


Underutilised crops research for mitigating food insecurity under persistent climate change

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I am honoured and privileged to serve as the first Editor-in-Chief of the *Journal of Underutilised Crops Research* (JUCR) – an international peer-reviewed journal aimed at publishing essential research conducted on the cultivation of neglected crops. It has been my vision, since 2019, to have a journal that is dedicated to publishing research that is solely focused on indigenous and underutilised crops.

Global food security is progressively dependent on fewer than 30 plant species, with a great proportion of the population's food needs relying on three major crops, that is, rice, maize and wheat. These major or commodity crops have also been heavily researched, and, in some countries, their production subsidised by governments. With climate change predicted to result in an increased frequency of climate extremes (Intergovernmental Panel on Climate Change [IPCC] 2021), which is a point of interest when considering the possible impact that this will have on agriculture, and subsequently food and nutrition security (IPCC 2021; Pardo & Durán-Romero 2022). The fate of commodity crops cannot be guaranteed, and it is expected that diversification of food systems with currently neglected or underutilised crops will relieve pressure brought on by climate change. That is, underutilised crops are seen as mitigation strategies for food insecurity under persistent climate change and variability conditions (Gregory et al. 2019; Tan et al. 2020).

Often referred to as crops for the future (Gregory et al. 2019), neglected and underutilised crops are under-researched, often indigenous, food plant species that have not been categorised as major food crops but have the potential to be economically and agronomically significant (Majola, Gerrano & Shimelis 2021). They are mainly limited to small-scale farming systems and have been documented to be resilient against extreme environmental conditions, including drought and heat stress (Kamenya et al. 2021; Mayes et al. 2019). However, limited research has been conducted to understand the potential of underutilised crops, with many of them cultivated only locally as landraces, without improved varieties. It is therefore my hope that this journal will serve as a platform and a space where such research can be highlighted.

Some crops, such as Bambara groundnut, have now started enjoying increase in research in many African countries, specifically in southern and West Africa, and some parts of Asia (e.g. Khan et al. 2021a, 2021b; Majola et al. 2021; Mayes et al. 2019; Olanrewaju et al. 2021; Tan et al. 2020). However, there is a multitude of other crops that require the same attention, for example, jute mallow, okra, cat's whiskers or African cabbage, grain amaranth, different yams, cowpeas, marama bean, various cucurbit species, etc.

Nonetheless, research on underutilised crops has increased steadily over the last decade, especially with the establishment of the African Orphan Crops Consortium in 2011 (AOCC; <http://www.africanorphancrops.org>), which has led the way and provided guidelines for some of the research that needs to be conducted on neglected crops. Moreover, the last decade has seen a great interest in publishing research specifically on neglected and underutilised crops, with some journals calling for special issues on the topic (e.g. *Sustainability* [2013, 2021], *Planta* [2019], *South African Journal of Botany* [2021] and *Agronomy* [2022]). Therefore, there is no better time to launch this journal, when research on indigenous and neglected crops is fast becoming important, especially in the developing world, and particularly on African and Asian continents.

I would like to acknowledge JUCR's editorial team for agreeing to be part of the journal, especially those who have seen this vision realised – from 2019 up until now. A special mention goes to my former and current students who have gone through the indigenous crops research journey with me: Dr. C. Mashamaite, Mr. S. Zidubule, Mr. H. Motsi, Ms. T. Mncube, Mr. M. Havenga, Ms. C. Tembo and Ms. M. Mabitsele.

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