water binding capacity), FOP and TEST values on different muscles. For the « best » 2-variable equations, which combine the pH24 of *Adductor femoris* (AF) or *Biceps femoris* (BF) and the subjective score for wetness, R was around 0.72. For the « best » 3-variable equations, where the same variables as above were combined with one FOP measurement, R was around 0.76. When using only pH24 or FOP measurements which can be taken without cutting the carcass R was around 0.68 and 0.72 with the best 2 and 3 variable prediction equations, respectively. A new « meat quality index » (MQI) was established on the basis of these results for use in progeny-testing stations : MQI was a 3-variable linear combination of pH24 of AF muscle, REF and TGW of BF muscle, and the correlation between MQI and TY was 0.718.

The " Hampshire effect " on the technological qualities of pork

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The aim of the experiment was to determine the technological properties of meat from *Hampshire* (H) pigs, as compared to good quality meat from *Large White* (LW) pigs and to exudative meat from halothane-positive (HP) *Pietrain* pigs. All H and LW pigs were halothane-negative (HN). In 129 females and castrated males (45 LW, 20 HN *Pietrain*, 27 HP *Pietrain*, 35 H) several quality characteristics were measured on raw meat and one ham was processed into cooked « Paris ham ». Though pH was normal one hour *post mortem* in H pigs, which did not differ from LW pigs in this respects, pork from H pigs, especially females, showed a very low ultimate pH and the highest cooking loss in processing. However, meat was much less exudative when fresh and generally darker (reflectance measured at 630 nm) in H than in HP *Pietrain* pigs. A very low ultimate pH occurred in muscle from H pigs owing to a very high « glycolytic potential » (essentially glycogen content). It is proposed to use the term « Hampshire type » to denote meat whose qualitative inadequacies basically result from an abnormally lowered ultimate pH and to keep the term « PSE » to refer to meat whose exudative state comes from a too rapid pH fall in the first few instants following slaughtering.

Meat quality in four pig breeds : relationships with halothane sensitivity and plasma creatine phosphokinase activity

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The halothane test was applied, at 25-30 kg live weight, to 1 156 female pigs from four breeds : 365 *Large White* (LW), 244 *French Landrace* (FL), 397 *Belgian Landrace* (BL),

and 150 *Pietrain* (PP). Plasma creatine phosphokinase (CPK) activity was determined by the Antonik method from blood samples collected 8 hours after a physical stress at around 90 kg live weight. Meat quality criteria were assessed on ham muscles the day after slaughter : pH of *Adductor femoris* (PH 24), reflectance of *Gluteus superficialis* (REFL), « time to get wet » of *Biceps femoris* (TGW), subjective score (SCORE), and meat quality index (MQI), which is a linear combination of PH24, REFL and TGW. In REFL, TGW and SCORE, the LW breed gave the best results and the PP breed markedly the most unfavourable ones, whereas IQV was the same in the LW, LF and BL breeds. As regards log CPK, the breed means for LW, PP, FL and BL were 1.23 ± 0.02, 1.45 ± 0.04, 1.49 ± 0.02 and 1.75 ± 0.02, respectively. The within-breed differences (d) between halothane-positive (HP) and halothane-negative (HN) pigs were estimated. Halothane-positive pigs gave a paler meat ($d = 49 + 10$ in REFL), with a reduced water binding capacity ($d = -2.8 \pm 0.6$ in TGW) and a lower subjective score ($d = -2.2 \pm 0.3$), and had an elevated plasma CPK activity ($d = 0.26 \pm 0.03$ in log CPK). However, whatever the breed, HN and HP pigs did not significantly differ in PH24 and MQI. Within-breed and slaughtering day correlations between log CPK and meat quality traits were generally very low : the CPK-test was, in the conditions of this study, a poor predictor of the technological quality of meat.

Organoleptic qualities of pork from three breeds : *Large White, Belgian Landrace, French Landrace*

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Organoleptic qualities of pork from three breeds were compared.

The *Longissimus dorsi* from 7 *Large White* (LW), *French Landrace* (FL) and *Belgian Landrace* (BL) females were analysed by testing panels and physico-chemical methods.

The following results were obtained :

	Breed characteristics			Differences
	LW	BL	FL	
Tenderness	5.5	4.1	5.9	***
Juiciness	3.7	3.5	3.5	—
Flavour	4.5	4.2	4.6	*

Large differences in meat tenderness could be observed, ranging from the most to the least tender meat : FL, LW, BL. But no significant differences were noted for juiciness and only small differences for flavour.

Physico-chemical characteristics did not show any significant differences for dry matter, nitrogen, lipids, pH and water binding capacity. Only the hydroxyproline content varied significantly between breeds (in decreasing order : BL, LW, FL).

The tougher BL meat could be explained by a higher collagen content, but also by the fact that those animals were more stress susceptible than the others.