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Black soldier fly larvae (*Hermetia illucens*) are a suitable protein source for poultry. However the effect of live black soldier fly larvae (BSFL) supplementation on growth performance and behaviour has never been demonstrated and quantified in turkeys. Wild turkeys eat insects during the first two weeks of life which is in contrast with commercially fed crumbs or pellets. Damaging pecking behaviour is a severe problem in turkeys. More lively diets may improve natural behaviour and decrease damaging pecking behaviour. The aim of the experiment was to stimulate natural behaviour of young non-beak treated turkeys by supply of live BSFL, and thus avoid damaging pecking behaviour. Two treatments with seven replicates were studied in 14 floor pens (1.5 m²/pen and 20 turkeys) from 0 to 35 days of age. Control groups were fed commercial diets and BSFL groups received live BSFL. The daily BSFL intake was calculated to be 10% of the expected daily feed intake (based on fresh weight) and dietary nutrient composition was adjusted in a way that control and BSFL groups were fed iso-nutritious. Daily feed intake and body weight gain of BSFL groups were significantly higher compared to control groups resulting in a significantly higher body weight at five weeks of age (2,190 vs 2,015 g; $P=0.003$) and a significantly lower feed conversion ratio. Feather and skin damage tended to be lower in the BSFL groups until three weeks of age and at 4 and 5 weeks a significant difference in favour of the BSFL groups was observed. In the first week there was a tendency for more foraging related behaviour for the BSFL groups and in the third and fifth week BSFL groups showed less foraging related behaviour compared to control groups. Provision of BSFL slightly reduced aggressive pecking directed at the back and tail base.

Evaluation of carcass and meat traits of Muscovy duck fed with black soldier fly partially defatted meal**Session 7**
Effect of insect diets on animals 7**M. Gariglio¹, S. Dabbou¹, C. Caimi¹, I. Biasato¹, F. Gai², M.T. Capucchio¹, E. Biasibetti¹, M. Birolo³, A. Trocino⁴, R. Vincenzi⁵, M. Meneguz¹, L. Gasco^{1,2} and A. Schiavone¹**¹University of Torino, School of Agriculture and Veterinary Science, Largo P. Braccini, 2, 10095 Grugliasco (TO), Italy,²Institute of Science of Food Production, National Research Council, Largo P. Braccini, 2, 10095 Grugliasco (TO), Italy,³University of Padova, Department of Agronomy Food Natural Resources Animal and Environment, Viale dell'Università, 16, 35020 Legnaro (PD), Italy, ⁴University of Padova, Department of Comparative Biomedicine and Food Science, Viale dell'Università, 16, 35020 Legnaro (PD), Italy, ⁵A.I.A. Agricola Italiana Alimentare S.p.A., via Val Pantena, 18G, 37142 Verona (VR), Italy; marta.gariglio@unito.it

The aim of this study was to evaluate the carcass characteristics and breast meat quality in Muscovy duck (*Cairina moschata domestica*) fed different inclusion levels of a partially defatted black soldier fly larva (BSF) meal. A total of 256 Muscovy ducklings (average live weight, LW: 71.32±2.70 g) were reared from day 3 to day 48 and randomly allotted in 32 pens (8 replicates/treatment). Four different diets were formulated with increasing substitution level of corn gluten meal with BSF larva meal (0, 3, 6 and 9%; BSF0, BSF3, BSF6 and BSF9, respectively) and divided in 3 feeding phases: starter (1-14 days), grower (14-35 days) and finisher (35-48 days). At day 48, 2 animals/replicate were slaughtered and dissected to determine their carcass yields. The weights of spleen, bursa of Fabricius, liver, heart and abdominal fat were recorded. Breast and thigh muscles were then excised from 16 ducks/treatment and weighted. Ultimate pH (pHu) and L*, a*, b* colour values were then measured on breast muscle. The collected data were tested by means of one-way ANOVA evaluating the effect of dietary BSF inclusion level by polynomial contrasts. Significance was declared at $P<0.05$. The inclusion of BSF did not affect final LW (2,515.68±92.42 g on average). Hot and cold carcass weights showed a quadratic response ($P<0.05$) to increasing BSF larva meal, with a minimum corresponding to BSF6; however, refrigeration losses were not affected by treatments. Weight of spleen, bursa of Fabricius, liver and heart did not differ among treatments. The weight of abdominal fat showed a quadratic response to increasing BSF meal with a minimum corresponding to BSF6 group ($P<0.05$). Breast and thigh yields, pHu and L*, a*, b* colour values did not differ among groups. With the exception of BSF6, the inclusion of BSF meal did not affect meat traits and carcass characteristics, confirming the potential use of BSF meal in Muscovy duck diets.