

**CONSERVATION OF BIODIVERSITY IN ITALIAN POULTRY BREEDS:  
deepening and monitoring  
TuBAvi-2**



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**Breed data sheet**

**ANCONA**

*Sp. Gallus gallus domesticus*

**Origin and morphological,  
genetic, reproductive,  
and productive traits**

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**FONDO EUROPEO AGRICOLO PER LO SVILUPPO  
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**MINISTERO DELL'AGRICOLTURA  
DELLA SOVRANITÀ ALIMENTARE  
E DELLE FORESTE**





The presented data were registered in nucleus populations of Black mottled Ancona conserved at the University of Perugia (UniPG) and at the University of Pisa (UniPI).

Latest update: February 10<sup>th</sup>, 2026



# Ancona

*Sp. Gallus gallus domesticus*

**Breed data sheet: origin and morphological, genetic, reproductive, and productive traits**

## Breed origin and development

|                                    |                             |
|------------------------------------|-----------------------------|
| Name of the breed                  | Ancona                      |
| Synonyms or local names            | -                           |
| Geographic origin                  | Italia Centrale             |
| Geographic distribution            | Marche, Lazio, and Umbria   |
| Estimated total population size    | 379 (2021, Castillo et al.) |
| Extinction risk status (FAO, 1998) | Threatened conserved        |
| Any other specific information     | Light breed                 |

|  |
|--|
| Historical origin  |
| <p>Ancona breed originated in central Italy. Imported to England from Ancona around 1848, it underwent a careful selection especially to obtain a colouring with regular spotting. In fact, the native Ancona had the coat with many irregularly arranged white feathers. It was in 1880 that the breeder Mr. M. Cobb managed to obtain what he wanted and presented a group of Ancona at an exhibition. The Ancona with rose comb was presented in 1910, at an exhibition in Birmingham. In the Standards of some countries there are also varieties with pink compound comb.</p> |

## Qualitative and quantitative morphological traits in adult breeders

### Discrete or qualitative traits

|  |   |
|--|---|
| Feather morphology                         | Normal  |
| Feather distribution                       | Normal  |
| Plumage structure                          | Abundant, quite soft and well adherent, with large and rounded feathers with a stiff shaft  |
| Plumage colours                            | Black mottled, Blue mottled   |
| Colour features                            | Bicolour, without sexual dimorphism   |
| Chick plumage colour                       | Yellow and black  |
| Comb type                                  | <p><b>Simple comb:</b> in the male, red, well-developed and upright. The well-formed blade follows the line of the head, without getting too close to the nape. In the female the comb falls gracefully to one side after the second spike.</p> <p><b>Rose comb:</b> red, rather small, finely pearly; wider at the front, it narrows towards the back; medium-length conical rear spike, approximately horizontal.</p> |
| Comb spikes                                | <b>Simple comb:</b> Five regularly formed spikes, wide at the base, with quite deep serrations. Except for the first, the spikes are of equal height and width, forming a regular curve.  |
| Ear-lobe colour                            | Ivory to cream white, oval, middle-sized, smooth, and well adherent to the face.  |
| Beak colour                                | Yellow with black streaks on the top, strong and slightly arched.   |
| Iris colour                                | Orange to red   |
| Muffs                                      | Absent  |
| Beard                                      | Absent  |
| Tuft                                       | Absent  |
| Skin colour                                | Yellow  |
| Shank colour                               | Yellow with slate to black speckles   |
| Shank feathering                           | Free from feathers  |
| Skeletal variants                          | -   |
| Other specific and distinct visible traits | -   |

|   |
|---|
| Colour pattern  |
| <p><b>Black mottled:</b> in the male and in the female the plumage is bright black with metallic green sheen. The pattern is formed by V-shaped white pearls at the tip of some feathers, distributed as regularly as possible and not too big. Approximately, the proportion of the pearls on the plumage is one feather every three. In the male, the proportion is one every five on the back, and one every two in neck and saddle hackles, where the spot is smaller. Main tail, sickles, and flight feathers must all have the white tip. The black ground must always prevail, white must be pure and as clearly as possible separated from the black. Shafts follow the color of the drawing. Tipping is regularly aligned at the wing bands and at the end of the secondaries.</p> |

Down is dark slate.

**Blue mottled:** in the male and in the female, the ground colour is light grey/blue. The ground colour must be as even as possible and predominant. Darker cape and saddle are tolerated in both the male and the female. Down is grey. The tipping pattern is the same as in the Black.

### Quantitative traits

| Parameters               | Male |      | Female |      |
|--------------------------|------|------|--------|------|
|                          | Min  | Max  | Min    | Max  |
| Body weight (g)          | 1826 | 2500 | 1254   | 2390 |
| Body length (cm)         | 42.0 | 49.0 | 36.0   | 43.0 |
| Chest circumference (cm) | 33.0 | 41.0 | 29.0   | 38.5 |
| Shank length (cm)        | 10.0 | 12.0 | 8.0    | 10.5 |
| Shank diameter (cm)      | 1.2  | 1.7  | 0.9    | 1.5  |
| Wing span (cm)           | 45.0 | 59.0 | 38.0   | 46.0 |

### Genetic traits

#### Characterisation of the breed with Single Nucleotide Polymorphisms (SNPs)

|  |   |
|--|---|
| Molecular marker                       | Affymetrix Axiom 600K Chicken Genotyping Array  |
| Laboratory that performed the analyses | Department of Agronomy, Food, Natural Resources, Animals and Environment (DAFNAE)<br>University of Padua                                |
| Analysed parameters                    | MAF: minor allelic frequency<br>Ho: observed heterozygosity<br>He: expected heterozygosity<br>F <sub>HOI</sub> : inbreeding coefficient |

| Year |      | N** | MAF   | Ho    | He    | F <sub>HOI</sub> |
|------|------|-----|-------|-------|-------|------------------|
| 2019 | Mean | 24  | 0.267 | 0.263 | 0.274 | 0.284            |
|      | SD*  |     | 0.242 | 0.181 | 0.187 | 0.100            |

\*SD: standard deviation; \*\*N: number of samples

## Characterisation of nucleus populations with microsatellites and mating plans

|  |   |
|--|---|
| Molecular marker                       | Microsatellites (26 markers)  |
| Laboratory that performed the analyses | Laboratory of Animal Molecular Genetics<br>Department of Veterinary Science (DSV)<br>University of Turin  |
| Analysed parameters                    | Ne: effective number of alleles<br>Na: observed number of alleles<br>I: Shannon diversity index<br>H-Ind: individual variability index<br>Ho: observed heterozygosity (average H-Ind)<br>He: expected heterozygosity<br>F: fixation index<br>P: average kinship index |
| Indexes used to schedule mating plans  | H-Ind<br>P  |

| Year |      | UniPG nucleus population |       |       |       |       |       |       |       |
|------|------|--------------------------|-------|-------|-------|-------|-------|-------|-------|
|      |      | N**                      | Na    | Ne    | I     | Ho    | He    | F     | P     |
| 2022 | Mean | 19                       | 2.769 | 2.002 | 0.731 | 0.396 | 0.432 | 0.085 | 0.587 |
|      | SE*  |                          | 0.162 | 0.099 | 0.053 | 0.037 | 0.029 | 0.053 | 0.010 |
| 2023 | Mean | 9                        | 2.77  | 2.00  | 0.73  | 0.40  | 0.43  | 0.09  | 0.59  |
|      | SE*  |                          | 0.16  | 0.10  | 0.05  | 0.04  | 0.03  | 0.05  | 0.10  |
| Year |      | UniPI nucleus population |       |       |       |       |       |       |       |
|      |      | N**                      | Na    | Ne    | I     | Ho    | He    | F     | P     |
| 2020 | Mean | 38                       | 2.481 | 1.652 | 0.546 | 0.321 | 0.330 | 0.020 | 0.701 |
|      | SE*  |                          | 0.149 | 0.074 | 0.048 | 0.034 | 0.029 | 0.040 | 0.005 |
| 2022 | Mean | 35                       | 2.96  | 1.66  | 0.58  | 0.321 | 0.34  | 0.06  | 0.70  |
|      | SE*  |                          | 0.25  | 0.10  | 0.06  | 0.043 | 0.04  | 0.05  | 0.01  |

\*SE: standard error; \*\*N: number of samples

## Reproductive and productive quantitative traits

### Oviposition, brooding and incubation data

|   |         |
|---|---------|
| Age at sexual maturity of hens (weeks)    | 24-25   |
| Length of first oviposition cycle (weeks) | 54      |
| Annual egg production per hen (min-max)*  | 150-177 |
| Maximum oviposition (%)*                  | 86      |
| Average clutch size (min-max)             | N.a.**  |
| Clutch interval (days)                    | N.a.**  |
| Incubation length (days)                  | 21      |

\*As measured during the first year of age, min-max of family line

\*\*N.a.: not available information

### Egg-quality traits

| Parameters     | First oviposition cycle* |      | Second oviposition cycle** |      |
|----------------|--------------------------|------|----------------------------|------|
|                | Min                      | Max  | Min                        | Max  |
| Egg weight (g) | 43.7                     | 58.2 | 44.7                       | 60.0 |
| Shell colour   | White                    |      |                            |      |

\* Total n. of measured eggs: 391; \*\* Total n. of measured eggs: 247

| Parameters (sample measurement) | Min  | Max   |
|---------------------------------|------|-------|
| Egg weight (g)                  | 43.7 | 58.2  |
| Shell weight (g)                | 4.5  | 6.3   |
| Albumen weight (g)              | 24.8 | 34.1  |
| Yolk weight (g)                 | 14.2 | 21.35 |
| Egg Shape Index*                | 68.2 | 85.2  |

\* Egg Shape Index (ESI) = short diameter/long diameter x 100

### Reproductive traits

| Incubation parameters           | First oviposition cycle |      | Second oviposition cycle |      |
|---------------------------------|-------------------------|------|--------------------------|------|
|                                 | Min*                    | Max* | Min*                     | Max* |
| Fertility (% incubated eggs)    | 80                      | 100  | 76                       | 100  |
| Hatchability (% fertile eggs)   | 79                      | 90   | 86                       | 100  |
| Hatchability (% incubated eggs) | 68                      | 78   | 61                       | 100  |

\*Per family line

### Body weight and growth data

| Age (weeks)  | Male weight (g) |       | Female weight (g) |       |
|--------------|-----------------|-------|-------------------|-------|
|              | Average         | SD*   | Average           | SD*   |
| 0 (hatching) | 39.4            | 2.4   | 34.9              | 2.8   |
| 8            | 621.9           | 101.6 | 536.8             | 53.5  |
| 12           | 977.7           | 103.4 | 825.1             | 68.8  |
| 16           | 1221.6          | 153.9 | 1021.3            | 88.9  |
| 26           | 1935.4          | 161.3 | 1510.0            | 151.3 |
| 34           | 2137.1          | 203.6 | 1672.1            | 219.6 |

\*SD: standard deviation

### Mortality

| Age (weeks) | Average (%) |        |
|-------------|-------------|--------|
|             | Male        | Female |
| 1-8         | 3.8         | 0      |
| 8-20        | 13.3        | 3.8    |
| 20-70       | 15.4        | 4.0    |

### Slaughter data (age: 140 days)

| Slaughter parameters            | Male    |     | Female  |     |
|---------------------------------|---------|-----|---------|-----|
|                                 | Average | SD* | Average | SD* |
| Live weight (g)                 | 1950    | 10  | 1800    | 10  |
| Carcass weight (eviscerated, g) | 1306    | 47  | 1188    | 30  |
| Carcass yield (eviscerated, %)  | 67      |     | 66      |     |

\*SD: standard deviation

## Rearing traits

|   |   |
|---|---|
| Breed type  | Mediterranean, rural, rustic, lively and strong chicken |
| Growth speed (precocious vs tardive)              | Tardive   |
| Feathering speed (precocious vs tardive)          | Precocious  |
| Broodiness  | Low   |
| Parental care attitude                            | Yes   |
| Ease of breeding                                  | Yes   |
| Male:female ratio for breeding                    | 1:8 – 1:10  |
| Tolerance or resistance to diseases and parasites | Not available   |
| Tolerance to extremes of temperature              | Not available   |
| Reported uses (meat, eggs)                        | Primary: eggs<br>Secondary: meat                        |

## Ancona male and female

### Black mottled



Experimental Poultry  
and Rabbit Farm, UniPG



Experimental Poultry  
and Rabbit Farm, UniPG



Poultry Breeding Farm  
Podere Le Querciole, UniPI



Poultry Breeding Farm  
Podere Le Querciole, UniPI

### Bibliography

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[https://ec.europa.eu/agriculture/rural-development-2014-2020\\_en](https://ec.europa.eu/agriculture/rural-development-2014-2020_en)

**Ministry of agriculture, food sovereignty and forestry** –  
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Conservation, use and sustainable development of genetic resources  
in agriculture



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