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DNA MICROSATELLITES ASSOCIATED WITH MEAT COLOR TRAITS IN CHIANINA CATTLE: PRELIMINARY RESULTS IN *TRICEPS BRACHII* AND *SEMITENDINOSUS* MUSCLES

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Identification of QTL has been reported for several traits in cattle. However, data concerning meat quality traits, such as color, tenderness and chemical composition, are scarce. Current research aims to establish statistical association between DNA microsatellites and meat color traits. Heightyseven young Chianina non-consanguineous bulls raised in Tuscany on two breeding-farms were analysed; they were chosen according to their genealogical data, in order to form paternal half-sib groups. Meat color traits, before and after 48 h of storage, were analysed on *Triceps brachii* and *Semitandinosus* muscles, using the following parameters: lightness (L*), redness (a*), yellowness (b*), Croma (C*) and Hue (H*). DNA was purified from 20-ml samples of peripheral blood using a standard method. For this study 25 microsatellites were analyzed. Amplified fragments were separated using an ABI PRISM 310 automated sequencer. For each locus, average values of considered parameters were calculated in all the subjects carrying a given allele; these were compared statistically with the average values of subjects not carrying the allele, and the significance of the difference was estimated using the J.M.P. computer programme. Meat from *Semitendinosus* muscle showed values of L*, b* and H* higher than those highlighted for *Triceps brachii* muscle. On the other hand, a* and C* showed a similar pattern for both muscles. Results before and after storage were consistent, with the exception of a* in *Semitendinosus* muscle (with lower values detected after storage). The study revealed several microsatellites with alleles significantly linked to meat color traits. In *Triceps brachii* muscle, highly significant associations ($P<0.001$) were detected for a*, b*e C* measured after storage. In particular, for the BMS1300 microsatellite marker, subjects carrying the allele 3 showed higher values of the aforementioned parameters respect with those highlighted by non-carriers subjects. On the other hand, subjects carrying allele 4 in the ETH 225 marker showed significantly lower value than those reported for non-carrying subjects. Both BMS1300 and ETH225 significantly influenced L* measured before storage($P<0.001$). In a similar way, for *Semitendinosus* muscle, we detected highly significant associations ($P<0.001$) of a*, b*e C* measured after storage with BMS1866 (allele 8) and BMS1300 (allele 3), with lower values for subjects carrying the alleles than non-carriers. Interestingly, allele 3 of BMS1300 influenced the same color parameter in both muscles, eventhough with opposite behaviour. Considering the other parameters, higly significant association was detected only for H* after storage with allele 5 of BM1500. Noteworthly, a highly significant association was found only between microsatellite markers and color parameters measured after a 48 h of storage (a*, b*, c*), wich also showed higher heritability coefficients. The

most probable hypothesis is that color paramaters were strongly affected by some environmental factors, which reached the stabilization after a 48 h of storage, allowing for detection of the genetic basis of the traits. Further analyses are needed to validate these preliminary results, increasing the number of typed loci and adopting a more complex approach in the statistical analysis of data, via within-family association and linkage studies.