PHENOTYPICAL CHARACTERISATION OF SOME ITALIAN TURKEY (Meleagris gallopavo) BREEDS.

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Abstract: Turkeys (Meleagris gallopavo) genetic diversity is in danger both in meat production systems and in the wild where subspecies integrity is at risk. Product characterization and differentiation could be an effective strategy to supply economical support in pure breeds conservations strategies planning. Morphological traits are easily perceptible and could successfully be used in slow growing pure breeds turkey promotion policies. The aim of this research is to characterise through morphometrical analysis and linear scoring phenotypic traits of three traditional Italian turkey breeds. 27 birds have been measured, weighed and scored in two different farms (4 Nero d’Italia NI, 11 Brianzolo BI, 12 Euganei EU). Recorder traits have been: feather colour, beard presence, skin colour (L* a* b*), shank colour (L* a* b*), body weight, shank length, body length, keel length, shank girth. Body condition BC and breast muscles development (BMD) parallelism have been scored. Data have been analysed using SAS mean and GLM procedures. Feather colour is breed specific black NI, bronze/light bronze BI, bronze EU. Shank colour is breed specific in L*(BI=62.65, EU=48.06, NI=40.53), diet influence have been recorded; a* and b* differentiate NI from BI and EU birds. Weight: the heaviest breed is NI, sexual dimorphism has been recorded in all the breeds (8.35♂, 2.76♀ NI; 5.24♂, 3.17♀ BI; 4.09♂, 2.16♀ EU). BC and BMD do not vary among breeds (BC=1, BMD=1). Shank length, body length, keel length and shank girth vary according to the breed and the sex of the measured birds. Morphological and conformational differences have been investigated, further analysis are needed to determine selection strategies for breeds conservation and traditional breeds products differentiation.

Keywords: Turkey breeds, morphometry, biodiversity, traditional products

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ITALIAN TURKEY (Meleagris gallopavo) BREEDS

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Introduction
Turkey (Meleagris gallopavo) genetic diversity is at risk both in meat production systems (Kamara et al., 2007) and in the wild where subspecies integrity is at risk (Mock et al., 2002). Product characterization and differentiation could be an effective strategy to supply economical support to pure breeds conservation strategies and planning. Morphological traits are easily observed and could successfully be used in slow growing pure breed turkey promotion policies.

Aim
The aim of this research is to characterise through morphometrical analysis and linear scoring phenotypic traits of three traditional Italian turkey breeds.

Materials & Methods
27 birds have been measured, weighed and scored in two different farms (4 Nero d’Italia, 11 Brianzolo, 12 Euganei). Recorded traits were: feather colour, beard presence, skin colour (L*, a*, b*), shank colour (l*, a*, b*), body weight, shank length, body length, keel length, shank girth, body condition BC and breast muscle development (BMD) were scored. Data have been analysed using SAS Mean and GLM procedures.

Results and discussion
Feather colour is breed specific: black NI, bronze/light bronze BI, bronze EU. Shank colour is breed specific in L*[B]=62.65, EU=48.06, NI=40.53 and diet effects were recorded; a* and b* differentiate NI from BI and EU birds. The heaviest breed is NI and sexual dimorphism was recorded (kg) in all the breeds (8.35♂, 2.76♀ NI; 5.24♂, 3.17♀ BI; 4.09♂, 2.16♀ EU). BC and BMD mean scores did not vary among breeds (BC=1, BMD=1). Shank length, body length, keel length and shank girth vary according to the breed and the sex of the measured birds.

Conclusions
Morphological and conformational differences have been investigated and further analyses are needed to determine selection strategies for breed conservation and traditional breed product differentiation.

