



## Meat and Poultry Quality

### 133 - EFFECT OF DIETARY SUPPLEMENTATION WITH SILKWORM (*BOMBYX MORI* L.) OIL ON FATTY ACID PROFILE OF RABBIT MEAT

A. Dalle Zotte\*, Y. Singh<sup>1</sup>, M. Cullere<sup>2</sup>, Z. Gerencsér<sup>3</sup>, Z. Matics<sup>3</sup>, S. Tenti<sup>2</sup>, S. Cappellozza<sup>4</sup>

<sup>1</sup>Animal Medicine, Production and Health, <sup>2</sup>Animal Medicine, Production and Health, Padova University, Legnaro, Italy,

<sup>3</sup>Faculty of Agricultural and Environmental Sciences, Kaposvár University, Kaposvár, Hungary, <sup>4</sup>Research Centre for Agriculture and Environment-Sericulture, Council for Agricultural Research and Economics, Padova, Italy

antonella.dallezotte@unipd.it

**Objectives:** The experiment was conducted to investigate the effect of the dietary incorporation of oil extracted from silkworm (*Bombyx mori* L.) pupae in rabbit diets as a complete replacement of sunflower oil, on the fatty acid (FA) composition of rabbit hind leg meat.

**Materials and Methods:** For this purpose, sixty-four 7-week-old Pannon White rabbits were assigned to two feeding groups (n=32 rabbits/group): the first group received a standard commercial pelleted diet containing 1.30% sunflower oil (Control), and the second group received a diet in which sunflower oil was completely replaced with 1.30% silkworm oil (SWO). Rabbits were pair-housed in wire-mesh cages (n=16/treatment) and fed with the experimental diets until slaughter (10 weeks of age). After slaughter, one rabbit/cage was randomly selected (n=16 rabbits/group) and the hind legs were excised and used for FA profile determination. Data was analysed by a one-way ANOVA with diet as the fixed effect.

**Results:** The dietary inclusion of SWO affected the FA profile of the hind leg; both *n*-6 and *n*-3 fractions were affected; meat from the SWO rabbits displayed a lower *n*-6 and a higher *n*-3 percentage, respectively (P<0.0001), compared to Control group. This led to a lower, thus better, *n*-6/*n*-3 ratio in rabbits fed with the SWO diet. The main single FAs responsible of this change were linoleic (P<0.0001) and linolenic (P<0.0001) acid among the *n*-6 and the *n*-3 FA, respectively. Despite this, the total SFA, MUFA and PUFA proportions remained unaffected by the dietary treatment, but thrombogenic index of meat was improved (P<0.0001) with the dietary incorporation of SWO oil.

**Conclusion:** SWO showed to be a promising feed ingredient for growing rabbits as it improved the healthiness of rabbit meat lipids.

**Keywords:** Silkworm oil, Rabbit nutrition, Rabbit meat, Fatty acids