

Different aspects of pork curing in Corsica

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A total of 40 animals of three different genotypes (*Large White, Corsican, Crossbreds*) were managed according to three production systems : intensive, semi-extensive, extensive. This paper reports the overall results obtained until commercialization of the products.

Concerning *growth*, the following should be emphasized : the weight of an animal at a given time results from a succession of periods of growth, stagnation and mobilization of body reserves, and a few and relatively simple interventions allow in some cases to improve the growth curve, i.e. to gain one year.

The *composition* of the carcasses was highly variable, but a 70 kg carcass supplied on an average 39 kg (56 p. 100) of fresh products (lonzu, coppa, hams, sausage mixture, ficatellu mixture). During the drying process, losses varied from 27 p. 100 (ham) to 47 p. 100 (sausage). Thus, a 70 kg carcass supplied 26.5 kg of dry products (about 40 p. 100 of the fresh carcass weight).

According to the analyses of the *fresh meat* (bacteriostatic capacity, p. 100 free water, fat rancidity index, reducing capacity), the quality of the fresh products was excellent. However, it was observed that poor management conditions reduced the meat quality.

Sausages were examined during *drying* (pH, water activity, amount of total volatile basic nitrogen, mesophilic flora, pseudomonas, anaerobic germs, sulphito-reducers). Bacterial counts were very low as well in fresh meat as in products subjected to maturation (which might lead to a contamination). Despite this, we did not notice any losses of sausages due to contaminations. It may be asked whether contaminations in meat from relatively old animals are different from those occurring in meat from young animals.

Products intended for commercialization were subjected to three *taster panels*. As the results were contradictory no definitive conclusions could be drawn.

Organoleptic qualities of meat from crossbred *Pietrain* × *Chinese* pigs

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The main organoleptic characteristics of meat from *Pietrain* pigs and *Pietrain* × *Chinese* crossbred pigs (*Jiaxing* and *Meishan*) were compared by a taster panel. Two roasts (*Longissimus dorsi*) were sampled from the loin of 12 animals (6 *Pietrain* and 6 crossbreds, 6 castrated males and 6 females). Results showed that meat from Chinese crossbred animals was more tender and juicy and had a stronger flavour than that of the *Pietrain* pigs. Means of scores (ranging from 0 to 10) were following :

- for tenderness, 5.6 (crossbreds) and 4.1 (*Pietrain*),
- for juiciness, 4.6 (crossbreds) and 3.4 (*Pietrain*),
- for flavour, 5.2 (crossbreds) and 4.5 (*Pietrain*).

Differences were highly significant for the three characteristics.

Weight losses at cooking represented 31.6 p. 100 in crossbreds and 30.5 p. 100 in *Pietrain*. Meat from crossbred animals was more fat and lost more weight, but remained more juicy. Even though the causes of the differences observed are still difficult to explain, several hypotheses may be put forward. The interest of production of « quality » meat by crossing *Chinese* breeds with our modern breeds is discussed.

Effects of various physical treatments on the destabilization of water-protein bonds in pork

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Samples of *Biceps femoris* from a group of *Pietrain* male pigs (N = 10 young boars of 100 kg live weight) were subjected to the following treatments for destabilizing the water-protein equilibrium in the muscle :

- A) compression after mincing,
- B) home grill cooking,
- C) cooking at 80 °C, 60 minutes in a dry atmosphere,
- D) cooking at 100 °C, 30 minutes in water,
- E) cooking at 105 °C, 60 minutes in salted water.

Weight losses (M) were calculated for the five methods. Dry matter losses (M) and protein losses (MA) were calculated only for B, C, D, E methods.

The losses were variable and the differences highly significant according to methods : for M, from 19.6 (A) to 46.4 (D), for MA, from 0.65 (B) to 2.47 (D), for MS, from 1.97 (B) to 3.81 (D).

Variation between animals depended on the physical methods used and the chemical component considered. Each method seemed to have a specific effect on the water-protein equilibrium in the muscle and led to a different grading of the meat.

Interrelations between some physico-chemical traits of muscles from *Pietrain* pigs of various conformation

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Various physico-chemical parameters (TN, SN, sarcoplasmic protein nitrogen, isoenzyme 5 of the LDF, hem iron, pH, water binding capacity, as well as indexes of muscle development (muscle mass (M)/thigh bone mass) were measured in 5 muscles from a group of ten entire male pigs of the *Pietrain* breed.

Each muscle was characterized by a specific biophysico-chemical profile. Both samples of *Longissimus dorsi* (LD_{LS}, LD_{DI}) were almost similar and quite different from the *Adductor* (AD) - *Biceps femoris* (BF) group : *Semimembranosus* (SM) was in an intermediate position, but closer to *Longissimus dorsi*.

Multidimensional analyses using the method of centred data showed that the relationships between variables were almost similar for each muscle and that within the muscle, the composition was determined by the antagonisms between iron, the different forms of nitrogen and the proportion of the isoenzyme 5.

Whatever the muscle, effects of variations in the relative development of muscles were similar. Improvement in conformation led to a paler meat, with a lower pH and a lower water binding capacity.