

North where pig farms are widespread, the slatted flooring is the most common type of floor. Therefore the use of some materials identified by the Directive as manipulable is not simple. To prevent the occlusion of slots, only wood and compressed sawdust can be taken into account. The study aims to investigate some systems to provide wood material to the pigs in a cost effective way for the Italian pig farms. Wood essences and kind of saw timber have been selected taking into account the necessity to avoid that the health of the animals is compromised by contact or ingestion. Core of veneer poplar logs and wood sawdust pressed briquettes have been considered the best resources available. The design process of the devices have taken into account several issues, in particular the maximum interaction with material by animals and the lowest labour by the farmer to supply the material. The systems consist of a fixed structural component to install inside the pen to which logs or briquettes can be added and replaced quite effortlessly. Different devices have been designed depending on the age of the animals and tested in 3 pens with 72 post-weaning piglets and in 4 pens involving 349 growing pigs. Among the several devices tested in field trials, in post-weaning phase the system with log placed horizontally (in such a way that the animal can rotate it) and the system with fixed vertical log have resulted the most attractive. During the growing-fattening phase the wall grid containing logs of poplar timber to raise with the snout, to spin and to bite seems to be the most desirable device.

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BEEF CARCASS ANATOMICAL CUTS YIELD PREDICTION USING STANDARDIZED INDICES: PRELIMINARY RESULTS

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At present the determination of the yield at the slaughter of live animals is estimated on the basis of coefficients reported in the literature and, therefore, of public domain. There are, however, no data on the performance of the individual anatomical cuts. It represents a limitation for the planning of the business and supply to various sales channels. The aim of this study was to define standardized indices, according to gender, category and race of the animals to predict the yields at the slaughter of the individual carcass and of the different anatomical cuts. The use of an open web platform developed for the automatic data flow management of the traceability for the bovine meat chain in a cooperative with a slaughterhouse and two dissection areas of northern Italy, has allowed to extrapolate the data of a sample of 500 animals, about one-third of the number of subject slaughtered per year by the structure. Animals were divided according to race (Limousine, Charolais, French Cross-breeds, Italian cross-breeds and Italian Friesian), gender (male and female, entire and castrated) and categories (<12 months, 12-18 months, > 18 months). Statistical analysis of the data has allowed to develop the indices forecasting of the carcass weight, of the half-carcass, of the front and rear portion and its division into anatomical cuts. To improve the traceability performances of the open web platform, a new software interfaces integrating the indices will be soon developed.

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INFLUENCE OF LOW VACUUM LEVELS ON MILKING CHARACTERISTICS OF SHEEP, GOAT AND BUFFALO

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Different settings of the operating parameters (pulsator rate, pulsator ratio and vacuum) are used for milking dairy species in different parts of the world. The level of the operating vacuum in machine milking is one of the principal factors which influence the integrity of the tissues and the milk quality. High vacuum levels (>42 kPa) are often used to facilitate the opening of the teat canal by overcoming the biological closing forces within the teat sphincter, but can result in severe machine-induced teat tissue damage. In this study characteristics and performances of mechanical milking at low vacuum levels have been investigated in different dairy species. Milking times and milk productions have been obtained from milk emission curves, recorded by electronic milk-meters (LactoCorder®) during the milking at different vacuum levels of sheep, goats and buffaloes. The results of the comparative experiments clearly indicate that a low vacuum level modifies the kinetics of milk emission, the machine-on time and, thus, the throughput of milking system, in all the dairy species considered. Milk yield was satisfactory at any level tested, showing that low vacuums can be adequate to completely empty the udder. Slight differences were found across species concerning the increase in the milking time per animal associated with low levels of milking vacuum. Our study represents a contribution to encourage the decrease of the working vacuum during mechanical milking, also for those dairy species generally considered hard to be milked, as buffaloes. Milking should be performed applying the lowest vacuum level, compatible with not excessively prolonging milking time, in line with the animal welfare on dairy husbandry.