

<sup>2</sup>Dipartimento di Medicina Veterinaria, University of Perugia, Italy

Contact: [gabriele.acuti@unipg.it](mailto:gabriele.acuti@unipg.it)

The wool market is gaining importance in recent years due to the rising interest of the textile industry to manufacture high-quality products, along with the valuable resource that wool represents by itself and the involvement it has on the biodiversity conservation. The determination of the quality parameters of wool fleece yield, fibre diameter, coefficient of variation, comfort index, brightness and luminosity are laborious, time-consuming and expensive, as they imply washing, weighing and the use of different instruments. Therefore, it would be quite useful to have an objective, reliable and fast analytical method to characterise wool according to its quality. In the present work, a feasibility study of near infra-red spectroscopy (NIRS) for the prediction of the parameters of importance in the assessment of the quality of Merino sheep wool has been carried out. A total of 127 greasy and 121 clean wool samples have been used. Wool samples were scanned in circular cups of 4 cm Ø, using a FOSS-NIRSystems 6500 NIR scanning monochromator. Spectral absorbance values were recorded in reflectance mode (400–2498 nm, every 2 nm). Spectral data were fitted to laboratory data. MPLS regression equations were developed applying several mathematical treatments in both data sets. The standard error of cross-validation (SECV) and the coefficient of determination of cross-validation ( $r^2_{CV}$ ) were used to select the best models. The comparison of the results obtained in both groups showed promising prediction ability for fibre diameter, brightness, and luminosity both in greasy and clean wool sample sets ( $r^2_{CV}$  of 0.6 vs. 0.6, 0.8 vs. 0.7, 0.8 vs. 0.7, respectively), although errors for colour-related parameters were higher in the greasy one (SECV 1.2 vs. 1.2, 10.2 vs. 2.8, 4.8 vs. 1.5, respectively). However, better results were obtained for the prediction of fleece yield in greasy wool, as compared with the clean set ( $r^2_{CV}$  0.6 vs. 0.3, and SECV 5.1 vs. 8.5, respectively). More limited results were obtained for the remaining laboratory measurements. Therefore, the possibility of getting quality parameters directly from the NIRS analysis of greasy wool samples will suppose an important saving in time and cost for farmers, wool traders and textile industries. Future works should be aimed at expanding the data sets, in search of greater variability and better distribution of the parameters of interest, to improve the precision and accuracy of the predictive models here initiated.

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## P123

### Consumers' perception of insect meal as aquaculture feed ingredient

Giulia Secci, Leonardo Bruni, Giuliana Parisi

Dipartimento di Scienze e Tecnologie Agrarie, Alimentari, Ambientali e Forestali, University of Firenze, Italy

Contact: [giulia.secci@unifi.it](mailto:giulia.secci@unifi.it)

The recently adopted Regulation No 2017/893 authorises the use of insect proteins originating from seven insect species [black soldier fly (*Hermetia illucens*), common housefly (*Musca domestica*), yellow mealworm (*Tenebrio molitor*), lesser mealworm (*Alphitobius diaperinus*), house cricket (*Acheta domestica*), banded cricket (*Gryllobates sigillatus*) and field cricket (*Gryllus assimilis*)] in feed for aquaculture fish. To date, many researchers have successfully demonstrated that insect meals (IM) can be used as feed ingredient for a variety of fresh and seawater species. However, alongside legislation and scientific knowledge, consumers show increasing interest towards animal breeding, especially for welfare and feeding items. For this reason, we decided to perform a survey (using Google Forms<sup>®</sup>) among Italian consumers, in order to understand their perception and acceptance of insects as alternative protein source for aquaculture species. Six hundred and seventy-eight answers were collected. Both males and females (47.8 and 52.2%, respectively) aged from 18 to 75 years attended the questionnaire. Firstly, people were asked for general information (gender, age, country, income) and their food attitudes; only people usually consuming fish flesh could proceed with the subsequent questions (96.5%). For 53% of the interviewees, fish, especially seawater species, represent an important food in their weekly diet, and almost 49% asserted to prefer a meal with fish rather than one without. Nevertheless, half of the people said that they are indecisive when buying fish due to allergy, heavy metals, geographical origin, pollutants and sustainability of fishery supply chain. To the question 'How do you feel knowing that fish eat insects in nature?' the majority answered not to feel nervous (97%), and only 62 people (less than 10%) assured that they would not accept IM as an ingredient for aquafeed. Nineteen people (3%) were uncertain, basically because of their lack of knowledge, while the remaining participants affirmed that they would accept IM for feeding farmed fish. Finally, almost 78% believe that the use of IM is linked to the concept of 'sustainability' mainly because its production does not directly exploit wild fish, is considered 'natural', and because people consider IM production an environmentally friendly activity. In conclusion, from the present survey, it emerged that Italian consumers seem to be ready to accept insect meal as ingredient in aquafeed.

#### Acknowledgements

Thanks to Fondazione Cassa di Risparmio di Firenze for the financial support of the research.

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## P124

### Is the European pig carcass classification grid still a valid method to select green hams for PDO circuit?

Luca Sardi<sup>1</sup>, Eleonora Nannoni<sup>1</sup>, Andrea Rossi<sup>2</sup>, Enrica Gorlani<sup>3</sup>, Andrea Bertolini<sup>3</sup>, Giulia Rubini<sup>1</sup>, Ruben Cantagallo<sup>1</sup>, Giovanna Martelli<sup>1</sup>

<sup>1</sup>*Dipartimento di Scienze Mediche Veterinarie, University of Bologna, Italy*

<sup>2</sup>*Associazione industriali delle carni e dei salumi, Milano, Italy*

<sup>3</sup>*Centro Ricerche Produzioni Animali, Reggio Emilia, Italy*  
Contact: [luca.sardi@unibo.it](mailto:luca.sardi@unibo.it)

The aim of the present work was to collect information at the slaughterhouse on the relationship between carcass composition (lean meat content assessed according to the EUROP classification grid) and the quality of the green hams. Quality was assessed based on indicators included in the product specifications for Parma ham: trimmed weight, thickness of the fat layer (measured vertically at the head of the femur -best end-), presence of fat at the 'coronet' (visually assessed), iodine number.

The research included 11 slaughter plants. In each plant, 10 slaughtering batches and about 20 green hams per batch were selected. All pigs assessed had a carcass weighing more than 110 kg, in agreement with the definition of heavy pig. Overall, 2352 green hams were evaluated. At least 25% of the selected green hams in each batch derived from a carcass classified as E in the EUROP grid (F-o-M classification). Out of them, 35.7% belonged to class E, 33.0% U, 23.3% R, 6.6% O, and 1.4% P.

In every slaughtering batch, 8 samples of subcutaneous fat (including both inner and outer fat layer) were collected, of which 4 from green hams belonging to the E class and 4 from green hams belonging to the other classes (U, R, O). Iodine number analysis is presently in progress, in order to assess if the green hams classified as E are more frequently non-compliant with Parma ham production rules compared to the green hams belonging to the other classes (U, R, O). It is worth remembering that, according to Parma ham production specifications, iodine number must be lower than 70.

As concerns the green hams classified as E, 73.7% of the hams weighed between 13 and 16 kg (which is the preferred weight class for Parma ham) whereas 11.5% had a weight below 13 kg and 14.8% weighed above 16 kg.

Based on these preliminary results, the majority of the raw hams classified as E are compliant to Parma ham production rules (at least 80% for fat thickness; 97.6% for fat at the 'coronet').

#### *Acknowledgements*

The research was funded by ASSICA (Associazione Industriali delle Carni e dei Salumi).

Raffaele Marrone<sup>1</sup>, Giorgio Smaldone<sup>2</sup>, Angela Salzano<sup>1</sup>, Rosa Luisa Ambrosio<sup>1</sup>, Anna Balestrieri<sup>3</sup>, Aniello Anastasio<sup>1</sup>, Giuseppe Campanile<sup>1</sup>

<sup>1</sup>*Dipartimento di Medicina Veterinaria e Produzioni Animali, University of Napoli Federico II, Italy*

<sup>2</sup>*Dipartimento di Agraria, University of Napoli Federico II, Portici, Italy*

<sup>3</sup>*Istituto Zooprofilattico Sperimentale del Mezzogiorno, Portici, Italy*

Contact: [raffaele.marrone@unina.it](mailto:raffaele.marrone@unina.it)

Milk provides essential nutrients and is an important source of dietary energy providing high-quality proteins and particularly fats. Mediterranean buffalo milk has a very high-fat content, twice that of cow's milk. Moreover, Mediterranean buffalo milk contains several beneficial compounds such as fatty acids, vitamins and other bioactive elements. Monitoring changes in buffalo milk composition is an important index in order to improve its supply chain and dairy products. The composition of buffalo milk reflects differences in farm management, feeding and environmental conditions. The aim of this study was to determine the effect of fresh forage on milk properties in lactating Mediterranean buffalo diet under intensive farming conditions. Mediterranean buffaloes were split into 2 groups fed with different diets: fresh feeding group (FRS) and dry feeding group (CTL). Milk samples were analysed for four months. Chemical (fat and protein content) and fatty acid compositions of each sample were determined in duplicate. Fat extraction for fatty acid composition was carried out and fatty acids were expressed as a percentage of total methylated fatty acids. Atherogenic index was also calculated. No significant differences in chemical composition between CTL and FRS milk were observed, even if fat content tended to be higher in CTL milk (average =8.17% vs. 7.99%). In the same way, no differences between FRS and CTL group regarding protein content (average =4.43%) were observed. Fatty acid composition of CTL and FRS milk did not differ, except C6:0 and C12:0, being lower in FRS. Higher contents of C18: 1n-9 cis, C18: 3n-3 in FRS milk were observed. As consequences, FRS milk presented higher levels of PUFA and MUFA (4.48% and 23.57%), lower percentages of SFA (72% vs. 76%) and a better atherogenic index (3.07 vs. 3.88). This study underlines that the use of fresh feeding in lactating Mediterranean buffalo diet is able to modify milk fatty acid composition. However, different diets did not have important effects on total fat and protein content. Fresh forage feeding may represent a low-cost technique to increase PUFA and CLAs content in milk. Studies about feeding composition are useful to increase bioactive compounds content, thus providing a tool for differentiation and improve dairy products.

## P125

### **Chemical composition and fatty acid profile of milk from Mediterranean buffaloes fed with two different diets**