

# Cold Chain Seminar 2025

## Chilled & Frozen meat and Packaging Technology

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**WHY DO WE LIKE CHILLED MEAT?**

**为什么我们喜爱冷鲜肉？**





冷冻肉色泽如何?  
What color of frozen meat?

最终要反复解冻了几次?  
How many times defrost repeatedly?

颜色对比一下吧!  
Let's comparison on color!

还要多说吗??  
Needless to say

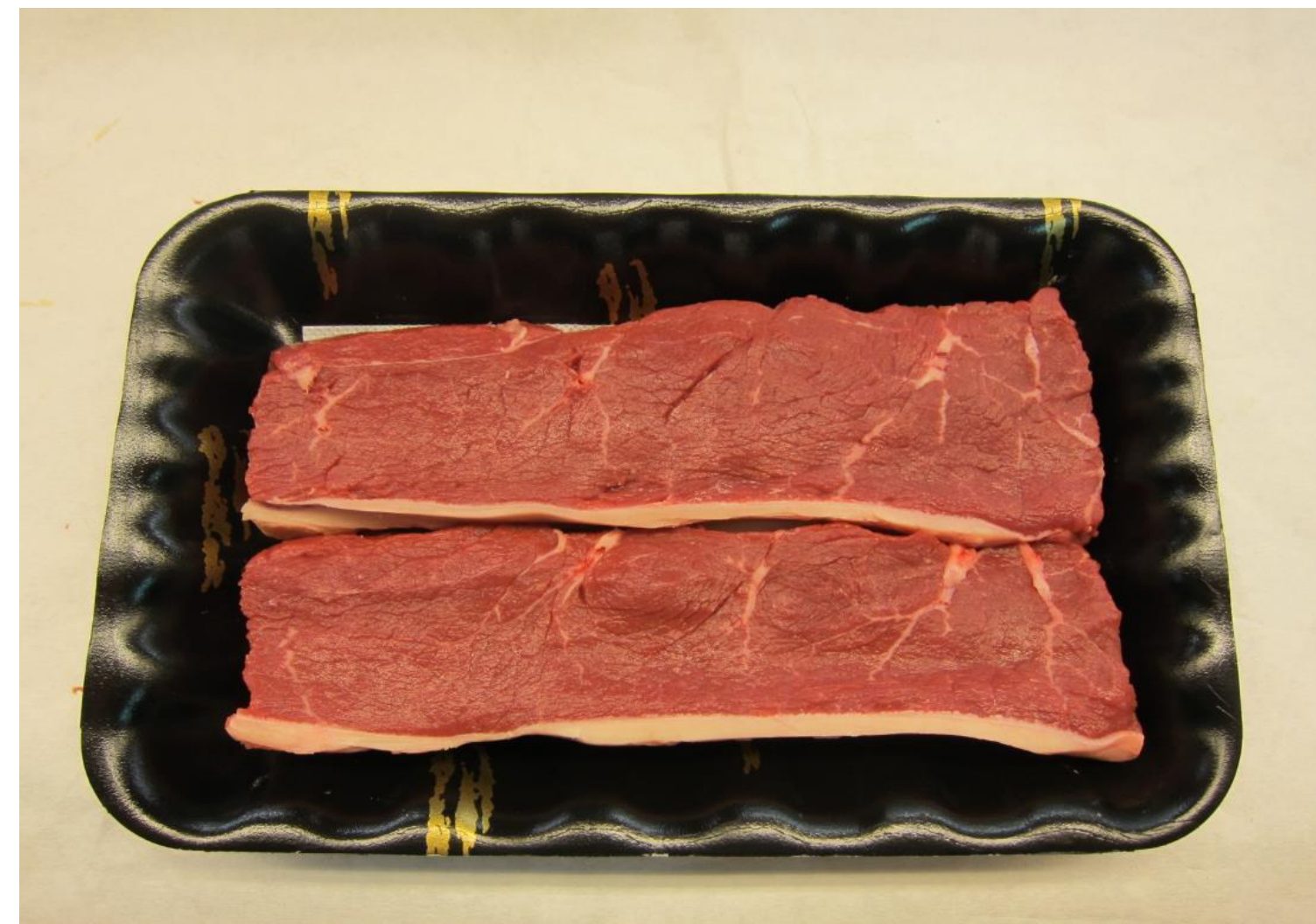




# 冷冻肉与冷鲜肉的照片 FROZEN & CHILLED MEAT PHOTOS

基本差异 **BASIC DIFFERENCE**

一目了然 - 冷鲜肉  
**Obvious at a glance – Chilled meat**





冷鲜肉的陈列方便整齐  
Chilled meat displays convenient/tidy





冷鲜肉的肉汁不容易流失(出成率高)  
Chilled meat has low weep (High yielding)





冷鲜肉大小较一致

The size of the chilled meat is consistent





冷鲜肉的颜色鲜红  
The color of chilled meat is bright red





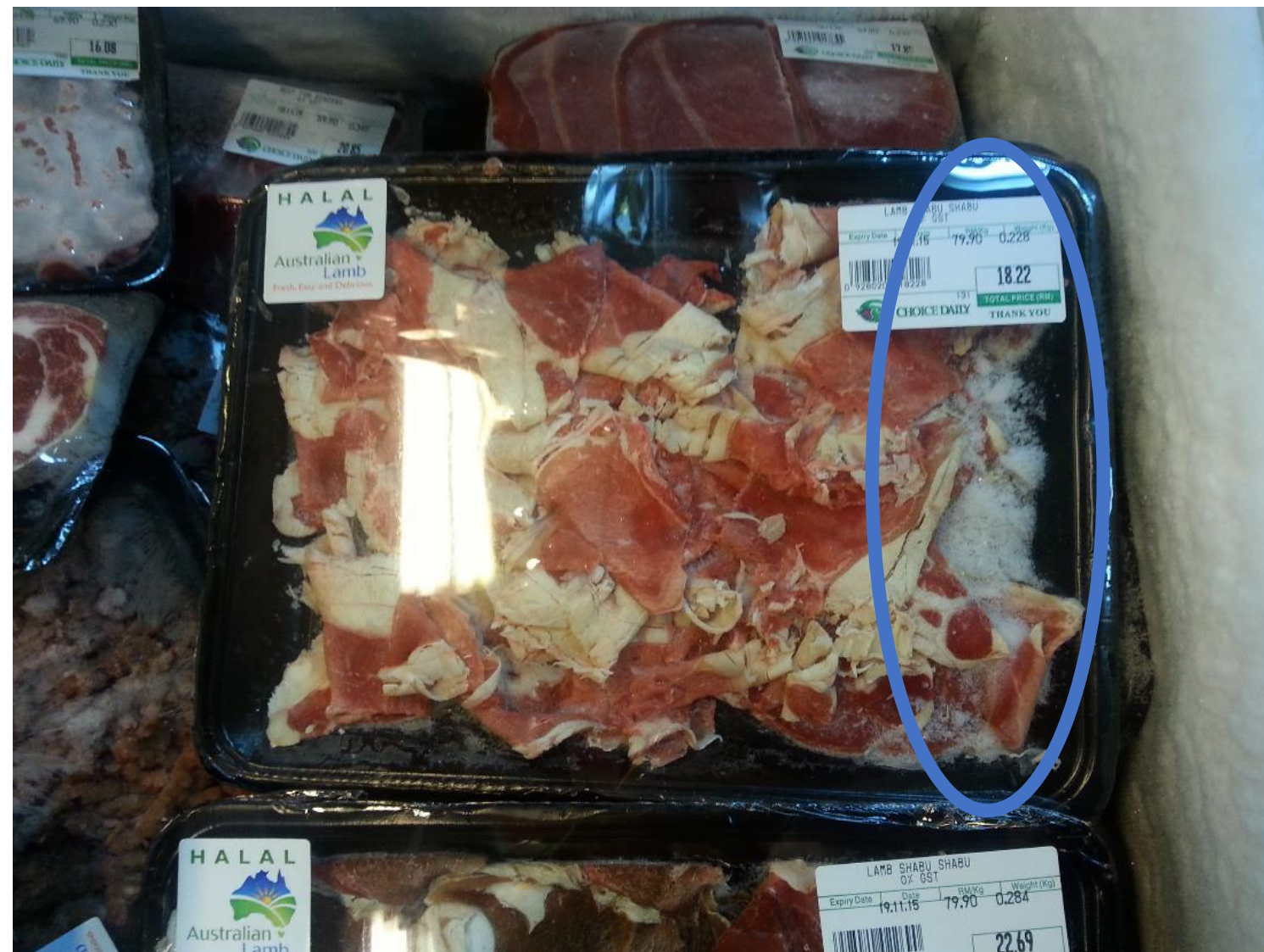
冷鲜肉容易调味

Easy to marinade/seasoning  
on chilled meat





冷鲜肉不结霜  
Chilled meat doesn't frost





冷鲜肉不被冰晶破坏  
Chilled meat has no ice crystals hole







冷鲜肉不会长时间泡在大量肉汁里  
Chilled meat doesn't soak in a lot of  
meat juice for a long time





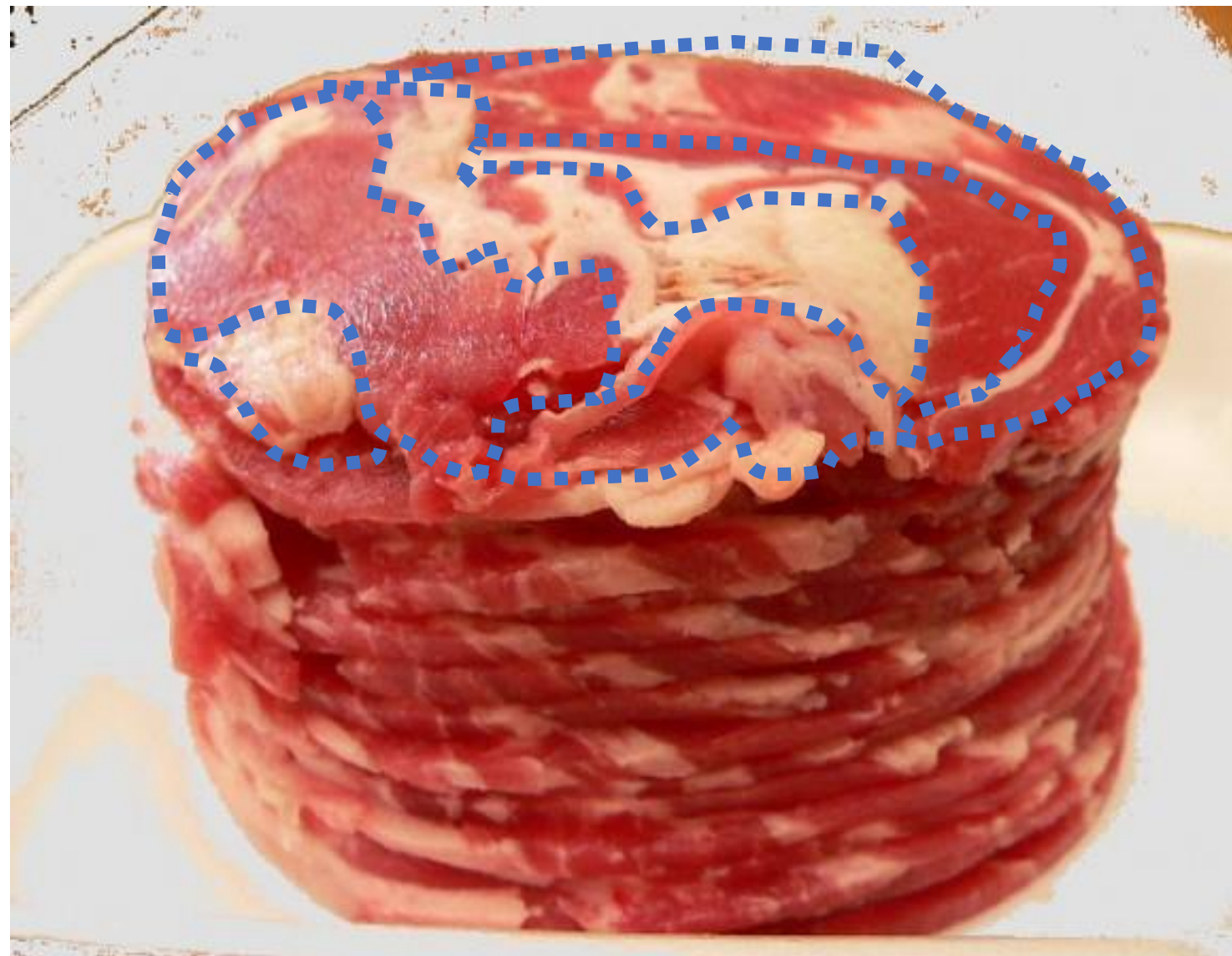


冷鲜肉的切割线整齐  
The cut line of chilled meat is neat





- 冷鲜肉不能造假或组合
- Chilled meat can not reform/combine





冷鲜肉能做生食料理  
Chilled beef can be eaten raw.







- 冷鲜肉适合创新
- Chilled meat suitable for innovation





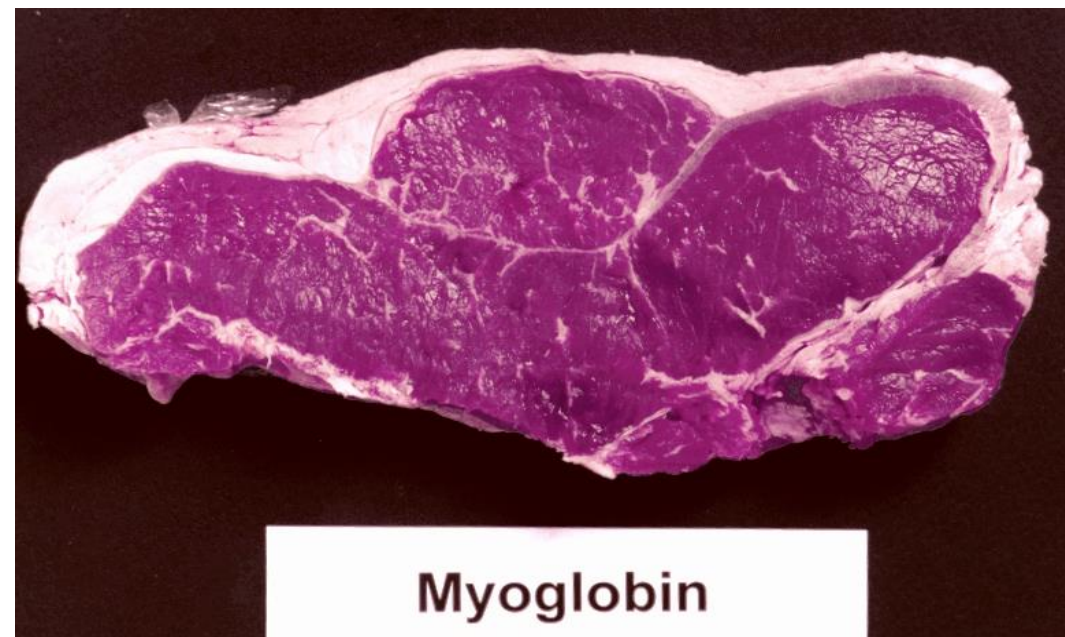
# 冷凍肉 VS. 冷鮮肉 比較

## Comparison of Frozen Meat and Chilled Meat

| Types种类<br>Categories项目 | Frozen冷凍肉    | Chilled冷鮮肉          |
|-------------------------|--------------|---------------------|
| Taste口感                 | Less Juicy干澀 | Juicy鮮嫩多汁 胜         |
| Price价格                 | -----        | -----               |
| Cutting切割处理             | Hard 困难      | Easy 容易 胜           |
| Shelf life保存期限          | 3years 3年 胜  | 3days/4months 3天/4月 |
| Convenience方便性          | Bad 差        | Good 高 胜            |
| Nutrition level营养价值     | Moderate 普通  | High 较高 胜           |
| Pre-cutting前期工作         | High 多       | Low 少 胜             |
| Wastage损耗               | High 高       | Low 少 胜             |
| Heat control火候的控制       | Hard 困难      | Easy 容易 胜           |
| Marinating调味            | Hard 困难      | Easy 容易 胜           |
| Aging 熟成                | No 不能        | Yes 能 胜             |



# 冷鲜肉的颜色 Chilled Meat Color



刚开始Beginning



10分钟后After 10 mins



过保质期Over shelf-life



# PH值影响肉的颜色说明

## BEEF:

**Example of how meat colour is affected by ultimate pH**



5.5

5.8

6.0

6.3

6.5

6.9

7.0

肉的PH值

Meat pH



# 日本超市

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## JAPANESE SUPERMARKET VISIT

















●西友様向け味わい葡萄牛\_販促物

4Cカラー ●●●●



A案

2層式シール W65×H43



レールPOP W400×H62







## 包裝與技術 Packaging methods and technologies





# 冷鲜红肉的包装形式 Packaging style of the Fresh Red Meat

- 真空收缩包装 Vacuum Shrink Packaging
- 气调包装 Modified Atmosphere Packaging
- 贴体包装 Vacuum Skin Packaging
- 真空热成型包装 Vacuum Thermoforming Packaging



# 真空收缩包装 Vacuum Shrink Packaging



- 专为肉类产品设计的真空机
- Special Design for the meat products
- 82 °C的热水收缩工艺  
Need 82 °C hot water for shrink

- 高阻隔性延长保质期
- High Barrier for longer shelf life
- 抗穿刺能力强  
Strong anti puncture ability



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# 气调包装 Modified Atmosphere Packaging



- 高精度气调包装机  
High quality MAP machine
- 80%氧气 + 20% 二氧化碳 保持肉色鲜红  
80% O<sub>2</sub> + 20% CO<sub>2</sub> keep meat bright red



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- 高阻隔性  
High barrier
- 防雾效果  
Anti fog
- 高透明度  
Super clearance





# 氣調包裝注意事項MAP Packaging Precautions

MAP會影響牛肉的食用口感，主要原因包括：MAP can affect the eating texture of beef. The main reasons include:

- **氧氣含量影響肉質**：Oxygen content affecting meat quality:

高氧氣含量的MAP包裝有助於保持肉的鮮紅色，但可能會加速脂肪氧化，使風味發生變化

High-oxygen MAP packaging helps maintain the bright red color of the meat but may accelerate fat oxidation, altering the flavor.

- **低氧環境影響嫩度**：Low-oxygen environment affecting tenderness:

低氧MAP（如CO<sub>2</sub>濃度較高）可能會延長保存期限，但肉品可能會變得較緊實影響口感

Low-oxygen MAP (such as high CO<sub>2</sub> concentration) may extend the shelf life, but the meat can become firmer, affecting its texture

- **氣味變化**：Changes in aroma:

某些氣體組合可能會影響牛肉的自然風味，導致開封後短暫的異味，需稍微放置後散去

Certain gas combinations may impact the natural flavor of beef, leading to a temporary off-odor upon opening, which will dissipate after a short period.

※MAP的包裝方式對於食用口感上會有影響，請參閱以下網址

The MAP packaging method affects the eating texture. For a detailed report, please refer to the following link

[https://www.mla.com.au/contentassets/7b84e6ed46774478b47d9f3e3d2f78db/l.eqt.1813\\_final\\_report.pdf](https://www.mla.com.au/contentassets/7b84e6ed46774478b47d9f3e3d2f78db/l.eqt.1813_final_report.pdf)



# 贴体包装 Vacuum Skin Packaging



- 高质量贴体包装机  
High quality Vacuum Skin Packaging machine
- 高真空度及独特的加热成型工艺  
High vacuum and unique top web heating systems



- 高阻隔性延长保质期  
High barrier extend the shelf life
- 3D立体展示效果  
3D perfect presentation
- 易揭功能  
Easy tear design





# 真空热成型包装

## Vacuum Thermoforming Packaging



- 高质量热成型包装机  
High quality Vacuum Thermoforming Packaging machine
- 提高生产效率  
Increase the operation efficiency

- 高阻隔性延长保质期  
High barrier extend the shelf life
- 降低包装成本  
Decrease the packaging cost
- 可印刷  
Printerable





# 不同包装冷鲜牛肉的保质期

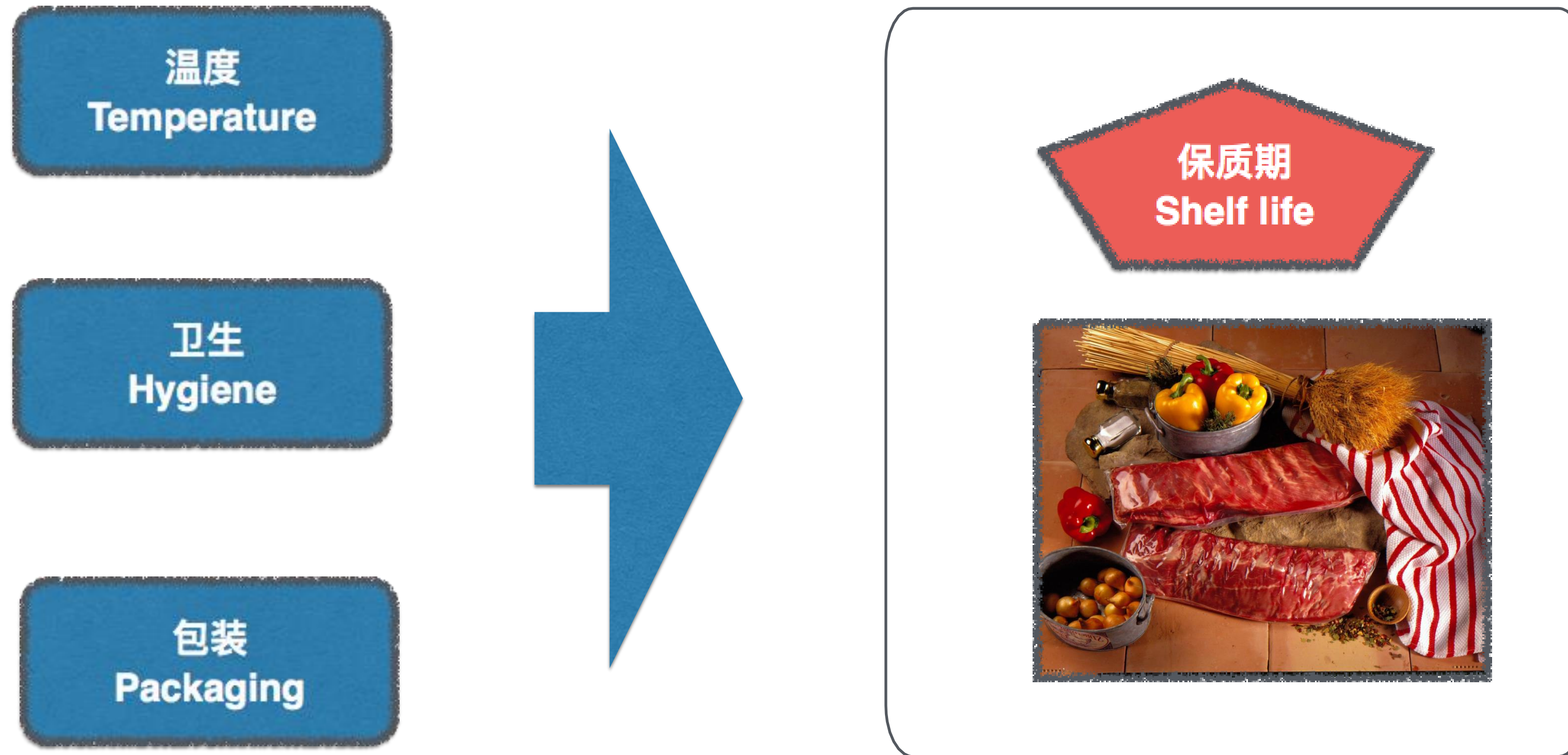
## Shelf life of chilled beef in different packaging way

| 包装形式<br>Packaging Style                   | 保质期（天）<br>Shelf life (day) | 包装展示<br>Presentation                                                                  |
|-------------------------------------------|----------------------------|---------------------------------------------------------------------------------------|
| 真空收缩包装<br>Vacuum Shrink Packaging         | 90+                        |    |
| 气调包装<br>MAP                               | 7-14                       |   |
| 贴体包装<br>Vacuum Skin Packaging             | 15+                        |  |
| 真空热成型包装<br>Vacuum Thermoforming Packaging | 40+                        |  |



# 影响冷鲜肉保质期的因素

The factors which influence the shelf life of the FRM





ANY  
QUESTIONS?

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THANK YOU!

