Trend of research on durum wheat irrigation by bibliographic mapping

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Abstract

Nowadays irrigation of durum wheat represents a key point to provide food security in a context of climate change. Although this topic has caught on particular attention from the global scientific community, many issues and aspects remains understudied. To fill the knowledge gap and collate present evidences, this analysis used a combined bibliometric and thematic approach to synthesize the peer-review literature from SCOPUS main collection, covering the period 1977-2023, as a result 332 documents were included. The main findings of this work are as follows:

(1) Spain and Tunisia hosts the most productive institution in this field;

(2) the journal Agricultural Water Management emerged as the most prolific, with the largest number of articles and citations;

(3) a wide range of topics and approaches on durum wheat irrigation has been identified, with particular emphasis on controlled water deficit and remote sensing driven management;

(4) the mapping of bibliographic data coupling with co-occurrence map remains a poorly examined area of study.

The results suggest the need of strengthened institutional partnerships and synergize the research on durum wheat irrigation, particularly in the most vulnerable areas where climate change are acting heavily. Future studies should aim to contribute to the understanding of the impacts of climate change through innovative techniques in order to improve our understanding of the durum wheat water needs and their application in crop management, while ensuring ongoing updates to the existing collection of knowledge to face future challenges.