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“Reconcile land system changes
with planetary health”

Farmers’ management practices for sorghum production for climate change adaptation in Mali

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Abstract

Sorghum is a traditional cereal widely grown and consumed by smallholder farmers in the majority of Africa’s drylands, including Mali. Despite its economic importance, low soil fertility, limited fertiliser use, and irregular rainfall distribution induced by climate change and land degradation are the main obstacles to sorghum productivity. However, it is important to identify promising management practices for climate change adaptation for sorghum that have the potential to help farmers adapt to climate change to better build resilience in smallholders. Management practices through the use of different varieties of sorghum and a range of methods, fertiliser use and tillage to promote social inclusion and empowerment of multiple end-users, participatory research will be adopted to select agricultural practices that have high impact on sorghum grain and biomass yield. Thus, a structured questionnaire was sent to farmers in four villages in Mali (Dioila, Koulikoro, Koutiala and Sirakorola) to identify promising practices for managing sorghum for adaptation to climate change. The analysis of the data from the survey conducted in the three agro-ecological zones allowed us to know that there is a diversity of practices from sowing date, weeding and fertiliser application period to harvest which leads to a variation in yield from one producer to another depending on their means of production and access to agricultural equipment and inputs. The identification of those promising practices which gave high yields could be the reference and advice for sustainable sorghum productivity. Climate variability, difficult access to seeds and fertilisers were mentioned as major constraints for sustainable production and low yields.

Keywords: Adaptation, climate, Mali, sorghum