

Societal Perceptions and Attitudes towards GM Crops, Feed, and Food Products in the MENAT Region: A Systematic Review

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Introduction

Genetic modification (GM) is a scientific method where modern biotechnology techniques are applied to manipulate and alter the genetic material of all living organisms (1). Nowadays, GM crops and foods are widespread in some countries around the world especially in Northern America, Asia, and Africa. However, despite the various benefits (e.g., increased yield), the potential risks and uncertainties associated with the production and consumption make genetic modification a highly controversial and debated topic (2,3). Indeed, over the last two decades, there has been extensive research on perceptions of GM applications, particularly in the agriculture and food sectors (3,4), however, societal resistance remains one of the main barriers to the diffusion of GM crops and foods worldwide (5).

WHY A SYSTEMATIC REVIEW?

Most of the research on societal perceptions and attitudes towards GM crops and food has mainly focused on western and some Asian countries with little empirical research done in developing and Middle Eastern and North African countries. Hence, this systematic review contributes to the growing body of literature in this area by adding to and consolidating the existing knowledge on societal perceptions and attitudes towards GM crops and foods in the MENAT (Middle East, North Africa, and Turkey) region.

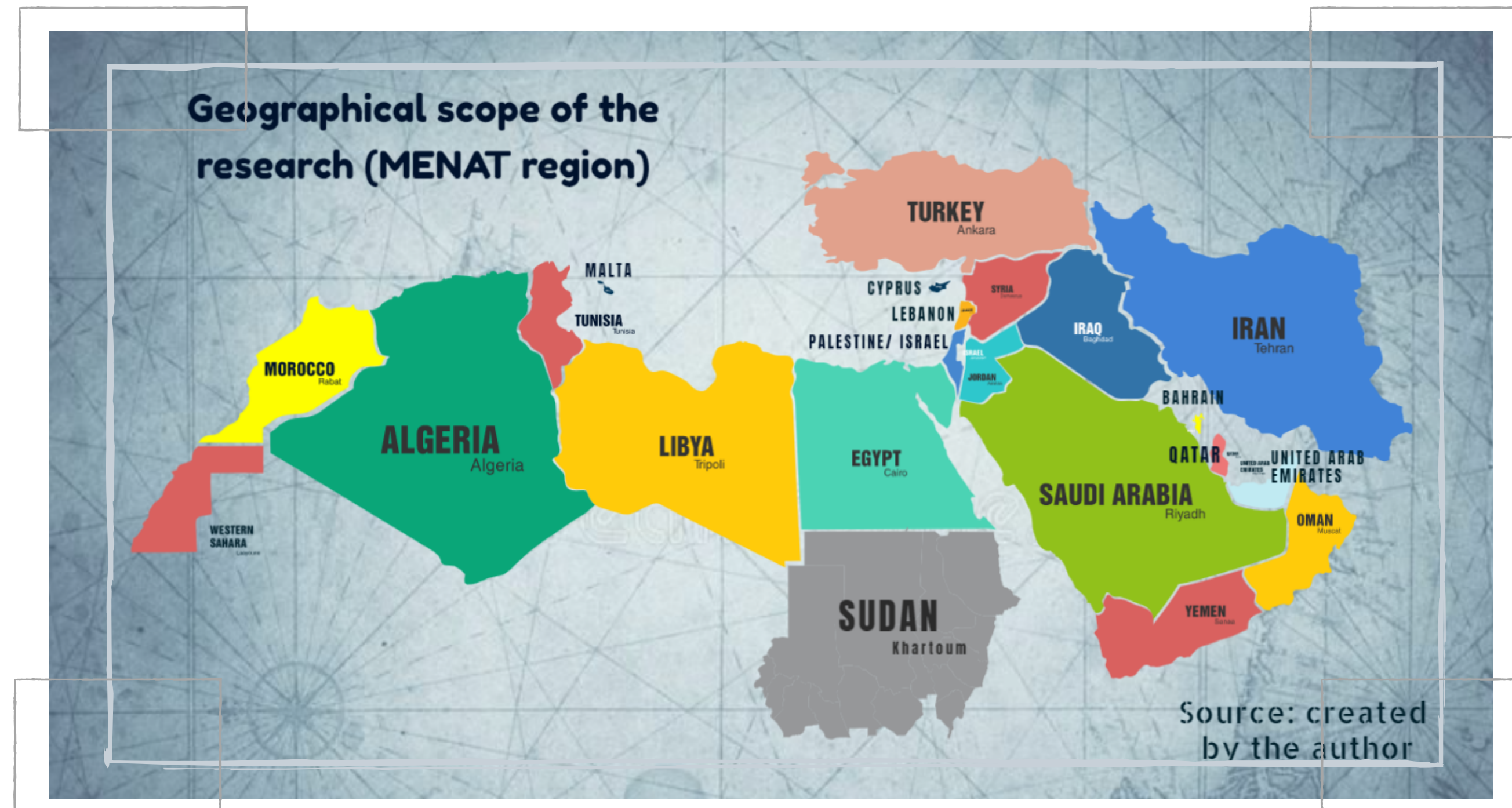
Research Objective

The objective of this systematic review is to synthesize existing literature regarding societal perceptions and attitudes towards GM crops and foods in the MENAT region, to identify gaps of knowledge and consolidate the current state of art. Moreover, this research will contribute to the debate on GM food, which in turn may benefit both policy makers and the agri-food sector.

SPECIFIC RESEARCH QUESTION

What perceptions and attitudes do stakeholders (e.g., consumers, farmers, scientists, students) in the MENAT region have towards genetically modified crops and food products?

- 1 What are the factors that influence perceptions and attitudes towards GM modified food, feed and crops?
- 2 Do cultural and religious factors in particular play a role in societal acceptance of GM foods in MENAT region?
- 3 What are the primary risks associated with GM application in food production?
- 4 What are the perceived benefits that drive the acceptance of GM crops and food products?



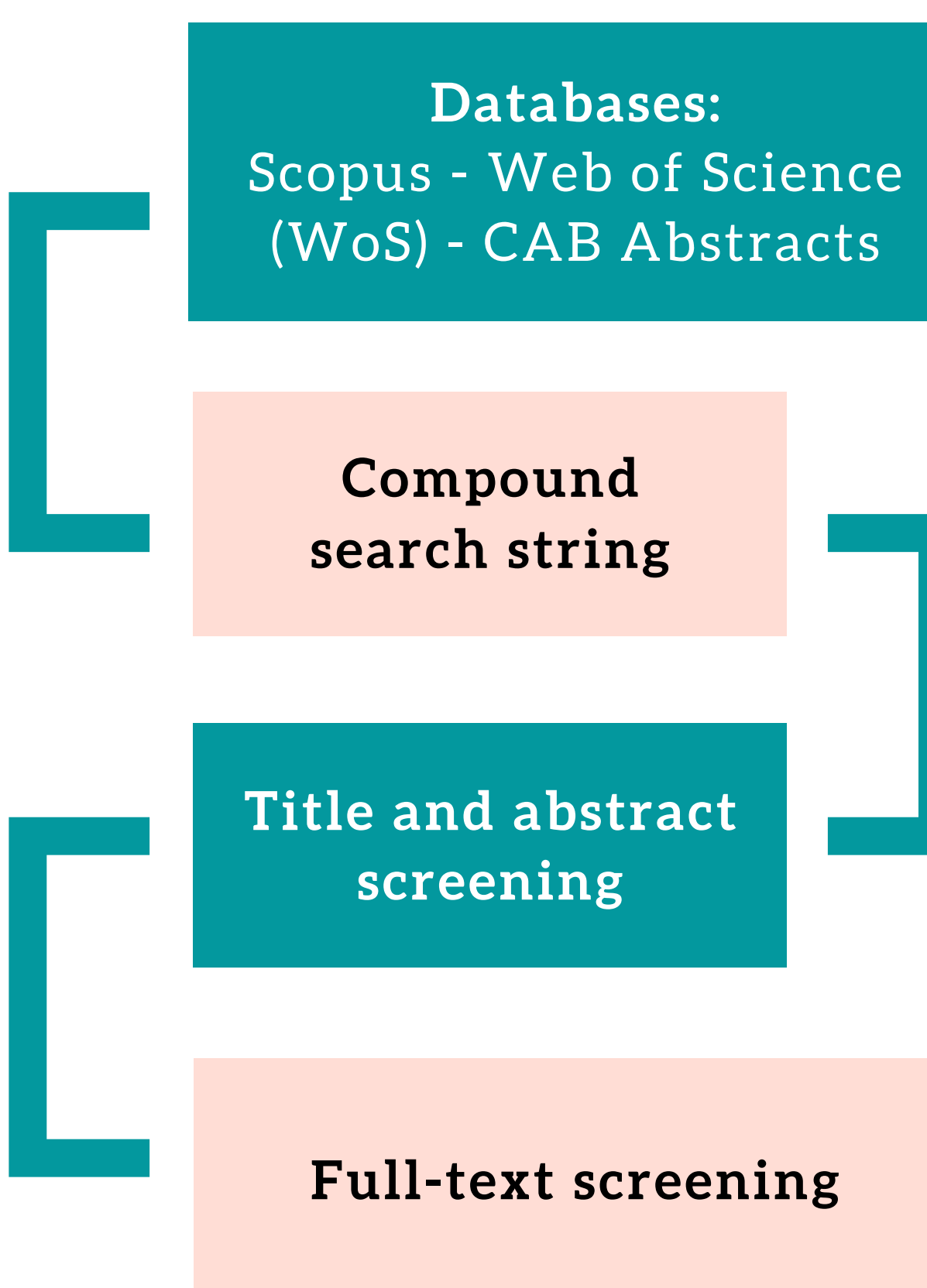
RESEARCH METHODOLOGY

A Criteria for study selection

PICO tool (Population, Intervention, Comparison, and Outcome - the "comparison" element is not applicable given the nature of the review's topic) in addition to some other inclusion/exclusion criteria (e.g., products and language).

CRITERIA	INCLUSION	EXCLUSION
Type of study	Empirical (qualitative, quantitative, or mixed)	Non-empirical (review article, book chapter, etc.)
Topic/outcome	Social perspectives, i.e. perceptions, attitudes, acceptance, risk/benefit perceptions, etc.	Other non-social aspects, i.e. technical or legal aspects, general challenges, etc.
Products	GM crops, feed, and food products.	Any other GM products.
Population/geographical scope	Studies with participants from any of the MENAT region's countries.	Studies with participants from other countries than the MENAT countries.
Type of intervention	Studies with both real or hypothetical scenarios, products.	N/A
Time limitations	N/A	N/A
Language	Only studies published in English language.	Studies published in any other language.

B Search and screening procedures



Preliminary results

Identification

Records identified through database searching: **N = 2248 records**

- Scopus: **N = 1584**
- WoS: **N = 444**
- CAB Abstracts: **N = 220**

Screening

Records after initial title screening on databases' websites: **N = 136 records**

Records after duplicates removal: **N = 95 records**

Records screened: **N = 95 records**

Eligibility

Full-text articles assessed for eligibility: **N = 65 records**

Inclusion

Studies included for analysis and synthesis: **N = ? (research still in progress)**

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