HEAT HAZARDS to HUMAN HEALTH Focus on Feasible and Sustainable Solutions



Direct deaths

Heat related illness and diseases



PERFORMANCE (factors affecting)

PRODUCTIVITY

Prevention of POVERTY HEALTH



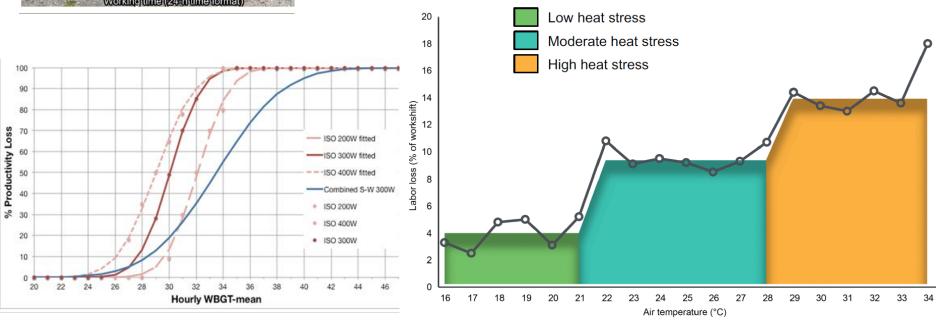
PACING / PRAGMATIC PLANNING



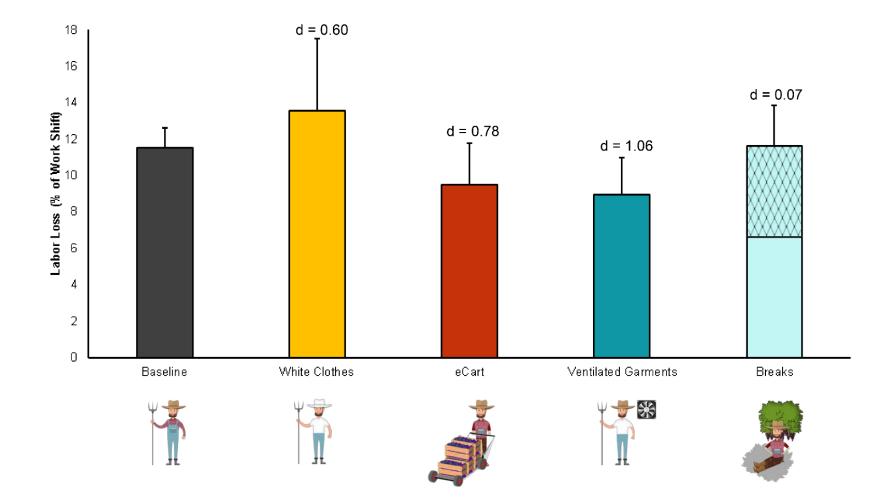
Both field and lab studies show that heat stress provoke fatigue

- or force workers to take more frequent and longer breaks !!

TEMPERATURE & LABOUR LOSS







Ioannou & Flouris; Heat-Shield work available at www.heat-shield.eu

More focus on day to day recovery/rehydration

~ 70% <u>initiate</u> work with a suboptimal status !!

High prevalence of hypohydration in occupations with heat stress—Perspectives for performance in combined cognitive and motor tasks

Jacob F. Piil₁¹*, Jesper Lundbye-Jensen¹, Lasse Christiansen¹, Leonidas Ioannou², Lydia Tsoutsoubi², Constantinos N. Dallas², Konstantinos Mantzios², Andreas D. Flouris², Lars Nybo¹

1 Department of Nutrition, Exercise and Sports, Section for Integrative Physiology, University of Copenhagen, Copenhagen, Denmark, 2 FAME Laboratory, Department of Exercise Science, University of Thessaly, Karies, Trikala, Greece

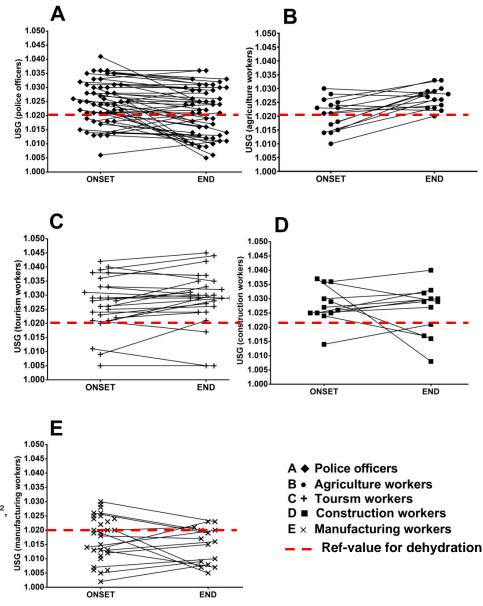
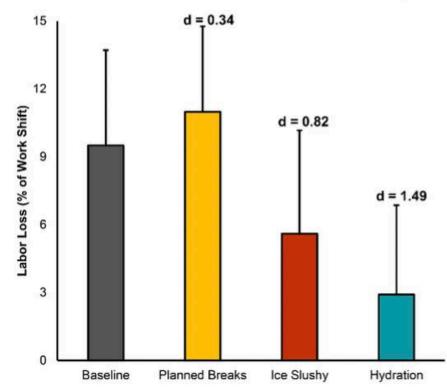
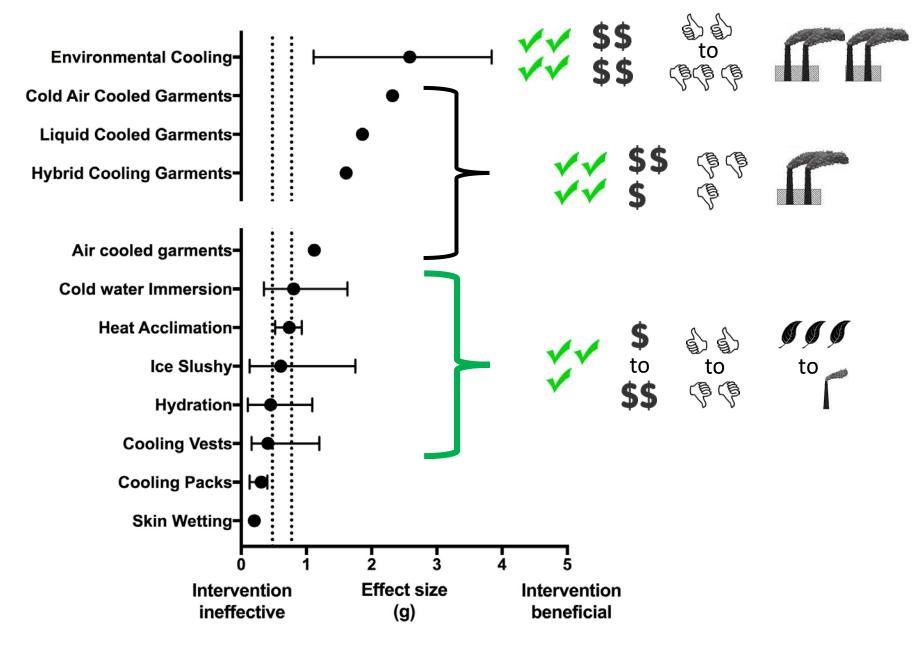




Figure 20. Labour loss (i.e., percentage of work shift time lost due to irregular work breaks) during the baseline assessment and the three interventions used to test different adaptation measures.



Effects on performance/physiological function/strain



Heat, hydration health concerns and considerations

Effects of elevated environmental heat stress

 Increased mortality and morbidity during heat waves is only part of the problem (visible top of the iceberg)

Huge "hidden health threat" related to indirect effects on human functioning and productivity

health.

Future alert systems, prevention plans and analyses of climate change impact

should consider - and target both the

direct (obvious) and derived factors influencing individual

Heat related illness, injuries and diseases

PRODUCTIVIŤY

Physical performance Concentration and other cognitive functions, Cardiovascular stress

POVERTY

Socio-economic skewed effects

Main effects on manual workers

Highest heat impact in poor countries

Individual HEALTH

Affordable health care systems and solutions to prevent negative heathealth effects