# *BÉNÉDICTE LEBRET*

## *CURRICULUM VITAE*

*Born 9 May 1968, France*

*Married, 3 children*

***Research interests:*** *Animal science (growth, production systems), Muscle biology, Meat science*

### *Current Position*

**Research scientist**, permanent position (since 1994)
UMR INRA-Agrocampus Ouest PEGASE
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### *Education*

Ph.D. Degree: Dr. in Biology and Agronomy, Agrocampus-Ouest and INRA UMR SENAH, Rennes-St-Gilles. Thesis: *Growth and tissue composition in growing pigs as influenced by feeding strategy: consequences on meat quality.* 2009

Master of Science's Degree, University of Nantes: *Control and management of quality in the feed industries.* 1994

Agronomy Engineer's Degree, Ecole Nationale Supérieure d'Agronomie, Rennes, *Biochemistry and processing of animal products.* 1992

### *Publications*

- 38 original publications in peer reviewed journals
- 16 review publications in peer reviewed journals and 2 book chapters
- 90 communications at congresses or symposia with publications in proceedings, including 11 invited presentations
- Selected publications below; detailed list on Web of science (h-index: 18) or on www.prodinra.inra.fr

### *Scientific and administrative responsibilities*

#### *Internationally*

- Head of Work Package (125 person-month, 18 partners), H2020 TREASURE project (2015-2019)
- Head of Work package (172 person-month, 8 partners), FP-6 Q-Porkchains project (2007-2012)
- Deputy Section Editor (2014-present) and previously Editor (2012-2013) of the international journal Animal, section Product quality, human health and well-being
- Reviewer of manuscripts (~ 45) for peer-reviewed journals in the categories of Animal science and Food science
- Member of the scientific committee of the International symposium on the Mediterranean pig (since 2007)

- Member of PhD examination committee (Norvegian University of Life Sciences, 2011)
- Member of the European Association for Animal Production

***Nationally***

- Member (1996-2015) and Head (2001-2010) of the scientific committee of the yearly French workshop "Journées de la Recherche Porcine" (Research Swine Days)
- Head of research task (62 person-month, 8 partners), French research programme on environment-friendly pig production "Porcherie Verte" (2001-2007)
- Co-moderator of the working group on Pork quality of the UMT Porcin INRA-IFIP (since 2007)
- Member of the editorial team of the peer-reviewed journal INRA Productions Animales
- Member of PhD examination committee (Université B. Pascal, Clermont Ferrand, 2008) and of 3 PhD steering committees

***At INRA***

- Head of research team Animal growth and pork quality (15 permanent staff, MSc and PhD students, post-docs), INRA UMR SENAH (2002-2011)
- Member of the scientific committee of pig production and pork chains group (since 2004)
- Member-elect of the scientific council of INRA Phase Division (since 2011)
- Member of recruiting committee for research engineer (2000) and laboratory technicians (2007)

## *Advisor of students and visiting scientists, teaching activities*

- PhD (J. Faure, 2010-2013, 60%)
- Post-docs (A. Heyer, 2005-06, 100%; J. Wyszynska-Koko, 2008-10, 30%; R. Castellano-Perez, 2014-15, 100%)
- Visiting scientists (M. Galian, 2 months 2006, 100%; C; Delgado-Andrade, 2 months 2012, 100%)
- Teaching: ~ 6 to 10h/year, Master of Science, Agrocampus Ouest, Rennes and ISARA, Lyon. Animal (pig) science, meat quality.

## *Selection of publications*


- Picard B., **Lebret B.**, Cassar-Malek I., Liaubet L., Berri C., Le Bihan-Duval E., Hocquette J.F., Renand G. 2015. Recent advances omic technologies for meat quality management. Meat Science *in press*. doi: 10.1016/j.meatsci.2015.05.003
- **Lebret B.**, Ecolan P., Bonhomme N., Méteau K., Prunier A. 2015. Influence of production system in local and conventional pig breeds on stress indicators at slaughter, muscle and meat traits and pork eating quality. Animal, *in press*. doi:10.1017/S1751731115000609.
- **Lebret B.**, Prevolnik Povše M., 2015. Čandek-Potokar M. 2015. Muscle and fat colour. In : Handbook of reference methods for the assessment of meat quality parameters. Font-i-Furnols M., Čandek-Potokar M. (Eds). FAIM COST action, 10 p. *In press*.
- Prevolnik Povše M., Čandek-Potokar M., Gispert M., **Lebret B.** 2015. pH value and water-holding capacity. In: Handbook of reference methods for the assessment of meat quality parameters. Font-i-Furnols M., Čandek-Potokar M. (Eds). FAIM COST action, 10 p. *In press.*
- **Lebret B.**, Picard B. 2015. Les principales composantes de la qualité des carcasses et des viandes dans les différentes espèces animales. In: Numéro spécial Le muscle et la viande. Picard B. Lebret B. (Eds). INRA Productions Animales, 28, 93-98.
- **Lebret B.**, Faure J. 2015. La viande et les produits du porc : comment satisfaire des attentes qualitatives variées ? In : Numéro spécial Le muscle et la viande. Picard B., Lebret B. (Eds). INRA Productions Animales, 28, 111-114.

- **Lebret B.**, Prache S., Berri C., Lefèvre F., Bauchart D., Picard B., Corraze G., Médale F., Faure J., Alami-Durante H. 2015. Qualités des viandes : influences des caractéristiques des animaux et de leurs conditions d'élevage. In : Numéro spécial Le muscle et la viande. Picard B., Lebret B. (Eds). INRA Productions Animales, 28, 151-168.
- **Lebret B.**, Dourmad J. Y., Mourot J., Pollet P. Y., Gondret F. 2014. Production performance, carcass composition, and adipose tissue traits of heavy pigs: influence of breed and production system. Journal of Animal Science, 92, 3543-3556.
- **Lebret B.**, Ecolan P., Bonhomme N., Pollet P.Y., Durmad J.Y. 2013. Quality of fresh pork and dry-cured hams: interactive effects of pig breed (Basque or Large White) and production system (conventional, alternative or extensive). Acta agriculturae Slovenica, Supplement 4, 77-80.
- Damon M., Denieul K., Vincent A., Bonhomme N., Wyszynska-Koko J., **Lebret B.** 2013. Associations between muscle gene expression pattern and technological and sensory meat traits highlight new biomarkers for pork quality assessment. Meat Science, 95, 744-754.
- Faure J., Lefaucheur L., Bonhomme N., Ecolan P., Méteau K., Métayer-Coustard S., Kouba M., Gilbert H., **Lebret B**. 2013. Consequences of divergent selection for residual feed intake in pigs on muscle energy metabolism and meat quality. Meat Science, 93, 37-45
- Faure J., **Lebret B.**, Bonhomme N., Ecolan P., Kouba M., Lefaucheur L. 2013. Metabolic adaptation of different pig muscles to cold rearing conditions. Journal of Animal Science, 91, 1893-1906.
- Damon M., Wyszynska-Koko J., Vincent A., Hérault F., **Lebret B.** 2012. Comparison of Muscle Transcriptome between Pigs with Divergent Meat Quality Phenotypes Identifies Genes Related to Muscle Metabolism and Structure. PLoS ONE 7(3), e33763.
- Te Pas M.F.W., **Lebret B.,** Damon M., Thomsen B., Pierzschala M., Korwin-Kossakowska A., Li K., Kristensen L., Young J.F., Pedersen B., Oksbjerg N. 2012. Predicting meat quality with biomarkers. Fleischwirtschaft International, 27(4), 18-22.
- Picard B., Lefèvre F., **Lebret B.** 2012. Meat and fish flesh quality improvement with proteomic applications. Animal Frontiers, 2, 18-25.
- Gondret F., Guevel B., Com E., Vincent A., **Lebret B.** 2012. A comparison of subcutaneous adipose tissue proteomes in juvenile piglets with a contrasted adiposity underscored similarities with human obesity. Journal of Proteomics, 75, 949-961.
- Vincent A., Louveau I., Gondret F., **Lebret B.,** Damon M. 2012. Mitochondrial function, fatty acid metabolism and immune system are relevant features of pig adipose tissue development. Physiological Genomics, 44, 1116-1124.
- Sayd T., Chambon C., Laville E., **Lebret B.**, Gilbert H., Gatellier P. 2012. Early post-mortem sarcoplasmic proteome of porcine muscle related to lipid oxidation in aged and cooked meat. Food Chemistry, 135, 2238-2244.
- **Lebret B.**, Prunier A., Bonhomme N., Foury A., Mormède P., Dourmad J.Y. 2011. Physiological traits and meat quality of pigs as affected by genotype and housing system. Meat Science, 88, 14-22.
- Foury A., **Lebret B.**, Chevillon P., Vautier A., Terlouw C., Mormède P. 2011. Alternative rearing systems in pigs: consequences on stress indicators at slaughter and meat quality. Animal, 5, 1620-1625.
- Lefaucheur L., **Lebret B.**, Ecolan P., Louveau I., Damon M., Prunier A., Billon Y., Sellier P., Gilbert H. 2011. Muscle characteristics and meat quality traits are affected by divergent selection on residual feed intake in pigs. Journal of Animal Science, 89, 996-1010.
- Promeyrat A., Gatellier P., **Lebret B.**, Kajak-Siemaszko K., Aubry L., Santé-Lhoutellier V. 2010. Evaluation of protein aggregation in cooked meat. Food Chemistry, 121, 412-417.
- Bonneau M., **Lebret B.** 2010. Production systems and influence on eating quality of pork. Meat Science, 84, 293-300.
- Dourmad J.Y., Hassouna M., Robin P., Guingand N., Meunier-Salaün M.C., **Lebret B.** 2009. Influence of pig rearing system on animal performance and manure composition. Animal, 3, 606-616.
- **Lebret B.** 2008. Effects of feeding and rearing systems on growth, carcass composition and meat quality in pigs. Animal, 2, 1548-1558.
- **Lebret B.**, Heyer A., Gondret F., Louveau I. 2007. The response of various muscle types to a restriction – re-alimentation feeding strategy in growing pigs. Animal, 1, 849-857.

- Heyer A., **Lebret B.** 2007. Compensatory growth response in pigs: Effects on growth performance, composition of weight gain at carcass and muscle levels, and meat quality. Journal of Animal Science, 85, 769-778.
- Gondret F., **Lebret B.** 2007. Does feed restriction and re-alimentation differently affect lipid content and metabolism according to muscle type in pigs (*Sus scrofa*)? Comparative Biochemistry and Physiology, Part A, 147, 375-382.
- Demars J., Riquet J., Sanchez M.P., Billon Y., Hocquette J.F., **Lebret B.**, Iannuccelli N., Bidanel J.P., Milan D., Gondret F. 2007. Metabolic and histochemical characteristics of fat and muscle tissues in homozygous or heterozygous pigs for the body composition QTL located on chromosome 7. Physiological Genomics. 30, 232-241.
- **Lebret B.**, Meunier-Salaün M.C., Foury A., Mormède P., Dransfield E., Dourmad J.Y. 2006. Influence of rearing conditions on performance, behavioural, and physiological responses of pigs to preslaughter handling, carcass traits, and meat quality. Journal of Animal Science, 84, 2436-2447.
- Gondret F., Lefaucheur L., Juin H., Louveau I., **Lebret B.** 2006. Low birth weight is associated with enlarged muscle fiber area and impaired meat tenderness of the *longissimus* muscle in pigs. Journal of Animal Science, 84, 93-103.
- Damon M., Louveau I., Lefaucheur L., **Lebret B.**, Vincent A., Leroy P., Sanchez M.P., Herpin P., Gondret F. 2006. Number of intramuscular adipocytes and fatty acid binding protein-4 content are significant indicators of intramuscular fat level in crossbred Large White X Duroc pigs. Journal of Animal Science, 84, 1083-1092.
- **Lebret B**., Guillard AS. 2005. Outdoor rearing of cull sows: effects on carcass, tissue composition and meat quality. Meat Science, 70, 247-257.
- Gondret F., Combes S., Lefaucheur L., **Lebret B.** 2005. Effects of exercise during growth and alternative rearing systems on muscle fibers and collagen properties. Reproduction Nutrition Development, 45, 69-86.
- Gondret F., Lefaucheur L., Louveau I., **Lebret B.**, Pichodo X., Le Cozler Y. 2005. Influence of piglet birth weight on postnatal growth performance, tissue lipogenic capacity, and muscle histological traits at market weight. Livestock Production Science, 93, 137-146.
- **Lebret B.** 2004. Conséquences de la rationalisation de la production porcine sur les qualités des viandes. INRA Productions Animales, 17, 79-91
- **Lebret B.**, Massabie P., Granier R., Juin H., Mourot J., Chevillon P. 2002. Influence of outdoor rearing and indoor temperature on growth performance, carcass, adipose tissue and muscle traits in pigs, and on the technological and eating quality of dry-cured hams. Meat Science, 62 (4), 447-455.
- Gondret F., **Lebret B.** 2002. Feeding intensity and dietary protein level affect adipocyte cellularity and lipogenic capacity of muscle homogenates in growing pigs, without modification of the expression of Sterol Regulatory Element Binding Protein-1. Journal of Animal Science, 80 (8), 2144-2150.
- **Lebret B.**, Juin H., Noblet J., Bonneau M. 2001. The effects of two methods of increasing age at slaughter on carcass and muscle traits and meat sensory quality in pigs. Animal Science, 72, 87-94.
- Fernandez X., Mourot J., **Lebret B.**, Gilbert S., Monin G. 2000. Influence of intramuscular fat content on lipid composition sensory qualities and consumer acceptability of cured cooked ham. Journal of the Science of Food Agriculture, 80, 705-710.
- **Lebret B.**, le Roy P., Monin G., Lefaucheur L., Caritez J.C., Talmant A., Elsen J.M., Sellier P. 1999. Influence of the three RN genotypes on chemical composition, enzyme activities, and myofiber characteristics of porcine skeletal muscle. Journal of Animal Science, 77, 1482-1489.
- Fernandez X., Monin G., Talmant A., Mourot J., **Lebret B.** 1999. Influence of intramuscular fat content on the quality of pig meat -1. Composition of the lipid fraction and sensory characteristics of *m. longissimus lumborum*. Meat Science, 53, 59-65.
- Fernandez X., Monin G., Talmant A., Mourot J., **Lebret B.** 1999. Influence of intramuscular fat content on the quality of pig meat -2. Consumer acceptability of *m. longissimus lumborum*. Meat Science, 53, 67-72.
- **Lebret B.**, Lefaucheur L., Mourot J. 1999. La qualité de la viande de porc. Influence des facteurs non génétiques sur les caractéristiques du tissu musculaire. INRA Productions Animales, 12, 11-28.
- **Lebret B.**, Mourot J. 1998. Caractéristiques et qualité des tissus adipeux chez le porc. Facteurs de variation non génétiques. INRA Productions Animales, 11, 131-143.