How to optimize horse performance in a challenging environment
Dr David Marlin, UK
Aims of climate management

• Prevention

• Equine athlete welfare

• Human athlete welfare

• Fair & valid competition
Risk is related to Climate, Intensity & Duration

- **Climate**: LOWER RISK to HIGHEST RISK
- **Exercise Intensity**: LOWER RISK to HIGHEST RISK
- **Duration**: LOWER RISK to HIGHEST RISK
ALL horses and athletes are affected by HEAT

Jumping and Dressage
- Large horses
- Working for long periods

Eventing
- Intense exercise
- Moderate duration
Climate mitigation

Competition Scheduling
WBGT Tokyo 9th August 2018
Climate Mitigation
Horse Preparation
Horse Preparation

• Pre-Travel

• Travel

• Management at & During Competition
Horse Preparation

Pre-Travel

• Acclimatisation

• Nutrition

• Cooling

• Health - especially respiratory
Horse Preparation

Pre-Travel

• Acclimatisation
  – Training harder and longer than normal at home to reach a higher body temperature
  – Scheduling training sessions at home for the hottest part of the day
  – Training at home on a treadmill in a heated room
  – Training at home using rugs
  – Travelling to a hotter or hotter and more humid climate in advance of competition
Horse Preparation

Pre-Travel

- Acclimatisation
  - How often do I have to exercise my horse and for how many days? ~10 days
  - Does acclimatisation fully restore a horses’ capacity for exercise in the heat? No.
  - What can I expect to see when I start heat acclimatisation? 4-5 days
  - Does heat acclimatisation work for all horses? No.
Horse Preparation

Pre-Travel

• Nutrition
  – Horses sweat more in warmer climates
  – Increased electrolytes loss in sweat and dehydration increase the risk of fatigue, muscle problems, respiratory problems and colic
  – Horses may require electrolyte supplementation

  – Changes in diet during TRAVEL are a major RISK FACTOR for COLIC!
Horse Preparation

Pre-Travel: Cooling Familiarisation & Training

“Aggressive cooling is almost certainly the single major factor in reducing heat related illness in horses in thermally stressful conditions.

Aggressive cooling of hot horses does not cause muscle damage and can greatly reduce the risk of collapse and injury or the development of heat-related illness”
Cooling

Ice & Water Buckets

Cold water Sprays

Misting tents
Horse Preparation

TRAVEL

• Nutrition - Avoid changes in diet as much as possible!
• Forage & water during travel to reduce stress
• Reduce hard feed/concentrate and feed small amounts frequently
• Arrival – allow horses to get heads down
• Respiratory monitoring – “Shipping Fever”
Horse Preparation

TRAVEL

• Allow time to recover
  – One day of recovery with limited exercise for each 8 hours (1 day) of road travel or ½ day recovery for each hour of flight, up to 5 days

• Monitor feed and quantity of water intake and clinical signs
  – Bodyweight
  – Rectal temperature
  – Heart rate
  – Urination
  – Defecation
Horse Preparation

MANAGEMENT AT & DURING COMPETITION

- Water – do not restrict
- Monitor daily
- Acclimatisation
- Avoid sunburn
- Avoid over-heating
- White or light flysheets and rugs
- Be aware of anhidrosis
Horse Preparation

MANAGEMENT AT & DURING COMPETITION

• Warm-up
  – Reduce duration OR break-up and cool down

• Water
  – In Training
  – Before Competition
  – During Competition
  – After Competition

• Use indoor arena as appropriate
Summary

• Preparation
• Recovery from travel
• Acclimatisation
• Cooling
• Individual horse management
Equine & Human Athlete Welfare & Climate

- Awareness
- Education
- Prevention
- Mitigation