



Dry ageing of red meat

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Outline

1. Introduction
2. What happens during dry ageing
3. Wet age or dry age
4. What the world is up to
5. Guides to dry ageing
6. Equipment's in the market
7. Resources



*Photo by Tim Burvill

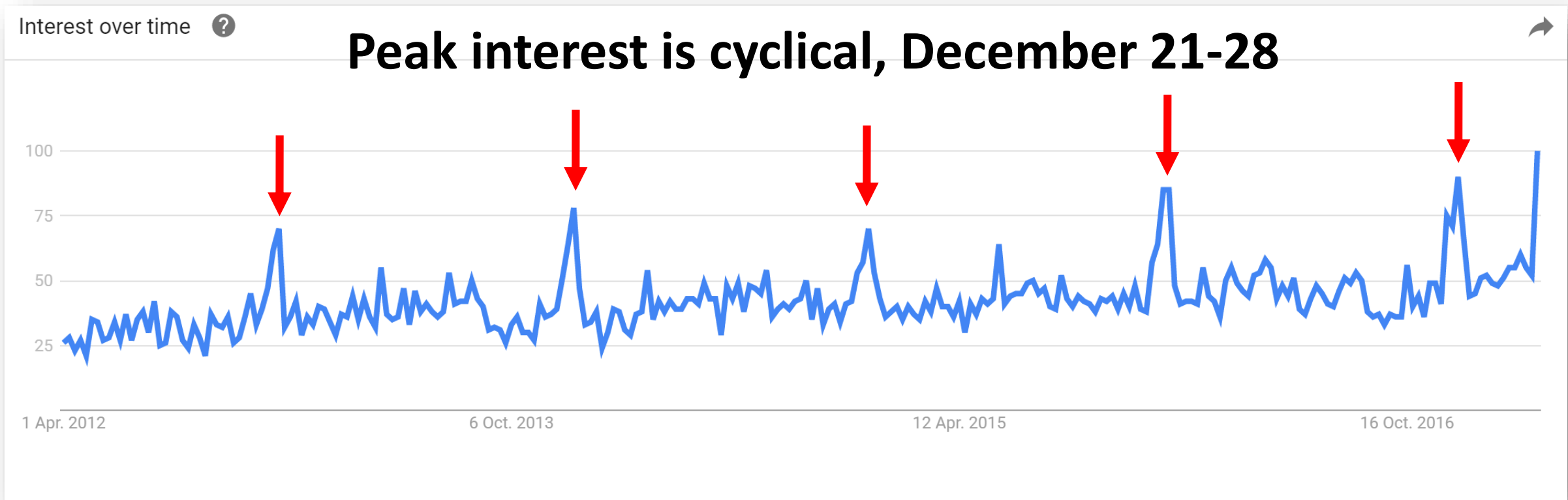
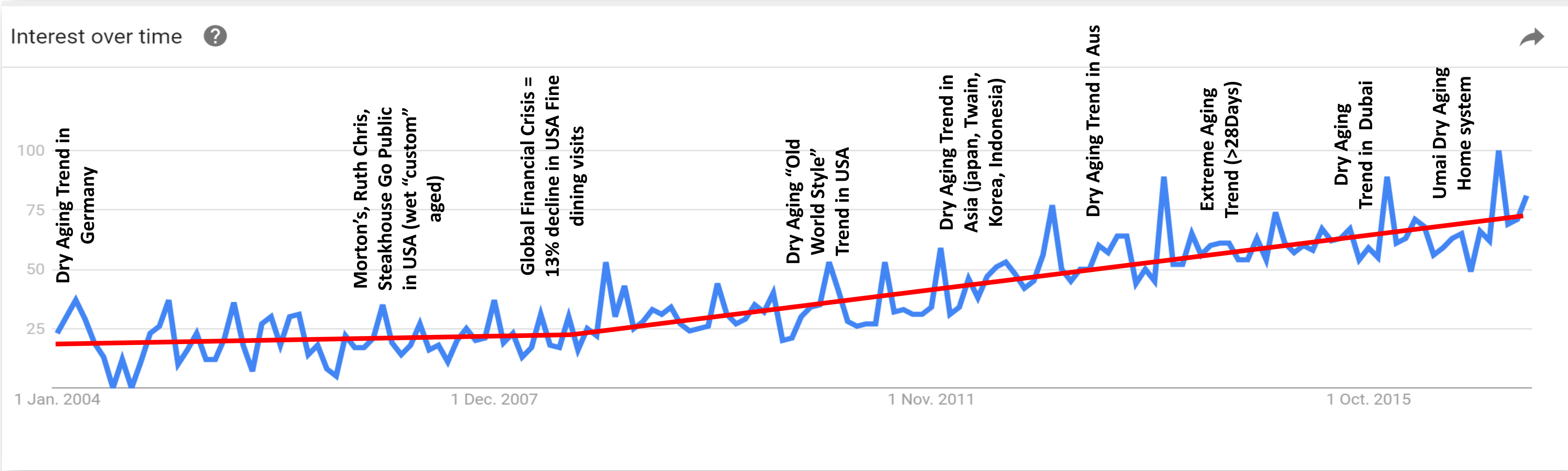
Introduction – Dry ageing



- A traditional method of preserving meat
- Dry ageing is the process of aging outside of vacuum bags
- Claims to improves tenderness and flavour improvement

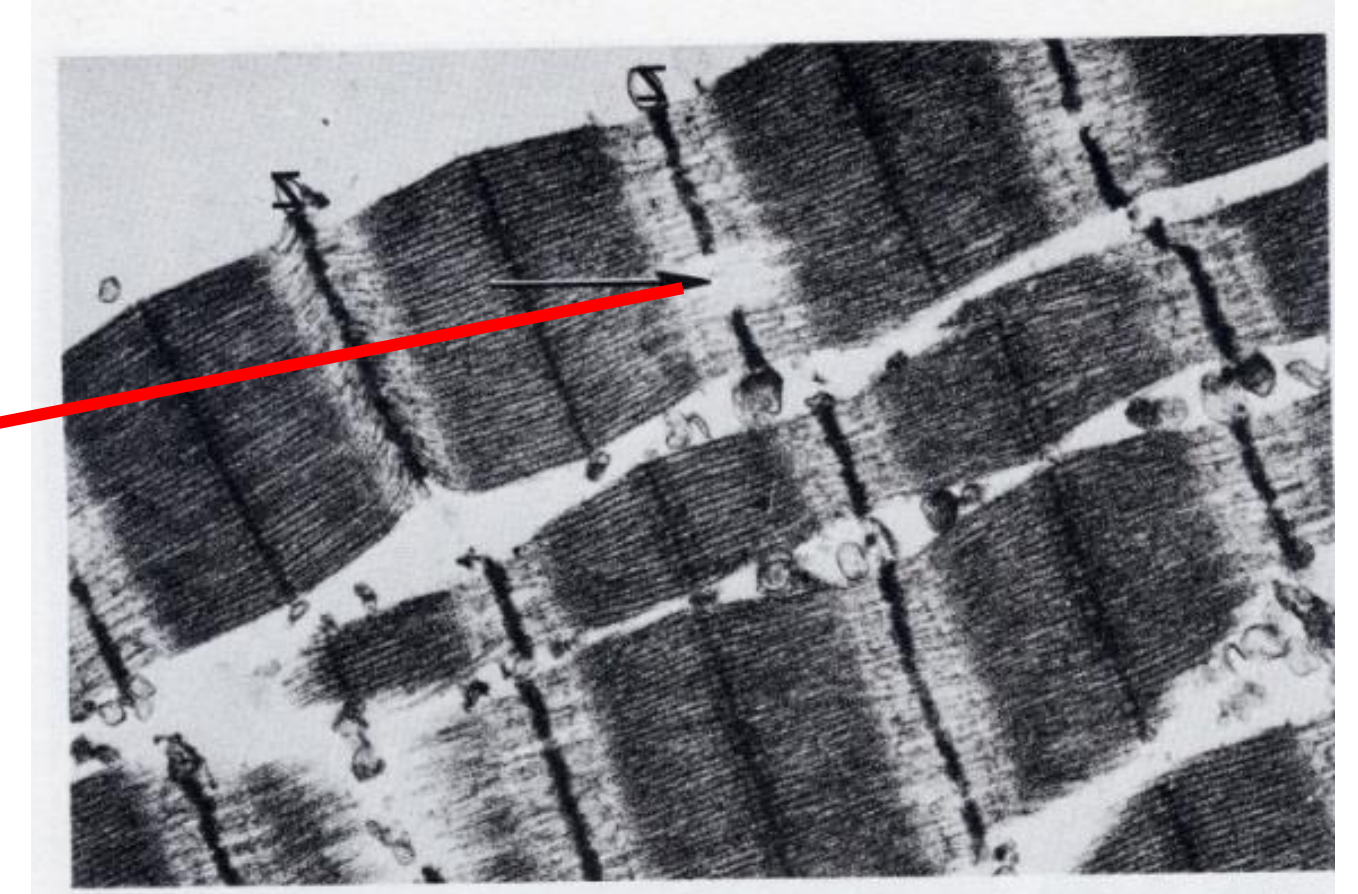
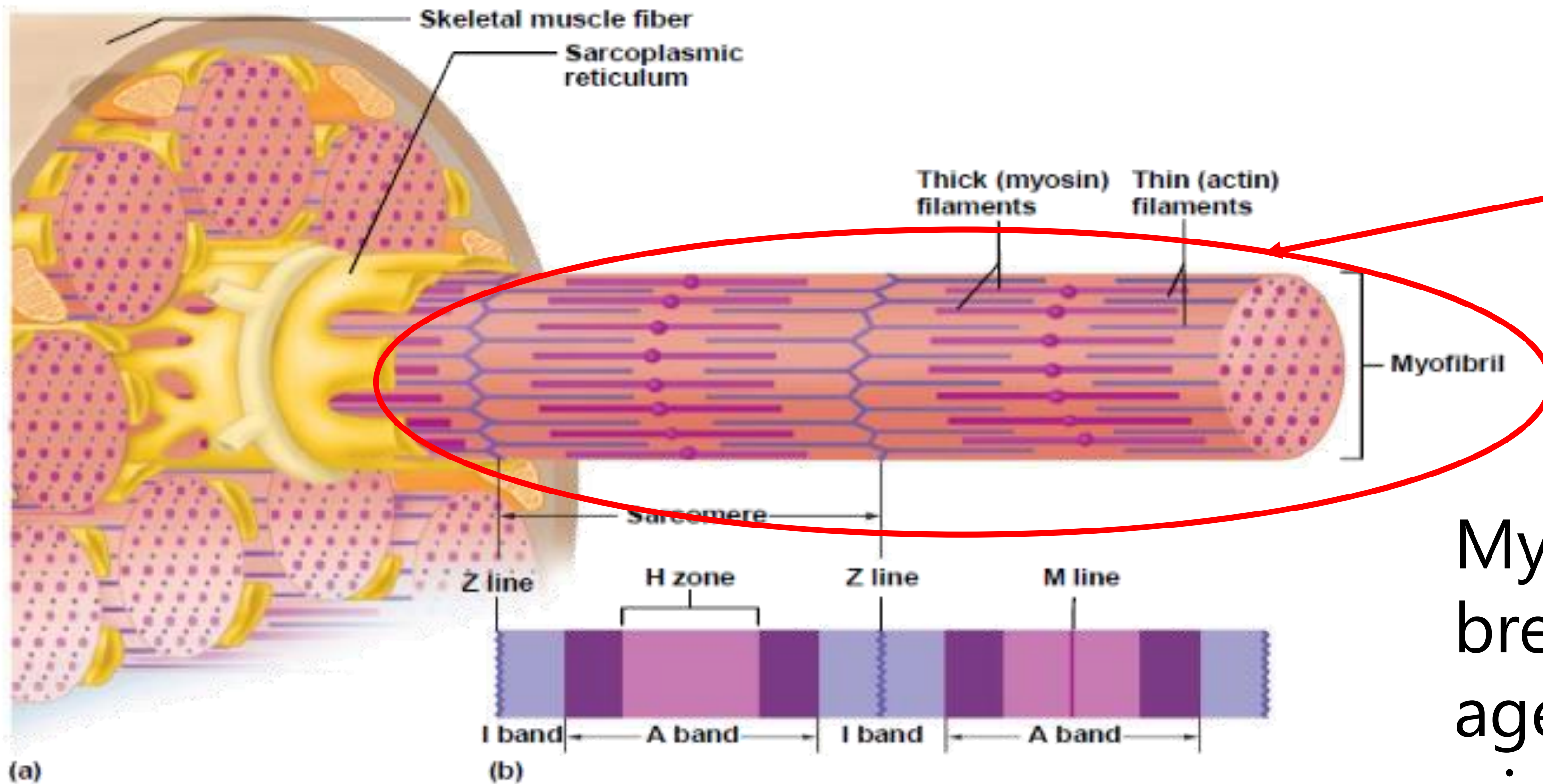
Introduction – Dry ageing trend

Increasing interest in Dry Aged Beef from 2004 to 2015



*source Uni of Melbourne

What happens during dry ageing



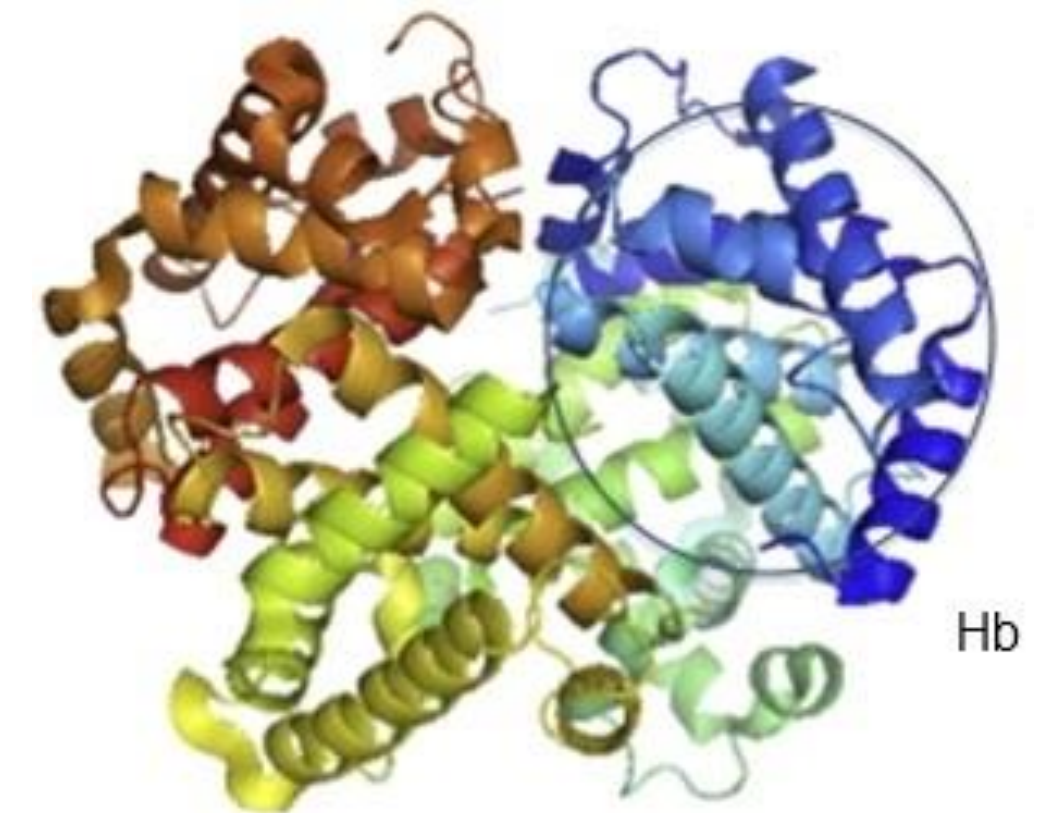
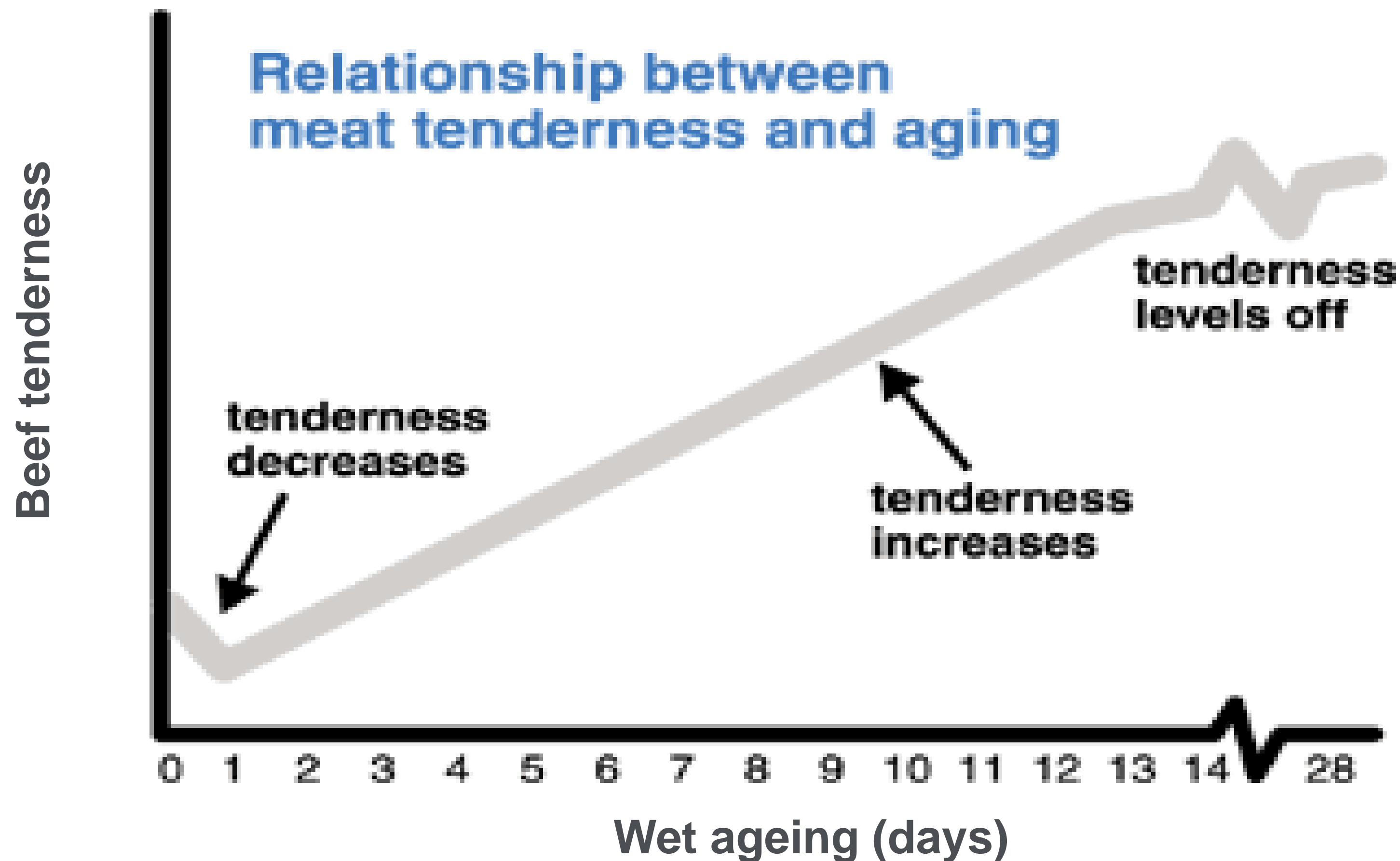
Myofibril proteins do breakdown post-mortem with ageing and result in;

- increase in tenderness
- Increase in 'good' flavour

What happens during dry ageing

After 14 days ageing, small incremental increase in tenderness

Relationship between meat tenderness and aging



Large proteins, breakdown to smaller 'bits' of protein called peptides & amino acids



Pleasant 'taste and aroma' compounds



Wet age or dry age?

Does it
matter?



VS



Wet age or dry age?



Day 1



Day 4



Day 17



Day 31



Day 50



Day 14



JAPAN

Day 50

*VRMH.0035 - Dry Aged Beef – evaluation of wet age pre step on quality and yield

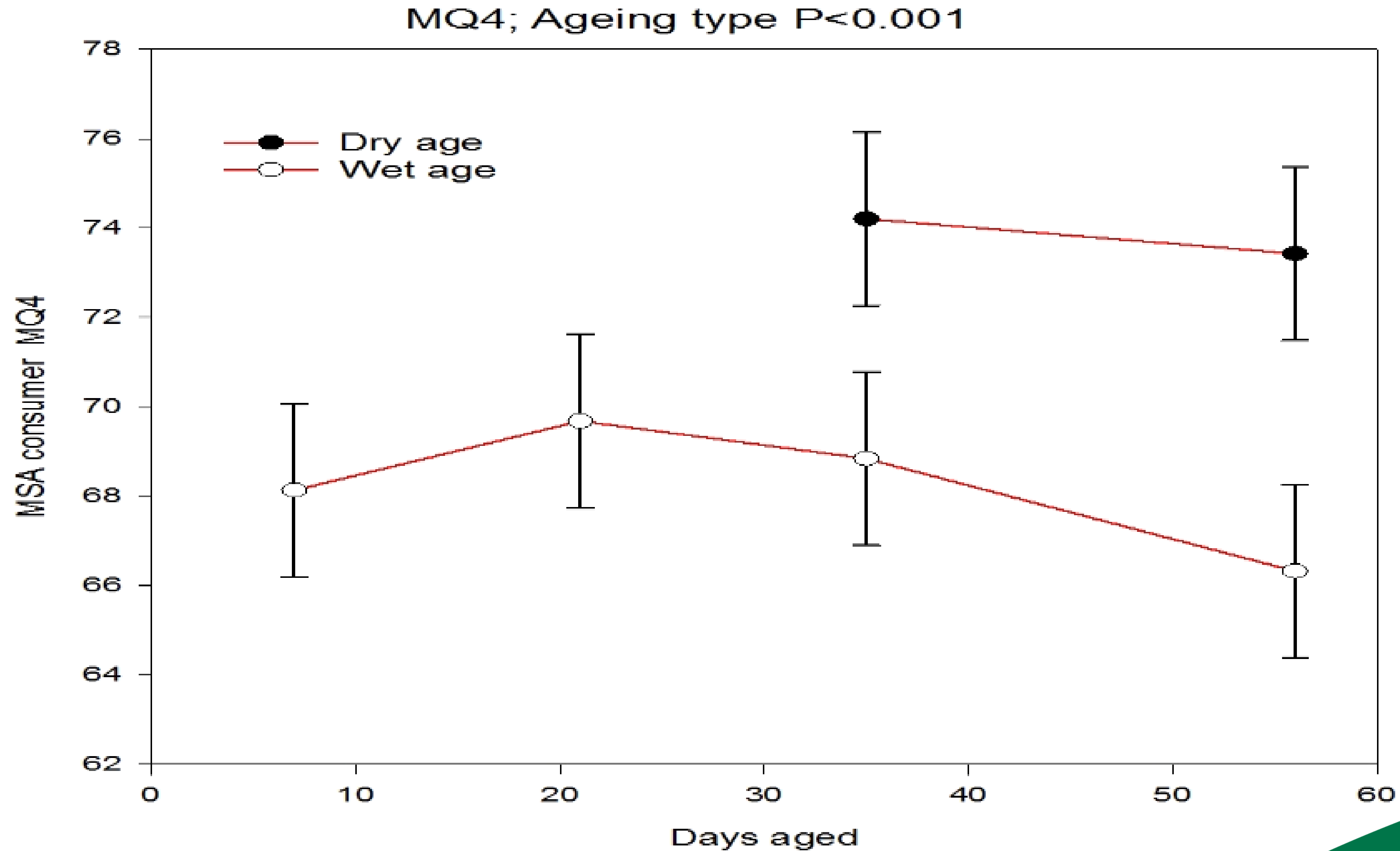
Wet age or dry age?



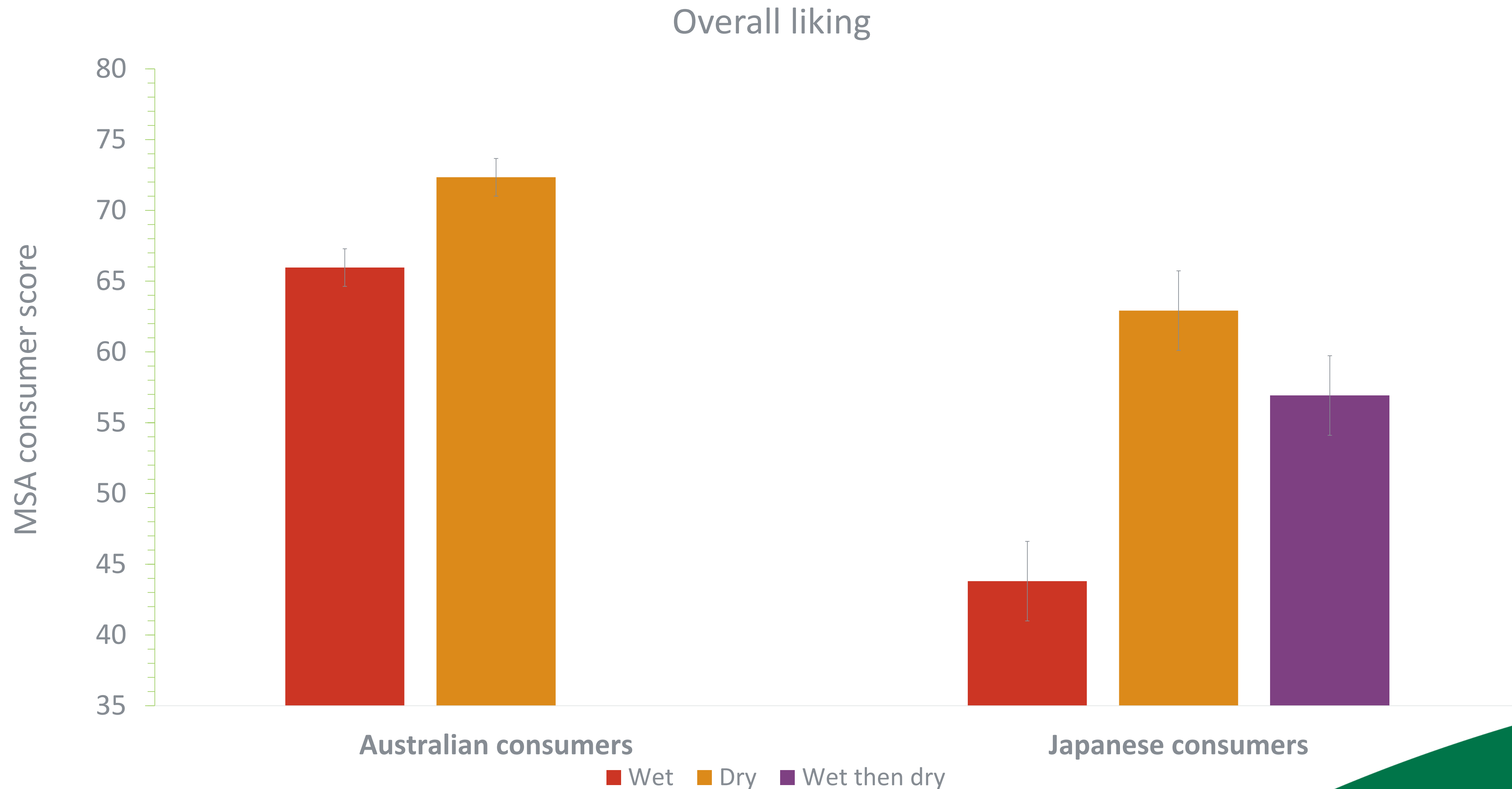
600 untrained Aussie and
Japanese consumers



Wet age or dry age



Wet age or dry age



Wet age or dry age

Japanese study - suggests ideal dry ageing period for beef is 40 days

Days of storage	4	11	20	30	40	50	60
Sensory flavour	4.5	4.77	4.46	5.26	5.26	5.06	4.79
Sensory umami intensity	4.5	4.81	4.33	5.29	5.44	4.86	4.9
Chemical umami intensity	0.7	0.8	0.7	1.3	2.1	1.7	2.5

Higher number

=



n= 5 Japanese wagyu heavily marbled beef carcasses, RH=80-90%, temp = 1-4°C

What the world is up to?

Science is catching up

Doing work on
inoculating

at age
DA

eding
pulse
d

mla

MEAT & LIVESTOCK AUSTRALIA

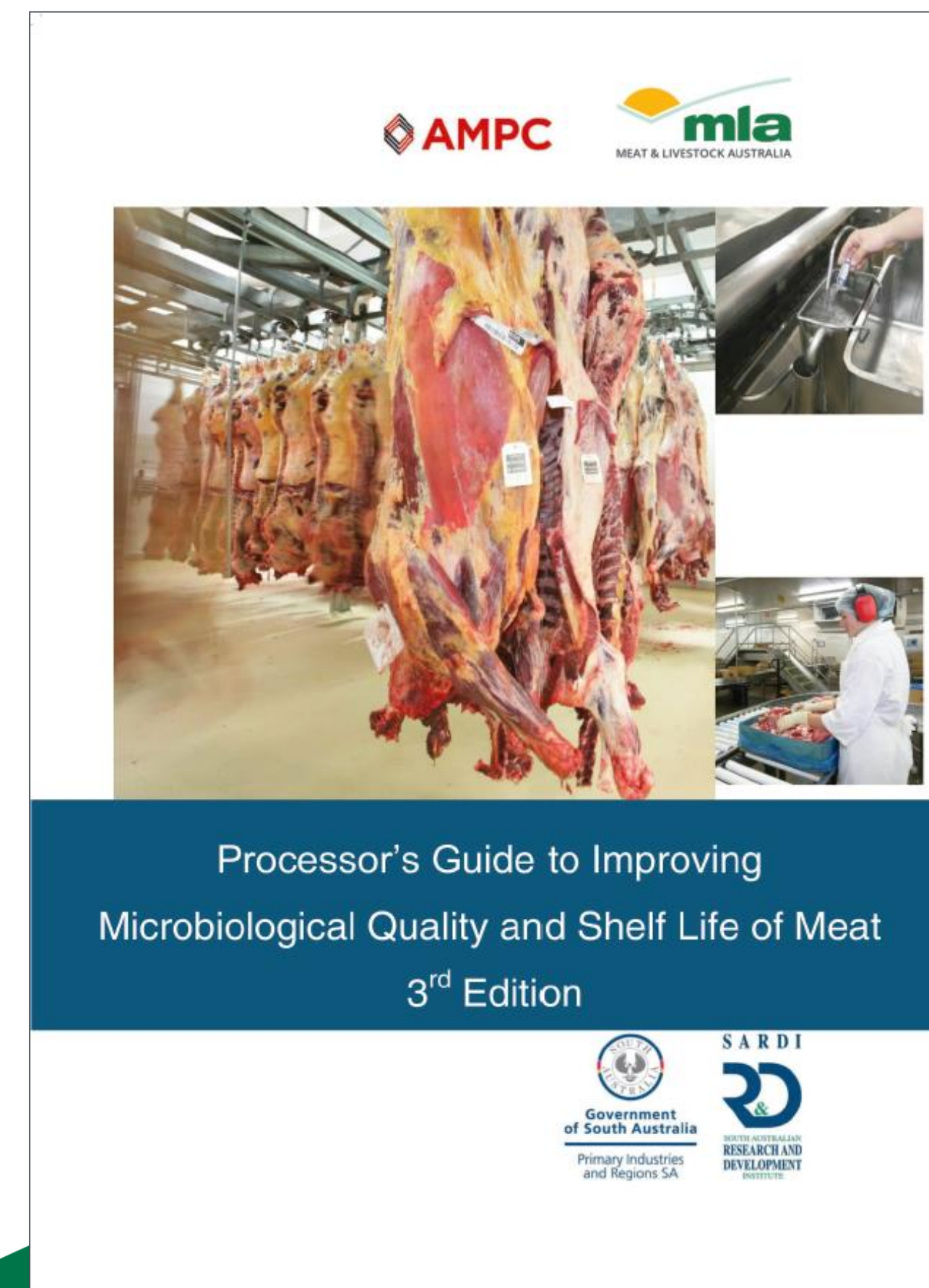
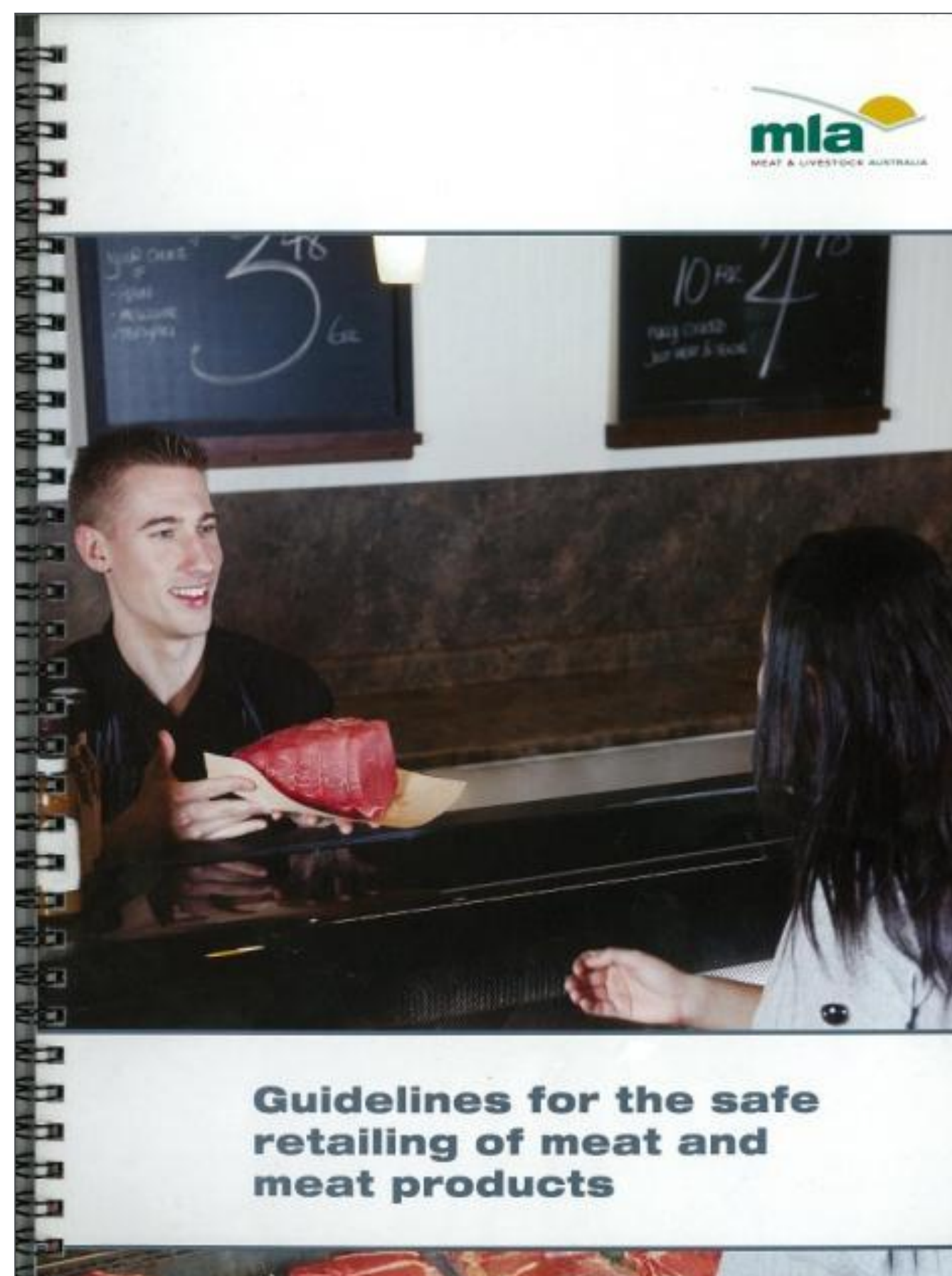
GUIDELINES FOR THE SAFE MANUFACTURE OF SMALLGOODS

2nd EDITION



Guide to dry ageing

As the approach of previous guides, MLA assembles key experts from industry, research and all state regulators.



Guide to dry ageing

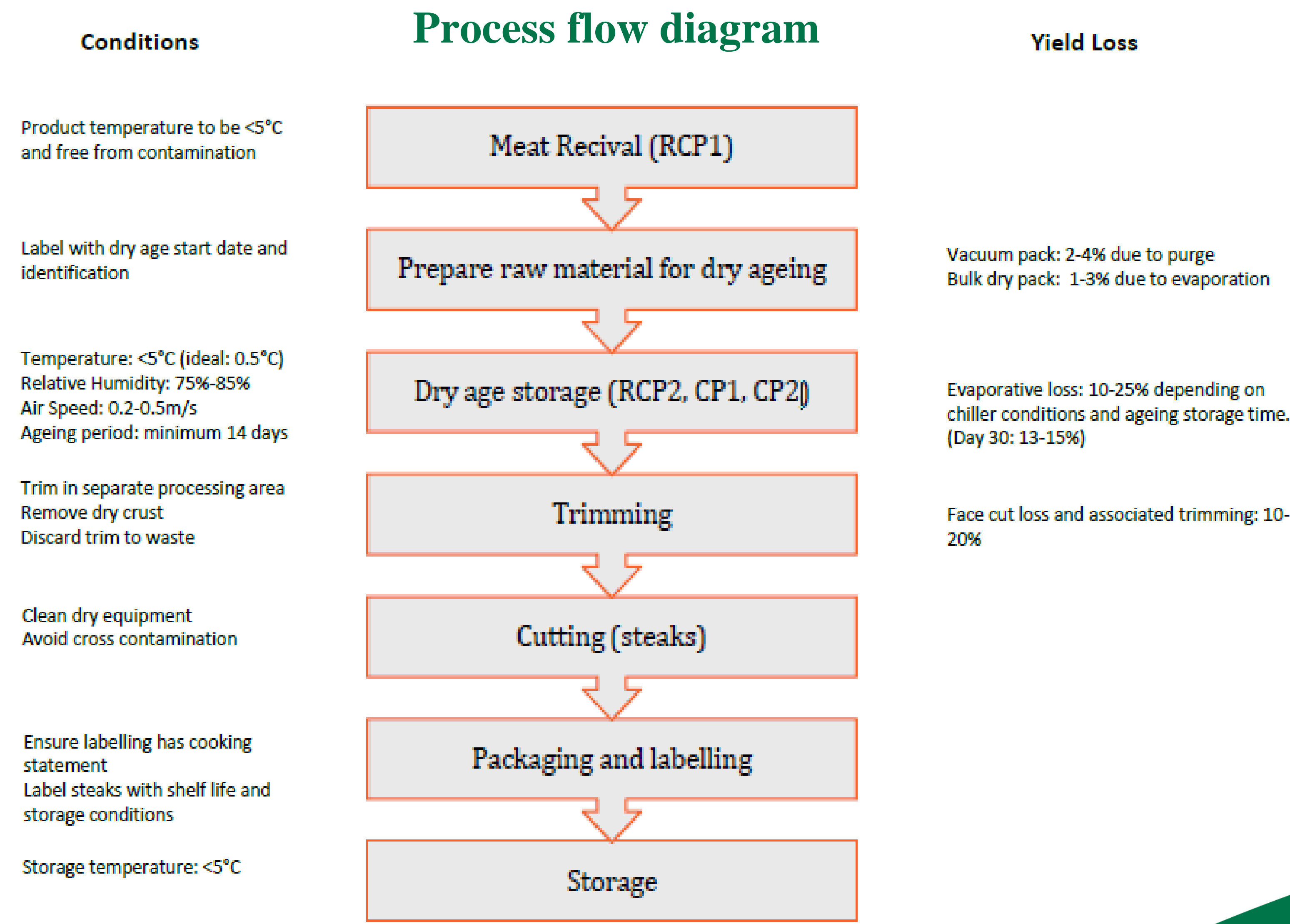
CSIRO cite a range of parameters which have been adopted by all subsequent programs and guidelines.

Recommend settings:

- Temperature ($\sim 0^{\circ}\text{C}$)
- Air speed (0.2 – 0.5 m/s)
- Relative humidity (75 – 85%)
- Time (recommend > 21 Days)

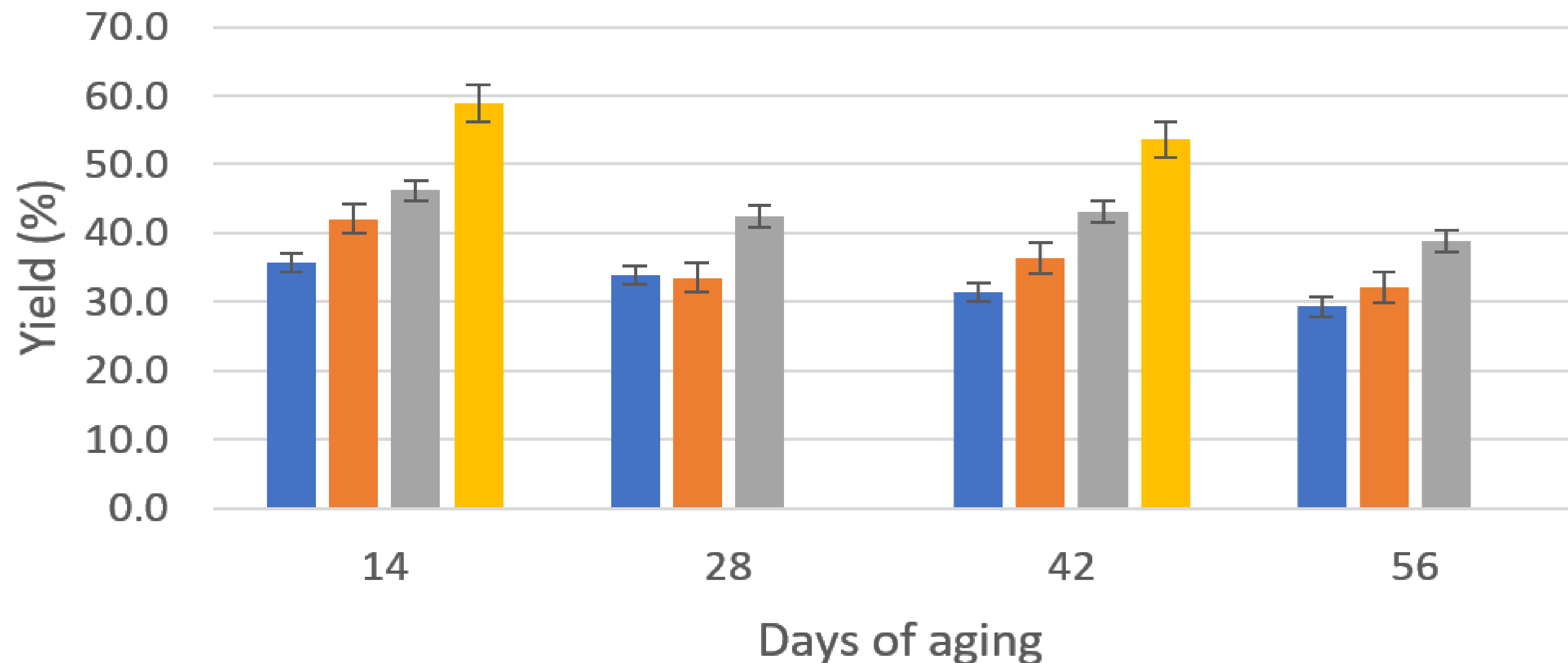


Guide to dry ageing



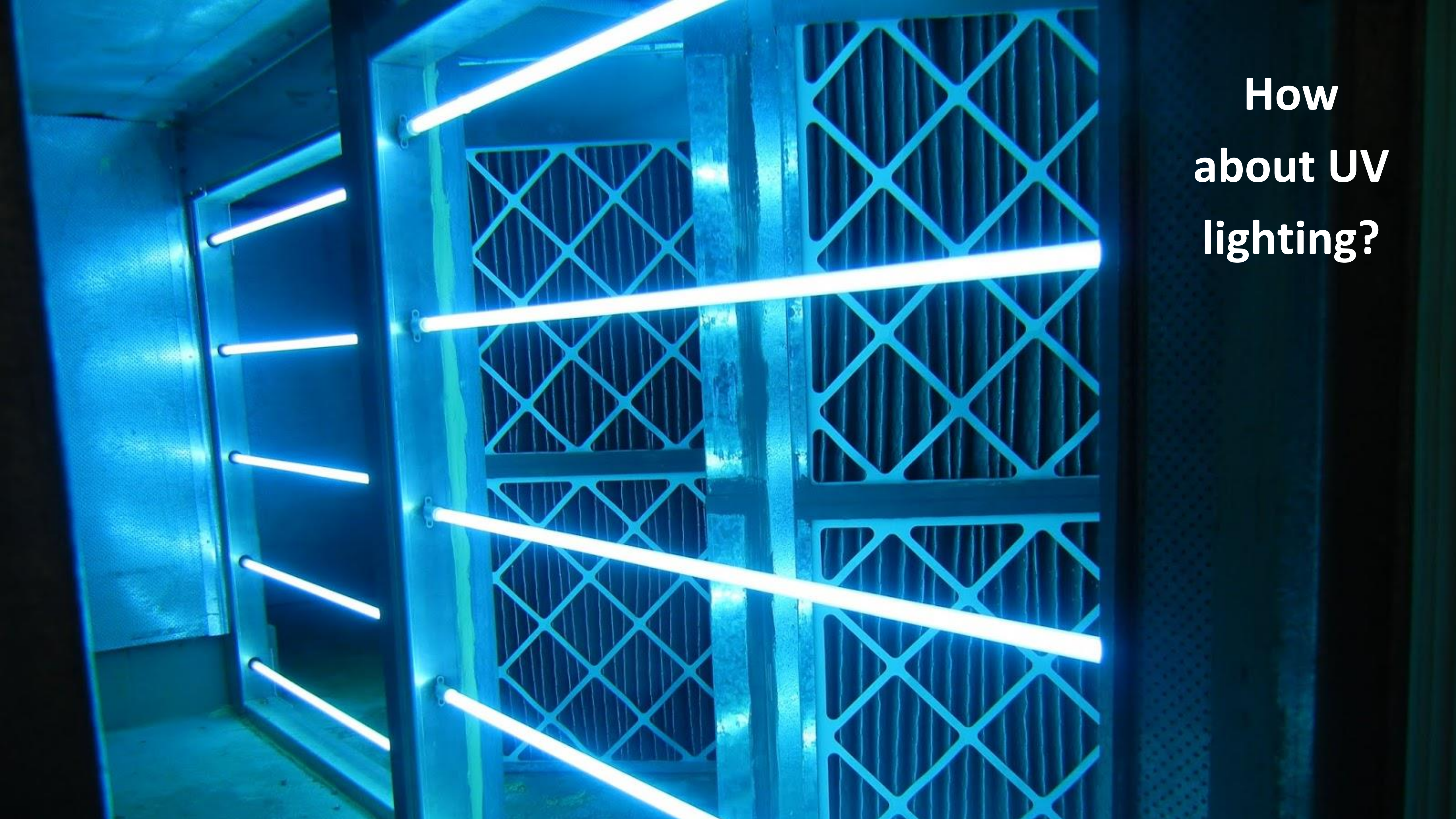
Guide to dry ageing

Impact of fat cover on Loin dry aged yield



Fat Score 2 3 4 5

How
about UV
lighting?



And salt blocks?



Guide to dry ageing

Wholesomeness

Two key clauses that meat must be:

Free of obvious contamination

Free of defects that are generally recognized as objectionable to consumers

Trimming is an acceptable way of making DA meat wholesome.



Guide to dry ageing

>100 days DA



VS

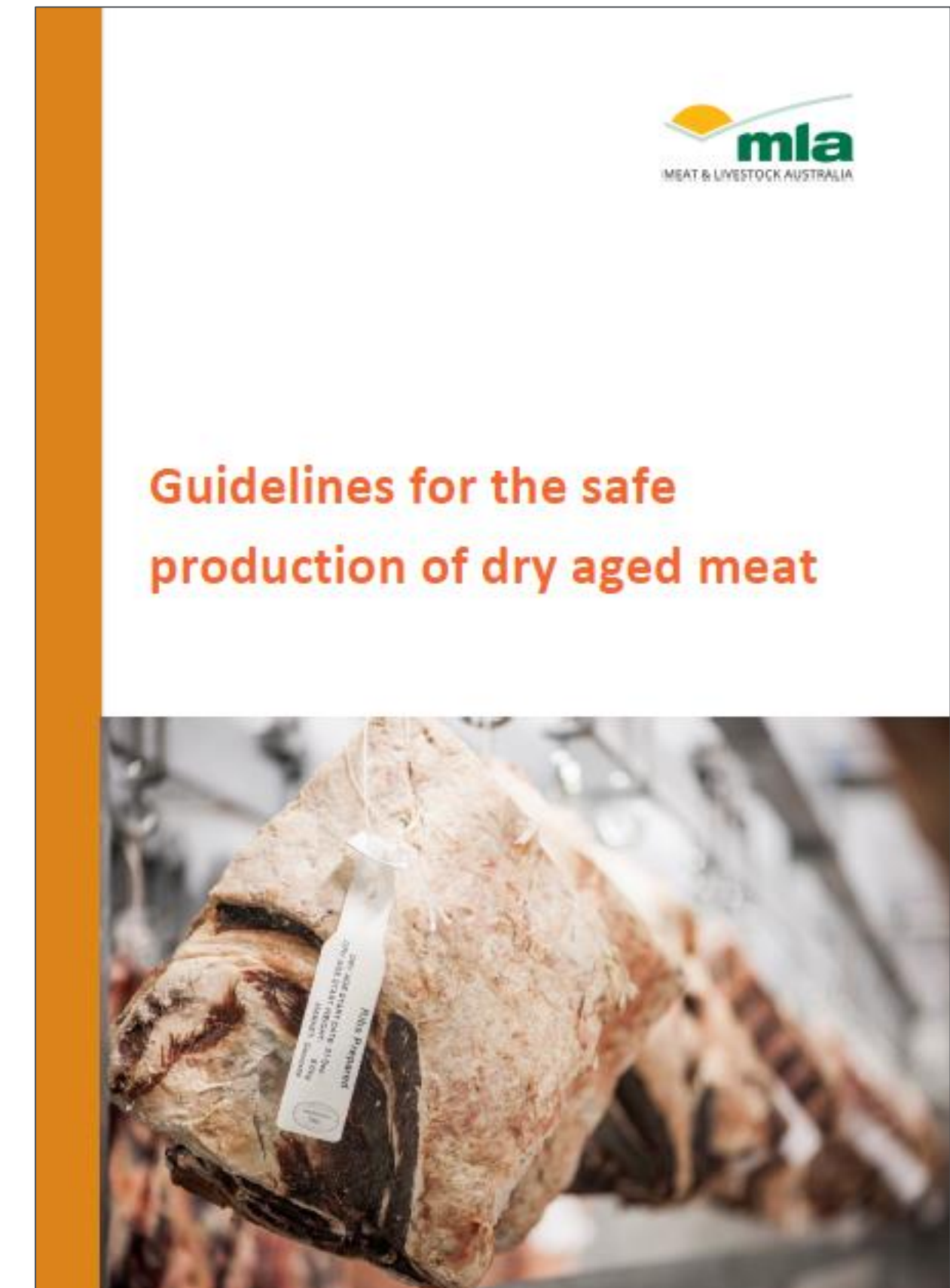


Maybe I stuffed up?



Resources available

1. Guidelines for the safe production of dry age meat (**In review**)
2. CSIRO Assessment of the mycological hazards associated with the dry ageing of red meat
3. Qualitative risk assessment dry aged meats
4. The work done by Top Cut – which includes an example of a HACCP plan which some companies might find useful plus lots of technical information.
5. The 2 Burvill reports from SA – which includes useful information for companies interested in DA Ovine.



Equipment in the market

Dry ager



<https://dryager.com.au/>



Maturemeat

<http://www.arredoinox.it/en/products/maturmeat-en#ancoramaturmeat>

UMAi Dry Aging Bag



<https://www.drybagsteak.com/umai/dry/dry-aged-steak-pack.php>

Don't be THAT guy

