



**BREEDING PERFORMANCE IN THE ITALIAN LOCAL BREED  
MERICANEL DELLA BRIANZA**

**S. P. Marelli<sup>1</sup>, C. Cassinelli<sup>2</sup>, L. Zaniboni<sup>2</sup>, M. G. Mangiagalli<sup>1</sup> and S. Cerolini<sup>2</sup>**

<sup>1</sup>DSA Department, <sup>2</sup>VSA Department, Università degli Studi di Milano, Italy

The structural changes in poultry production that occurred in the last 50 years brought the almost total use of highly specialized hybrids and the genetic resources inherent in indigenous breeds were left to fancy breeders. In Italy, 90 local avian breeds were described, the majority (61%) were classified extinct and only 8.9% were widely distributed (Zanon and Sabbioni, 2001). Therefore, efforts for conservation of Italian avian breeds are urgently required.

The aim of this study was to record the breeding performance of the Italian local breed *Mericanel della Brianza* and multiply a small population. The present study is the fundamental preliminary step to develop a conservation program. *Mericanel della Brianza* is a bantam Italian chicken breed historically present in the rural area Brianza (Milan, North of Italy) and is included in the Italian Standard of Avian Breeds. Some birds were acquired in a few reproductive seasons from a local fancy breeder. Fourteen females and eight males were available at the beginning of the reproductive season in 2009 and housed in controlled environment from March to June at the Animal Production Centre, Poultry Unit (University of Milan, Lodi). Eight families (1 male/1-2 females) were kept in floor pens. Birds received a photoperiod of 15L:10D and were fed *ad libitum* a standard commercial diet for chicken breeders. Egg production and egg weight were recorded daily in each pen. Eggs were stored at 18 °C and set every two weeks. Fertility and early embryo mortality were recorded on the 7th day of incubation by candling. Hatchability was recorded and eggs not hatched were opened to record late embryo mortality. Mean egg production was 37% and variations were recorded during the reproductive period (range from 20 to 50%). In total, 393 eggs were collected, only 6 discarded, and 387 set. Mean egg weight was 33.4±3.5 g, and no variation was recorded during the reproductive period. Six successive incubations were performed from the 30th of March to the 1st of June. High fertility values were recorded in the first two incubations, 94 and 87%, and the overall mean fertility value was 78.5%. In contrast, hatchability was low (mean = 39.0%) due to a high proportion of dead embryos (mean = 39.5%). Embryo mortality occurred mainly between day 2 and 7 of incubation and during hatch, from day 19 to 21. In total, 151 live chickens hatched. Variations in hatchability were recorded during the reproductive period; the highest values were recorded in incubations 1 and 2, 69 and 60% respectively, and a large decrease was observed in later incubations. Large variations in egg production, fertility, hatchability and embryo mortality were also found among families. The best reproductive performance was recorded in pen 8: 34 eggs/female; 100% fertility; 73.5% hatchability and 26.5% embryo mortality; the worst reproductive performance was recorded in pen 14: 6 eggs/female; 16.7% fertility; 0% hatchability; 16.7% embryo mortality. Breeding performance in *Mericanel della Brianza* chickens was therefore highly variable, and the present results will be considered in order to improve egg production and hatchability in the next 2010 reproductive season.

**Keywords:** chicken breed, conservation, breeding

**ZANON, A., and SABBIONI A.** (2001) Identificazione e salvaguardia genetica delle razze avicole italiane. *Annali Facoltà Medicina Veterinaria di Parma*, 21: 117-134.