



RAPID COOLING & COLD CHAIN

Affect on Food Safety & Food Shelf Life

Presenter:

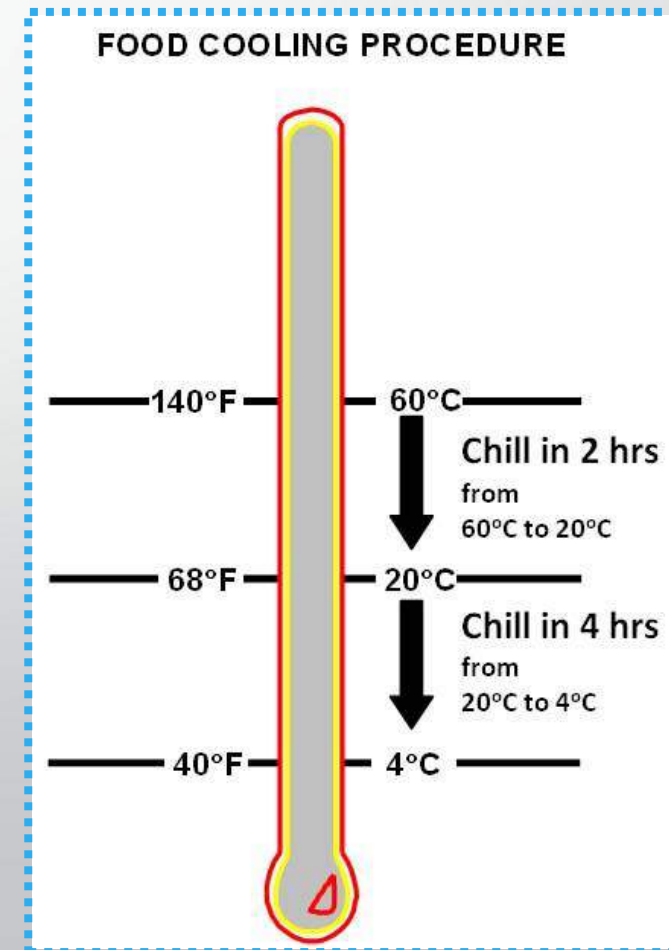
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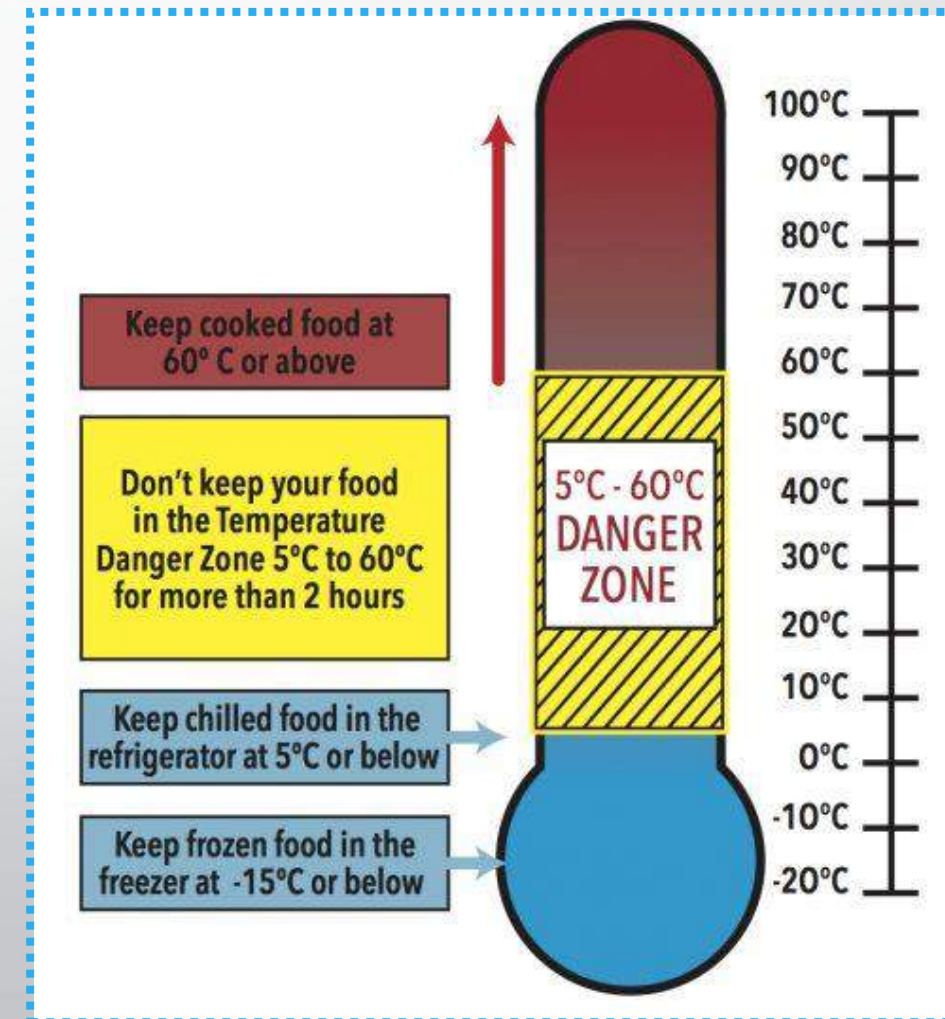
Cooling – Back to Basics

- Improper cooling is the **No. 1 reported cause** of foodborne illness
 - Knowledge about cooking
 - Understanding the reason for rapid cooling
 - Science behind the issue
- Correct cooling procedure



Cold Chain – Back to Basics

- Maintain Cold Temperature at Every Stage including Transportation
- Time & Temperature Control
 - Effect of temperature on microbes
 - Multiplication



Rapid Cooling – Methods

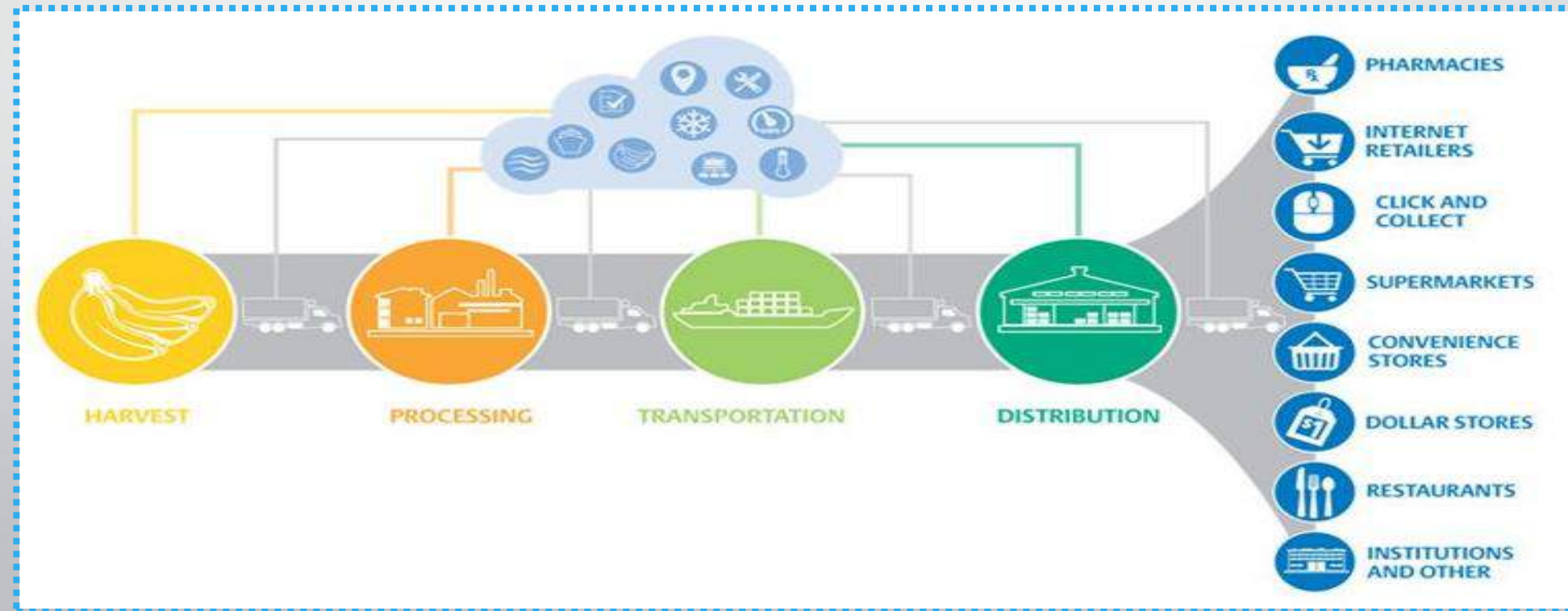
- Blast Chiller / Freezer
 - Reduce portion size
 - Increase surface volume
- Manual methods
 - Ice
 - Cold Water
 - Stirring



- **DON'T USE CHILLERS & FREEZERS AS COOLING DEVICES**

Cold Chain – Concepts

- “Food Chain” Concept (Farm to Fork)
- No Week Link: “Don’t Cool – Keep Cool”
- Maintain Temperature (minimum fluctuation)



Impact on Food Safety

- Multiplication of Pathogen Bacteria
- Germination of Spores
- Toxin Production
- Food Poisoning



Impact on Food Shelf Life

- Multiplication of Spoilage Bacteria
- Drastic Reduction in Food Quality
- Spoilage of Food
- Food Wastage



Impact on Food Business

- Reduction in Consumer Confidence
- Consumer Complaints
- Damage to Brand Value
- Regulatory Actions & Penalties
- Civil / Criminal Legal Trouble



