



Effect of Packing Method on Colour and Eating Quality of Beef Loin Steaks

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Conclusion

- High content of oxygen (MAO₂/CO₂) during display and repack from vacuum to wrap, resulted in a satisfactory appearance of the surface colour, while ageing in MA CO₂/N₂ resulted in discoloured surface of the meat.
- Ageing in vacuum or MA CO₂/N₂ resulted in a satisfactory rose internal colour, while ageing and display in MAO₂/CO₂ resulted in a well-done appearance.
- Independent of the anaerobic ageing methods (vacuum or MA CO₂/N₂), display in wrap resulted in a good eating quality while repack to MAO₂/CO₂ reduced the quality with respect to colour, tenderness, juiciness and flavour.
- High content of oxygen (MAO₂/CO₂) during ageing and display resulted in the poorest eating quality of all packing methods investigated.

Objectives

This study examines the ability of different packaging methods to maintain good eating quality, prolong shelf life during ageing and retail display and to evaluate the possibility of eliminating re-packing by ageing the beef cuts in the display packaging.

MA CO₂/N₂ = 50% CO₂ + 50% N₂

MAO₂/CO₂ = 80% O₂ + 20% CO₂

Ageing 16 days, 2°C	Vacuum		MAP	
	WRAP	w/ repack	WRAP	w/o repack
MAO ₂ /CO ₂		MA CO ₂ /N ₂		MA O ₂ /CO ₂
Display 2 day, 5°C, light				
Surface colour a*-value	 24.3 ^c	 25.4 ^c	 14.4 ^a	 20.3 ^b
Internal colour 63°C/145°F	 7.0 ^a	 11.3 ^b	 6.4 ^a	 13.4 ^c
Meat flavour	8.4 ^c	7.7 ^b	8.4 ^c	6.1 ^a
Off-flavour	0.5 ^a	0.9 ^a	0.8 ^a	2.9 ^b
WOF	0.1 ^a	1.1 ^b	0.2 ^a	5.4 ^c
Tenderness	9.3 ^c	7.6 ^b	8.5 ^c	6.5 ^a
Juiciness	9.4 ^b	9.8 ^b	10.1 ^b	8.7 ^a

Different letters in the same row are significantly different (p<0.05)

