

Accepted Manuscript

A structural approach to understanding the interactions between colour, water-holding capacity and tenderness

J. Hughes, Sofia Oiseth, P. Purslow, R.D. Warner

PII: S0309-1740(14)00153-3
DOI: doi: [10.1016/j.meatsci.2014.05.022](https://doi.org/10.1016/j.meatsci.2014.05.022)
Reference: MESC 6429

To appear in: *Meat Science*

Received date: 27 April 2014
Revised date: 25 May 2014
Accepted date: 29 May 2014



Please cite this article as: Hughes, J., Oiseth, S., Purslow, P. & Warner, R.D., A structural approach to understanding the interactions between colour, water-holding capacity and tenderness, *Meat Science* (2014), doi: [10.1016/j.meatsci.2014.05.022](https://doi.org/10.1016/j.meatsci.2014.05.022)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

A structural approach to understanding the interactions between colour, water-holding capacity and tenderness

J. Hughes^a, Sofia Oiseth^b, P. Purslow^c, R. D. Warner,^{d*}

^a CSIRO Animal Food And Health Sciences, 39 Kessels Rd, Coopers Plains, Qld, 4108, Australia.

^b CSIRO Animal Food and Health Sciences, 671 Sneydes Rd Werribee, Vic, 3030, Australia.

^c Departamento de Tecnologia de los Alimentos, Facultad de Ciencias Veterinarias, Universidad Nacional Del Centro de La Provincia de Buenos Aires, Tandil, B7000, Bs.As. , Argentina

^d Department of Veterinary and Agricultural Science, The University of Melbourne, Parkville, Vic, 3010, Australia.

* Corresponding author: robyn.warner@unimelb.edu.au

Key words

Meat quality, color, texture, cooking, ageing, temperature, water loss, muscle protein

Highlights

- Causes of variation in water-holding, colour and tenderness of raw meat do not correspond to variations in properties of cooked meat.
- The water loss experienced during cooking can impact the juiciness of the meat, with less cook loss being associated with a juicier product and higher sensory tenderness.
- Water acts as a plasticiser of muscle proteins and is largely stabilized within the myofilament lattice.
- Reductions in the muscle fibre volume with increasing cooking temperature can be related to the denaturation of different myofibrillar and cytoskeletal proteins.
- Changes in the myofilament lattice arrangement are believed to impact the light scattering properties and the perceived paleness of the meat.

ABSTRACT

The colour, water-holding capacity (WHC) and tenderness of meat are primary determinants of visual and sensory appeal. Although there are many factors which influence these quality traits and their development post-mortem, the end-results of their influence is often through key

Download English Version:

<https://daneshyari.com/en/article/5791361>

Download Persian Version:

<https://daneshyari.com/article/5791361>

[Daneshyari.com](https://daneshyari.com)