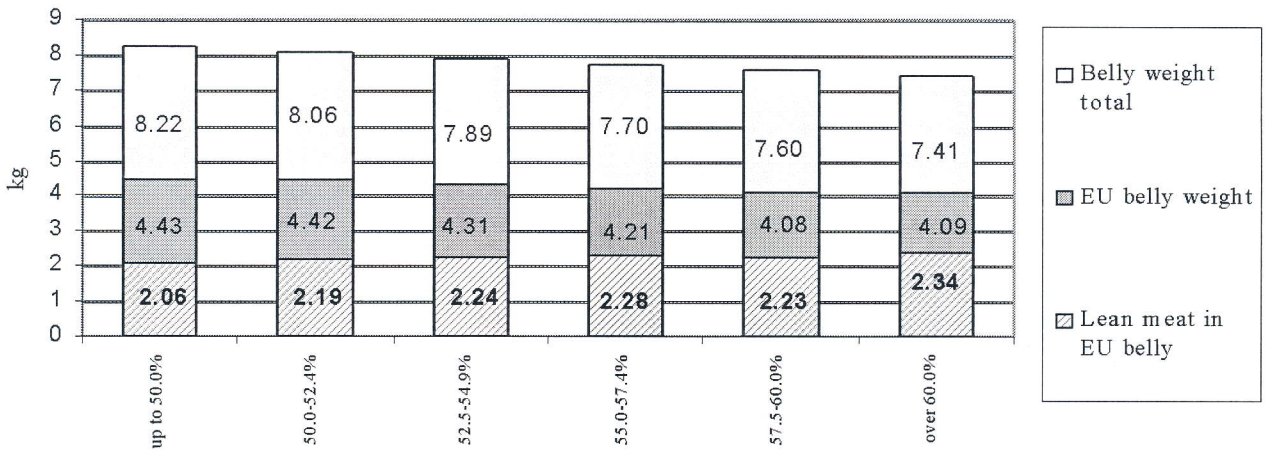

Fig. 2. Belly characteristics with respect to carcass

Table 2. Estimation of the belly-meat part with respect to lean meat share in pig carcasses

Indicator	Less than 50.0%			50.0–52.4%		
	n	$\bar{x} \pm s_{\bar{x}}$	s	n	$\bar{x} \pm s_{\bar{x}}$	s
Total belly weight (kg)	9	8.22 ABa ± 0.20	0.59	26	8.06 CD ± 0.13	0.66
Total belly share in the right half (%)	9	18.66 Aab ± 0.32	0.95	26	18.10 c ± 0.20	1.04
EU-belly weight (kg)	9	4.43 ab ± 0.17	0.50	26	4.42 ABbc ± 0.08	0.41
EU-belly share in the right half (%)	9	10.03 ± 0.29	0.88	26	9.92 ± 0.14	0.71
EU-belly share in the total belly (%)	9	53.72 ± 1.07	3.20	26	54.82 ± 0.46	2.32
Lean meat in EU-belly (kg)	9	2.06 ABab ± 0.08	0.25	26	2.19 C ± 0.04	0.19
Lean meat share in EU-belly (%)	9	46.64 ABCDa ± 1.16	3.49	26	49.61 EFGHa ± 0.67	3.40
Lean meat share in pig carcasse (%)	9	48.43 ABCDE ± 0.48	1.45	26	51.36 AFGHI ± 0.13	0.66
Indicator	52.5–54.9%			55.0–57.4%		
	n	$\bar{x} \pm s_{\bar{x}}$	s	n	$\bar{x} \pm s_{\bar{x}}$	s
Total belly weight (kg)	43	7.89 Ec ± 0.10	0.66	54	7.70 abd ± 0.08	0.59
Total belly share in the right half (%)	43	17.99 d ± 0.20	1.28	54	17.84 a ± 0.15	1.09
EU-belly weight (kg)	43	4.31 de ± 0.06	0.37	54	4.21 c ± 0.06	0.41
EU-belly share in the right half (%)	43	9.84 ± 0.12	0.80	54	9.77 ± 0.12	0.90
EU-belly share in the total belly (%)	43	54.77 ± 0.45	2.98	54	54.71 ± 0.45	3.30
Lean meat in EU-belly (kg)	43	2.24 a ± 0.03	0.21	54	2.28 A ± 0.03	0.22
Lean meat share in EU-belly (%)	43	52.05 AEIJK ± 0.44	2.91	54	54.22 BFIL ± 0.47	3.43
Lean meat share in pig carcass (%)	43	53.83 BFJKL ± 0.09	0.62	54	56.12 CGJMN ± 0.09	0.67
Indicator	57.5–60.0%			over 60.0%		
	n	$\bar{x} \pm s_{\bar{x}}$	s	n	$\bar{x} \pm s_{\bar{x}}$	s
Total belly weight (kg)	31	7.60 ACc ± 0.09	0.51	30	7.41 BDEd ± 0.09	0.49
Total belly share in the right half (%)	31	17.72 b ± 0.18	0.99	30	17.47 Acd ± 0.15	0.83
EU-belly weight (kg)	31	4.08 Aad ± 0.07	0.38	30	4.09 Bbe ± 0.07	0.41
EU-belly share in the right half (%)	31	9.52 ± 0.14	0.77	30	9.64 ± 0.16	0.86
EU-belly share in the total belly (%)	31	53.75 ± 0.64	3.54	30	55.13 ± 0.71	3.91
Lean meat in EU-belly (kg)	31	2.23 bc ± 0.04	0.21	30	2.34 BCc ± 0.04	0.25
Lean meat share in EU-belly (%)	31	54.54 CGJM ± 0.55	3.04	30	57.32 DHKLM ± 0.57	3.12
Lean meat share in pig carcasse (%)	31	58.44 DHKMO ± 0.11	0.59	30	62.79 EILNO ± 0.47	2.57

$P \leq 0.01$ A, B, C, D, E, F, G, H, I, J, K, L, M, N, O; $P \leq 0.05$ a, b, c, d, e

lowing sections there already are more marked differences among the groups. The highest values are achieved by animals with a low carcass lean meat share and lower ones by animals with a higher carcass lean meat share.

The evaluation of the total average area of the belly (Fig. 3a) demonstrates an evident decrease in the group with a higher carcass lean meat share. In terms of percentage, when the group below 50% of meat in the carcass represents 100%, the following values have been found out in the remaining groups 98.5%, 98.6%, 93.6%, 93.1% a 90,7%.

As concerns the meat area achieved in individual points of measuring, it may be stated (Fig. 3c), that the meat area again increases between section 1 and 3, however, the differences in individual groups are already from section 1 as far as section 3 more significant. Logically, lower values in all three points of measuring are recorded in animals with a lower carcass lean meat share.

The percentage of meat in the belly shows a statistically significant increase of the representation of meat in the belly between individual groups. The difference between the first and the last groups has amounted to 15.99%. The group with the lowest carcass lean meat share (below 50%) registered the value of 49.34 ± 1.68% and the group with the highest carcass lean meat share (above 60%) the value of 65.33 ± 0.86%. The percentage representation of meat in individual sections documents (Fig. 3d) that animals with a lower carcass lean meat share show a marked decline of the share of meat in section 2 as compared to sections 1 and 3. In contrast, the animals with a high carcass lean meat share have achieved in most cases the highest share of meat in section 2.

CONCLUSION

– The increasing total area of the belly in the direction of sections 1–3 is formed in the genotypes with a higher meat share mainly by a higher increase of

Table 3. Estimation of the belly-meat part with respect to lean meat share in pig carcasses

Indicator	Less than 50.0%			50.0–52.4%		
	n	$\bar{x} \pm s_{\bar{x}}$	s	n	$\bar{x} \pm s_{\bar{x}}$	s
Total belly area – section 1 (mm^2)	9	8 730 ± 432	1297	26	8 770 ± 222	1130
Total belly area – section 2 (mm^2)	9	11 616 A ± 440	1319	26	11 451 Bab ± 375	1911
Total belly area – section 3 (mm^2)	9	12 584 A ± 837	2512	26	12 208 B ± 363	1850
Total belly area (points 1–3 average) (mm^2)	9	10 977 a ± 401	1204	26	10 810 A ± 280	1427
Lean meat area – section 1 (mm^2)	9	4 389 ABCDa ±113	339	26	4 979 ab ±151	768
Lean meat area – section 2 (mm^2)	9	5 636 Aa ± 292	877	26	6 144 b ± 235	1197
Lean meat area – section 3 (mm^2)	9	6 190 Aabc ±492	1476	26	6 509 Bde ± 210	1069
Lean meat area (points 1–3 average) (mm^2)	9	5 405 ABCa ± 240	721	26	5 878 D ± 173	882
Meat area share from the total area – section 1 (%)	9	50.84 ABCDa ± 1.69	5.06	26	57.02 Eabc ± 1.39	7.07
Meat area share from the total area – section 2 (%)	9	48.55 ABCDa ± 1.76	5.27	26	53.56 EFGa ± 1.00	5.09
Meat area share from the total area – section 3 (%)	9	49.50 ABCD ± 2.55	7.65	26	53.39 EFGH ± 0.95	4.85
Meat area share from the total area (points 1–3 average) (%)	9	49.34 ABCDE ± 1.68	5.03	26	54.41 AFGHa ± 0.93	4.73
Indicator	52.5–54.9%			55.0–57.4%		
	n	$\bar{x} \pm s_{\bar{x}}$	s	n	$\bar{x} \pm s_{\bar{x}}$	s
Total belly area – section 1 (mm^2)	43	8 899 ± 164	1074	54	8 467 ± 153	1127
Total belly area – section 2 (mm^2)	43	11 223 Cc ± 169	1110	54	10 601 ac ± 187	1377
Total belly area – section 3 (mm^2)	43	12 366 Cab ± 170	1113	54	11 761 ac ± 188	1380
Total belly area (points 1–3 average) (mm^2)	43	10 829 Bbc ± 147	961	54	10 276 b ± 159	1169
Lean meat area – section 1 (mm^2)	43	5 181 A ± 115	757	54	5 110 Bc ± 96	705
Lean meat area – section 2 (mm^2)	43	6 317 ± 178	1167	54	6 584 a ± 133	975
Lean meat area – section 3 (mm^2)	43	7 064 ad ± 123	808	54	6 995 be ± 133	980
Lean meat area (points 1–3 average) (mm^2)	43	6 187 A ± 112	735	54	6 230 B ± 110	808
Meat area share from the total area – section 1 (%)	43	58.28 AF ± 0.83	5.44	54	60.67 Bbd ± 0.89	6.53
Meat area share from the total area – section 2 (%)	43	56.20 AHIJ ± 1.23	8.06	54	62.18 BEHL ± 0.78	5.70
Meat area share from the total area – section 3 (%)	43	57.11 AEIJa ± 0.62	4.06	54	59.51 BFKa ± 0.72	5.27
Meat area share from the total area (points 1–3 average) (%)	43	57.11 BIJKa ± 0.65	4.29	54	60.68 CFIL ± 0.66	4.82
Indicator	57.5–60.0%			over 60.0%		
	n	$\bar{x} \pm s_{\bar{x}}$	s	n	$\bar{x} \pm s_{\bar{x}}$	s
Total belly area – section 1 (mm^2)	31	8 526 ± 205	1142	30	8 578 ± 225	1233
Total belly area – section 2 (mm^2)	31	10 572 b ± 290	1617	30	10 191 ABC ± 242	1326
Total belly area – section 3 (mm^2)	31	11 573 b ± 254	1413	30	11 087 ABCc ± 240	1315
Total belly area (points 1–3 average) (mm^2)	31	10 224 c ± 216	1202	30	9 952 ABa ± 213	1169
Lean meat area – section 1 (mm^2)	31	5 163 C ± 127	709	30	5 456 Dbc ± 152	835
Lean meat area – section 2 (mm^2)	31	6 415 ± 198	1101	30	6 748 Ab ± 207	1135
Lean meat area – section 3 (mm^2)	31	7 002 c ± 190	1056	30	7 292 AB ± 185	1012
Lean meat area (points 1–3 average) (mm^2)	31	6 194 a ± 148	826	30	6 498 CD ± 160	877
Meat area share from the total area – section 1 (%)	31	60.87 Cc ± 1.18	6.56	30	63.93 DEFd ± 1.30	7.13
Meat area share from the total area – section 2 (%)	31	60.66 CFIK ± 0.85	4.74	30	66.03 DGJKL ± 0.94	5.12
Meat area share from the total area – section 3 (%)	31	60.49 CGIL ± 0.97	5.42	30	65.86 DHJKL ± 1.03	5.63
Meat area share from the total area (points 1–3 average) (%)	31	60.61 DGJM ± 0.81	4.52	30	65.33 EHKLM ± 0.86	4.70

$P \leq 0.01$ A, B, C, D, E, F, G, H, I, J, K, L, M; $P \leq 0.05$ a, b, c, e

meat between sections 1 and 2, between sections 2–3 there is already a higher increase of fat.

- Differences in the deposition of meat and fat in individual sections (1, 2, 3) have been proved in pigs with a higher share of meat as compared to the animals with a lower share of meat.
- With the increasing carcass lean meat share, the weight of the belly decreases with the simultaneous total increase of meat and the share of meat in the belly.
- In section 1 the differences between individual weight groups in the total area of belly are minimal. These

Figure 3. Belly characteristics with respect to carcass

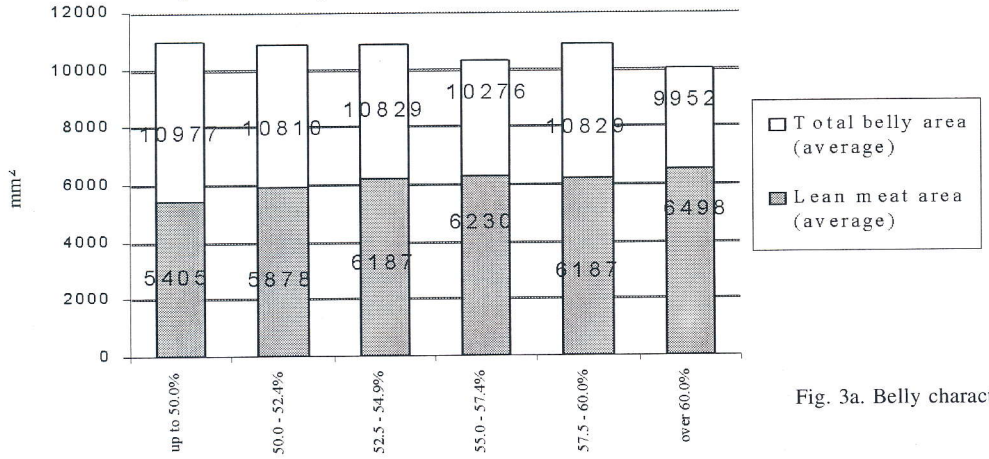

Fig. 3a. Belly characteristics with respect to carcass

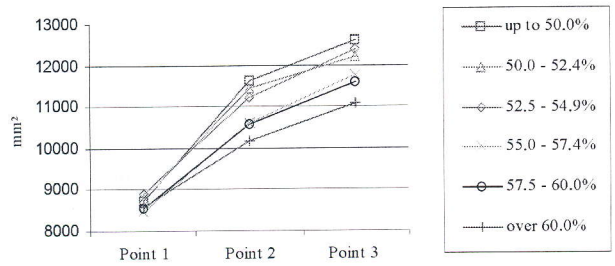

Fig. 3b. Comparison of total belly area with respect to carcass

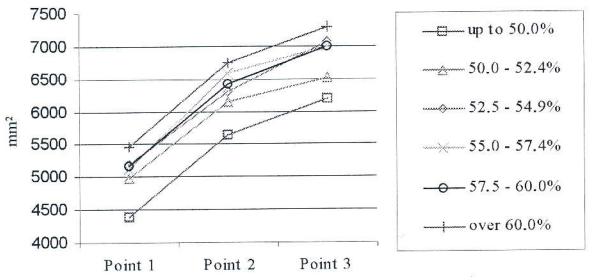

Fig. 3c. Comparison of belly lean meat area with respect to carcass

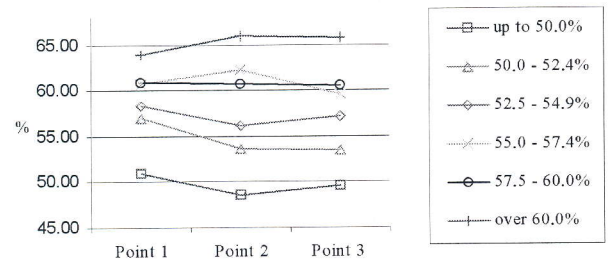

Fig. 3d. Comparison of proportion of meat area in the total area of belly with respect to carcass

differences are bigger in the following sections, the highest values are achieved by the animals with a low carcass lean meat share and the lowest ones by the animals with a high carcass lean meat share.

– With regard to the course of the representation of the meat share in individual sections of the belly it is evident that the animals with a lower carcass lean meat share recorded in section 2 a marked decrease of the meat share as compared to sections 1 and 3. The animals with a high carcass lean meat share show in section 2 in most cases the highest share of meat.

REFERENCES

BAULAIN, U. – HENNING, M. – THOLEN, E. – WITTMANN, W. – PESCHKE, W.: Objektive Erfassung des Fleischanteils im Schweinebauch. 2. Mitteilung: Verwendung von Bildinformationen aus dem MR-Imaging. Züchtungskunde, *70*, 1998: 205–212.

ČÍTEK, J.: Stanovení nejvhodnější porážkové hmotnosti jatečných prasat v České republice (Determination of the most suitable carcass weight of slaughter pigs in the Czech Republic). [Dissertation.]. Praha, 2002. 130 pp.

LONERGAN, S. M. – HUFF, L. E. – ROWE, L. J. – KUHLERS, D. L. – JUNGST, S. B.: Selection for lean growth efficiency in Duroc pigs influences pork quality. J. Anim. Sci., *79* 2001: 2075–2085.

PFEIFFER, H. – BRENDEL, B. – LENGERKEN, G.: Zur Bewertung der Bauchqualität beim Schwein. Arch. Tierzucht., *36*, 1993: 397–407.

PFUHL, K. – GLODEK, P.: Die Bestimmung des Fettgehaltes von Schweinebaeuchen mittels NIR und dessen Beziehungen zu anderen Verfettungskriterien an der Schlachthälfte. Züchtungskunde, *68*, 1996: 48–64.

PULKRÁBEK, J. – PAVLÍK, J. – WOLF, J. – VALIŠ, L. – SMITAL, J.: Problematika uplatnění SEUROP – systému při hodnocení jatečných prasat v České republice (Problems of application of the SEUROP system in evaluation of pig carcass in the Czech Republic). ZZP VÚŽV, EP 096 000 6262, Praha, 2001.

SCHREINEMACHERS, H. – THOLEN, E. – BAULAIN, U. – HENNING, M. – TRAPPMANN, W.: Untersuchungen zur Objektivierung der Bauchbewertung bei Schlachtschweinen unter Verwendung nicht-invasiver Verfahren. Landbauforschung Volkenrode, Sonderheft, *193*, 1999: 123–128.

SCHWERDTFEGER, R. – KRIETER, J. – KALM, E.: Objektive Beurteilung des Teilstücks Bauch. Fleischwirtschaft, *73*, 1993: 93–96.

SÖNNICHSEN, M. – DOBROWOLSKI, A. – HÖRETH, R. – BRANSCHEID, W.: Commercial valuation of pig car-

casses using video images. Fleischwirtschaft, *82*, 2002: 98–101.

STUPKA, R. – ŠPRYSL, M. – ČÍTEK, J.: Závislost tvorby MLLT, výšky hřbetního sádla a podílu svaloviny na intenzitě růstu a pohlaví (The dependence of MLLT formation, back fat thickness and the share of lean meat in intensity of growth and sex). In: Proc. Aktuální poznatky v chovu a šlechtění prasat (Topical knowledge in pig rearing and breeding), Brno, 2001: 81–86.

ŠIMEČEK, K. – ZEMAN, L. – HEGER, J.: Potřeba živin a tabulky výživné hodnoty krmiv pro prasata. ČSAZV, Komise výživy a krmení hospodářských zvířat, Brno, 2000. 124 pp.

THOLEN, E. – PESCHKE, W. – BAULAIN, U. – SCHELLANDER, K.: Objektive Erfassung des Fleischanteils im Schweinebauch. 1. Mitteilung: Entwicklung von Schätzgleichungen aus Schlachtkörpermaen. Züchtungskunde, *70*, 1998: 196–204.

VALIŠ, L. – PULKRÁBEK, J. – PAVLÍK, J.: Odhad podílu svaloviny v jatečně opracovaném boku u prasniček a vepříků (The estimate of lean meat share in belly lean meat in gilts and barrows). In: Proc. Aktuální poznatky v chovu a šlechtění prasat (Topical knowledge in pig rearing and breeding), Brno, 2001: 95–97.

Received for publication on April 20, 2004
Accepted for publication on June 8, 2004

STUPKA, R. – ŠPRYSL, M. – ČÍTEK, J. (Česká zemědělská univerzita, Agronomická fakulta, katedra chovu prasat a drůbeže, Praha, Česká republika):

Hodnocení utváření masné partie bok ve vztahu k dosaženému podílu jatečně opracovaného masa.

Scientia Agric. Bohem., *35*, 2004: 104–110.

Pokusy proběhly na 194 finálních hybridech běžně používaných kombinací křížení v ČR u vyrovnaného pohlaví. Cílem bylo posoudit utváření masné partie bok z pohledu celkového zastoupení v jatečném těle, zastoupení masa a utváření boku v průběhu sledované partie v závislosti na dosaženém podílu libového masa v JUT.

Bylo prokázáno, že s narůstajícím podílem masa v JUT dochází k poklesu hmotnosti boku (8,22 ± 0,20 kg, resp. 7,41 ± 0,09 kg) při celkovém nárůstu masa (2,06 ± 0,08 kg, resp. 2,34 ± 0,04 kg) a podílu masa v boku (46,64 ± 1,16 %, resp. 57,32 ± 0,57 %). Zvyšuje se celková plocha boku ve směru řezů 1–3. Nárůst je tvořen u genotypů s vyšším podílem masa především vyšším nárůstem masa mezi řezy 1 a 2, od řezu 2–3 již dochází k vyššímu nárůstu podílu tuku. V řezu 1 existují minimální rozdíly mezi jednotlivými hmotnostními skupinami v ploše boku celkem. Ty se zvýrazňují u následujících řezů 2 a 3, přičemž nejvyšších hodnot dosahují zvířata s nízkým podílem masa v JUT a nejnižších hodnot zvířata s vysokým podílem masa v JUT. Byla prokázána existence rozdílného ukládání masa a tuku v jednotlivých řezech (1, 2, 3) u prasat s vyšším podílem masa oproti zvířatům s nižším podílem masa. S ohledem na průběh zastoupení podílu masa v jednotlivých řezech boku je zřejmé, že zvířata s nižším podílem masa v JUT vykazují na řezu 2 výrazný pokles podílu masa oproti řezům 1 a 3. Zvířata s vysokým podílem masa v JUT dosahují na řezu 2 většinou nejvyššího podílu masa.

prase; bok; maso; kvalita

Contact Address:

Doc. Ing. Roman Stupka, CSc., Česká zemědělská univerzita v Praze, Agronomická fakulta, katedra chovu prasat a drůbeže, Kamýcká 129, 165 21 Praha 6-Suchdol, Česká republika, tel.: +420 220 922 251, +420 224 383 062, e-mail: stupka@af.czu.cz