

*SESSION*

**RABBIT PRODUCTION**

# Meat quality characteristics in local population of rabbit reared with organic system

G. Paci<sup>1</sup>, A. Schiavone<sup>2</sup>, E. Lisi<sup>1</sup>, P.G. Peiretti<sup>3</sup>,  
M. Bagliacca<sup>1</sup>, P.P. Mussa<sup>2</sup>

<sup>1</sup> Dipartimento Produzioni Animali, Università di Pisa, Italy

<sup>2</sup> Dipartimento Produzioni Animali, Epidemiologia ed Ecologia, Università di Torino, Italy

<sup>3</sup> Istituto Scienze delle Produzioni Alimentari, CNR, Grugliasco, Italy

*Corresponding author:* Gisella Paci. Dipartimento di Produzioni Animali. Viale delle Piagge 2, 56100 Pisa, Italy  
Tel: +39 050 3130428 – Fax: +39 050 3139433 – Email: gpaci@vet.unipi.it.

## ABSTRACT

Aim of the research was to test the effect of different housing systems, organic and intensive, on meat quality of a rabbit local breed/population of Tuscany, characterized by low growing. 60 rabbits of this local rabbits were housed in colony cages, at open air (Group A) under organic system, according to an official organism of certification which states the exclusive use of local strains; 60 rabbits of the same local breed (Group B) and 60 hybrids (Group C) were housed in colony cages under conventional system. The rabbits were *ad libitum* fed with an organic diet (alfa-alfa hay and pellet). At the same live weight (2400 g) but at different ages (local population: 102 days; hybrids: 90 days) 30 animals of each group were slaughtered. For each group samples of *Longissimus Dorsi* (LD) were taken to evaluate pH, colour, Water Holding Capacity (WHC) (n=25), nutritional value, fatty acids composition and lipid oxidation (n=4). Meat of Group A animals, showed different physical meat properties compared with the other groups. In Group A the lowest muscular acidification and the highest value of WHC were found (pHu: 5.79 vs. 5.59 and 5.63, WHC: 52.3 vs. 47.8 and 47.9, for Group A, B and C, respectively, P<0.05). The muscles of Group A showed the lower lightness than the others (L\*: 54.4 vs. 59.1 vs. 63.4, P<0.05). The rabbit population, reared under organic and conventional system, showed more red meat than hybrids in relationship with the higher redness (a\*: 3.9 and 3.3 vs. 1.9, respectively, P<0.05). Colour surface measurement led to differences in Chroma and Hue (C\*: 5.51 and 5.09 vs. 3.4 and H\*: 38.3 vs. 48.6 vs. 57.7 for Group A, B and C, respectively; P<0.05). In Group A the higher pH value, in relationship with a higher oxidative metabolism and myoglobin level, produced a higher redness and degree of saturation (C\*) so that meat appeared darker (H\*), probably due to the genotype and physical activity for a greater reactivity to stimuli of environment. The same genotype showed more dark meat (H\*) than that of hybrids, also when reared under conventional system, probably in relationship the concentration of myoglobin and type of fibres which could characterize the population.