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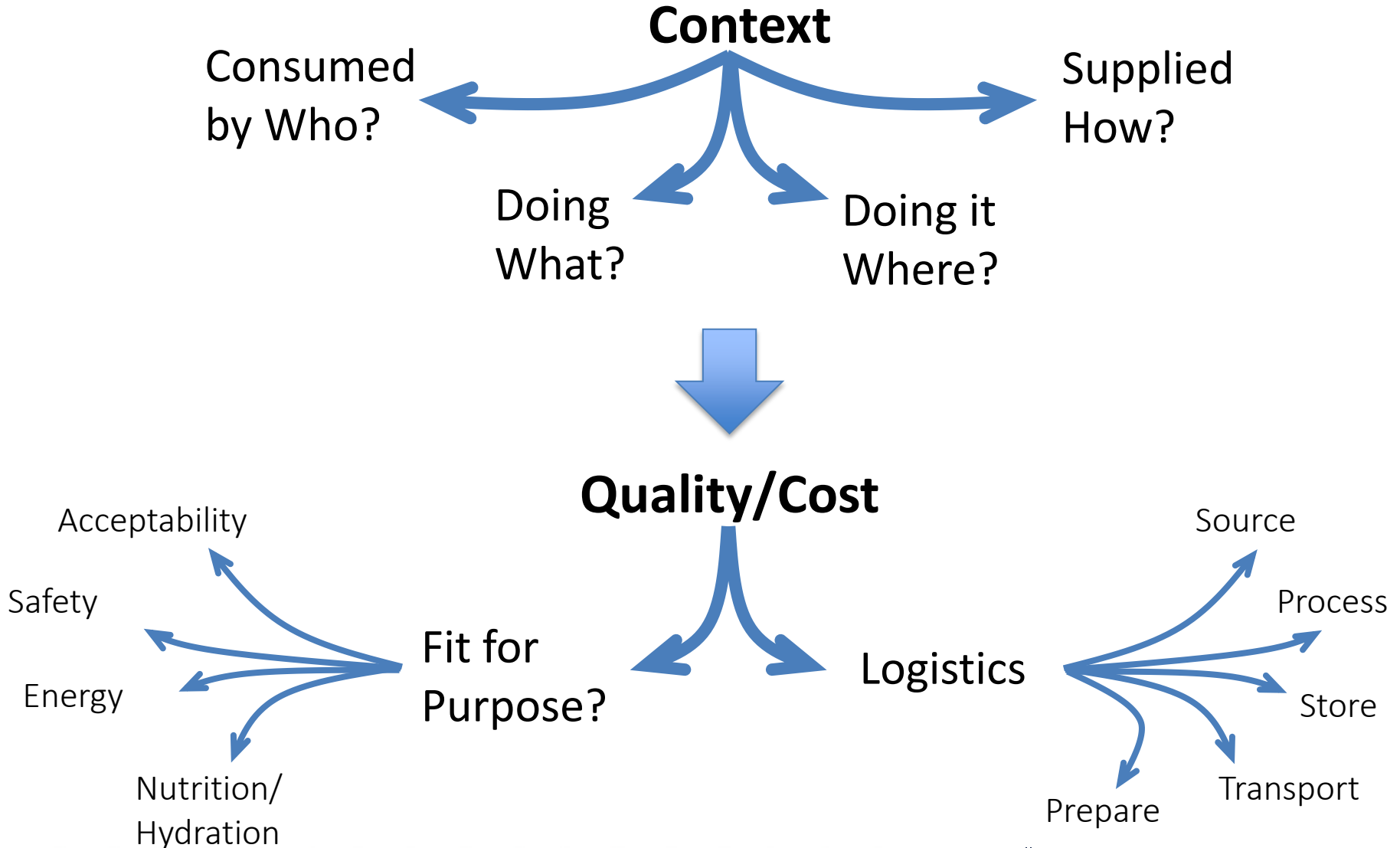
Addressing the challenges of feeding in combat forces and humanitarian responders

Dr Nick Beagley

Research Leader - Land Human Systems

Defence Science and Technology Group (Australia)

Warfighter Feeding Systems



Background on Warfighters

Australian Defence Force

- Narrow demographic
 - Approx. 80% aged between 17 and 39
 - 8:2 Male/Female ratio (ratio would be more males for CR users)

Tasks

- Strenuous physical activity (prolonged or intermittent)
- Stressful (e.g. sustained alertness)
 - Extremely high energy and nutrient requirements

Operating Environments and Eating Behaviours

- Exposure to the elements
- Extremes of temperature
- Extremes of terrain (e.g. muddy, mountainous)
- Time poor
- Don't eat enough
- Inadequate energy and nutrient intakes



Functional Requirements of Combat Rations

Logistics

- May operate unsupported or with supply chain disruption
- Must have 2-year shelf-life at 30°C
- Must be lightweight, carried meals and rations

Products and formulation

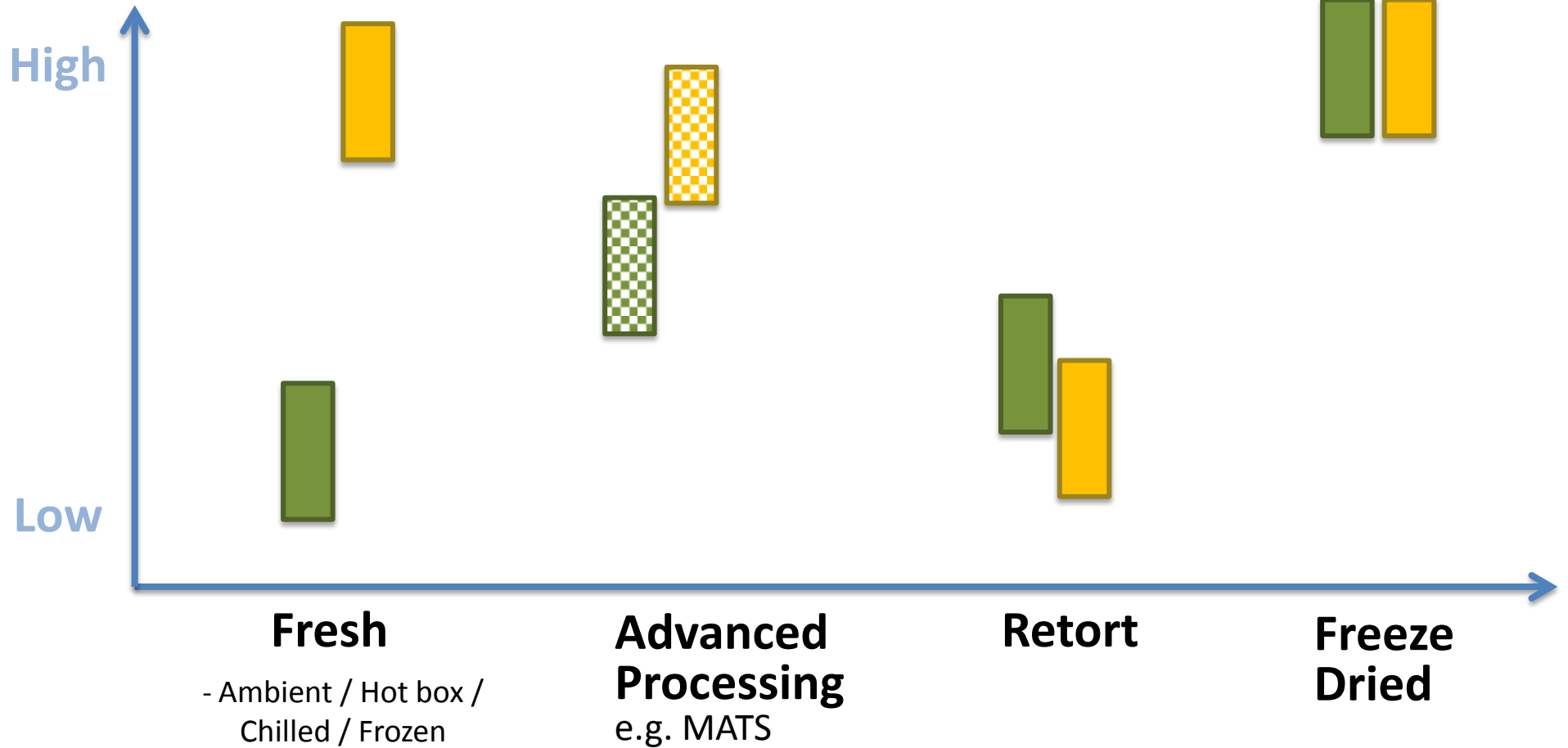
- Ration pack must meet Military Recommended Dietary Intakes
- High-energy, high-protein meals and snacks
 - Stews, curries, chilli beef and beans, tuna and crackers, beef jerky
- High-energy products, often fortified with vitamins
 - Chocolate, sports drink, sustagen, lollies, M&Ms, sweet biscuits

Packaging

- Must be robust and durable
- Select products must have high barrier properties
- Select products have multi-layer packaging



Fitted to Context



COST

FITNESS

Humanitarian Responder Comparison

Population

- Wider demographic
- Wider set of nutritional considerations
 - Allergies, intolerances, religious practices

Tasks

- Low to moderately intense physical activity
- Short bouts of physical activity
- Stressful
 - Likely have lower energy requirements than warfighters
 - Proportionally lower protein, vitamin and mineral requirements than warfighters

Environment

- Sheltered
- More structured work pattern
- More structured eating opportunities
- Safer work environment (i.e. less hostile)
 - Nutrient intakes more likely to be commensurate with requirements



Conclusions

The challenges of feeding warfighters in operational contexts differ to those of feeding humanitarian first responders.

The use of combat rations for feeding first responders may be neither cost effective nor a good nutritional fit.

