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**Guest Editors: Fulvia Bovera (Coordinator),
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recorded every two weeks from hatching to the age of 27 weeks. Gompertz model was used to define the growth rate. The performance of laying hens was monitored over a period of 6 months. To evaluate fertility and hatchability, all eggs laid in 2 consecutive weeks were hatched for 12 weeks. Data analysis was carried out with the Excel software. Allelic richness was 3.6 and observed and expected heterozygosity were 0.68. Mean live weights for cocks and hens were 2779 ± 233 g ($n = 79$) and 2089 ± 195 g ($n = 98$). Growth rates in the linear phase were 26.95 ± 3.19 g/day and 16.63 ± 1.90 g/day for male and female birds. In egg collection period for hatch mean 179.5 eggs were taken. Fertility and hatchability were 87.2% and 92.3%. The overall mean chick survival rate to six months of age was 4.6%. The age at first lay ranged between 5 and 6 months, and egg number/month was 14.5, mean egg weight was 60 ± 3 g and laying percentage resulted in 51.6% (max: 76.2%). These results provide an important insight on the genetic and productive characteristic of this local poultry breed that can be used for managing new mating schemes aimed to preserve variability and increase productivity.

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P045

Genetic diversity, productive and reproductive performance in Italian chicken breed Bionda Piemontese

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Bionda Piemontese (BP) is a local slow-growing poultry breed that is mainly reared for meat; hens are also bred for egg production. In this study, the genetic diversity, productive and reproductive performance were examined. The birds were kept in standard environmental conditions at the Poultry Conservation Centre of the University of Turin (Italy). At hatching, 218 chicks were weighed, labelled with a wing metal tag. At six weeks of age, birds were separated by sex and transferred to growing pens with access to an external paddock (20 birds/pen). The birds always had free access to water and were fed with standard commercial starter diet *ad libitum* (0–6 weeks) followed by a growing diet. All birds were genotyped by a set of 14 microsatellite markers

selected for their variability. The body weight (BW) was recorded individually every two weeks from hatching to the age of 27 weeks, for a total of 14 weightings. Gompertz model was used to define the growth rate. The performance of laying hens was monitored over a period of 6 months. To evaluate fertility and hatchability, all eggs laid in 2 consecutive weeks were hatched for 12 weeks. Data analyses were carried out with the Excel software.

The results showed a low genetic variability with an allelic richness of 3.3 but a good individual variability: the observed and expected heterozygosity were 0.675 ± 0.040 and 0.680 ± 0.015 , respectively, Fis index was 0.016. The growth performance was good: the mean live weights for cocks was 2797 ± 253 g ($n = 102$) and for hens 2226 ± 249 g ($n = 116$). The growth rates in the linear phase resulted 26.47 ± 3.19 g/day and 18.42 ± 2.63 g/day for male and female. The fertility and hatchability were 86.5% and 94.2%, respectively showing a good reproductive performance. The mean chick survival rate to six months of age was 4.6%. In egg collection period for hatch mean 184.5 eggs were taken; in total 1107 eggs were collected (6 repetitions). The egg production was lower than commercial layer but consistent with local breed: the age at first lay ranged between 5 and 6 months and Iegg number/month was 14.5, egg weight mean 61 ± 3 g and laying percentage 51.6% (max: 70.7%). In conclusion, the results highlight that BS is local slow-growing and dual-purpose breed with good productive performance.

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P046

Dynamic profile of active metabolic pathways in the subcutaneous fat tissue of Holstein cows during early lactation

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Early lactation is a challenging time for dairy cows, which have to simultaneously cope with milk production and body maintenance. The rapid increase in energy requirements is only partially met by feed and cows enter in a state of negative energy balance (NEB),