INPLASY PROTOCOL

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Review Stage at time of this submission: **Formal screening of search results against eligibility criteria.**

Conflicts of interest:
Author's declare no competing interests.

Global agricultural labor productivity in the face of climate change

Ioannou, LG[1]; Flouris, AD[2].

Review question / Objective: **This systematic review will examine the effects of thermal stress on the productivity of agriculture workers.**
Condition being studied: **Agricultural labor productivity loss due to environmental heat/cold stress.**
Information sources: **Electronic databases: PubMEd; Scopus; and ProQuest: Agricultural and Environmental Science Collection.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 04 October 2020 and was last updated on 04 October 2020 (registration number INPLASY2020100011).

INTRODUCTION

Review question / Objective: **This systematic review will examine the effects of thermal stress on the productivity of agriculture workers.**

Condition being studied: **Agricultural labor productivity loss due to environmental heat/cold stress.**

METHODS

Search strategy: **Pubmed & Scopus algorithm: (("Productivity"[Title/Abstract] OR "labor"[Title/Abstract]) AND**

((("occupation*"[Title/Abstract] OR "worker*"[Title/Abstract]) OR "harvester*"[Title/Abstract]) OR "farmer*"[Title/Abstract])) AND ("Heat"[Title/Abstract] OR "thermal"[Title/Abstract]); ProQuest - Agricultural & Environmental Science Collection algorithm: (ab(Productivity) OR ab(Labor) OR ti(Productivity) OR ti(Labor)) AND (ab(Occupation*) OR ab(Worker*) OR ab(Harverster*) OR ab(Farmer*) OR ti(Occupation*) OR ti(Worker*) OR ti(Harverster*) OR ti(Farmer*)) AND (ab(heat) OR ab(thermal) OR ti(heat) OR ti(thermal)).

Participant or population: Agriculture workers.

Intervention: Non-applicable.

Comparator: Non-applicable.

Study designs to be included: Observational studies investigating the effects of thermal stress on the productivity of agriculture workers.

Eligibility criteria: Field studies investigating the effects of thermal stress on the productivity of workers who perform labor in agriculture.

Information sources: Electronic databases: PubMEd; Scopus; and ProQuest: Agricultural and Environmental Science Collection.

Main outcome(s): The main outcome of the current systematic search will be a meta-correlation analysis describing the association between occupational heat/cold stress and productivity.

Quality assessment / Risk of bias analysis: Two independent reviewers will assess the methodological quality of the included studies, and any disagreements will be resolved by consensus.

Strategy of data synthesis: We will provide a narrative description of the findings of the eligible studies. Tables will be produced to detail the included studies and their outcomes. Furthermore, a meta-correlation analysis for eligible studies will be conducted using STATA 16.0 software (Stata Corporation, College Station, TX, USA) investigating the association between occupational heat/cold stress and productivity loss in agriculture.

Subgroup analysis: Non-applicable.

Sensibility analysis: Sensitivity analysis will be performed to test the robustness of study findings by eliminating low quality trials.

Language: English.

Country(ies) involved: Greece.

Keywords: Agriculture; Productivity; Labor Loss; Thermal Stress; Heat; Cold.

Contributions of each author:
Author 1 - Leonidas G. Ioannou - Conceptualization, data curation, formal analysis, investigation, methodology, writing – original draft.
Author 2 - Andreas D. Flouris - Conceptualization, data curation, formal analysis, investigation, methodology, writing – original draft.