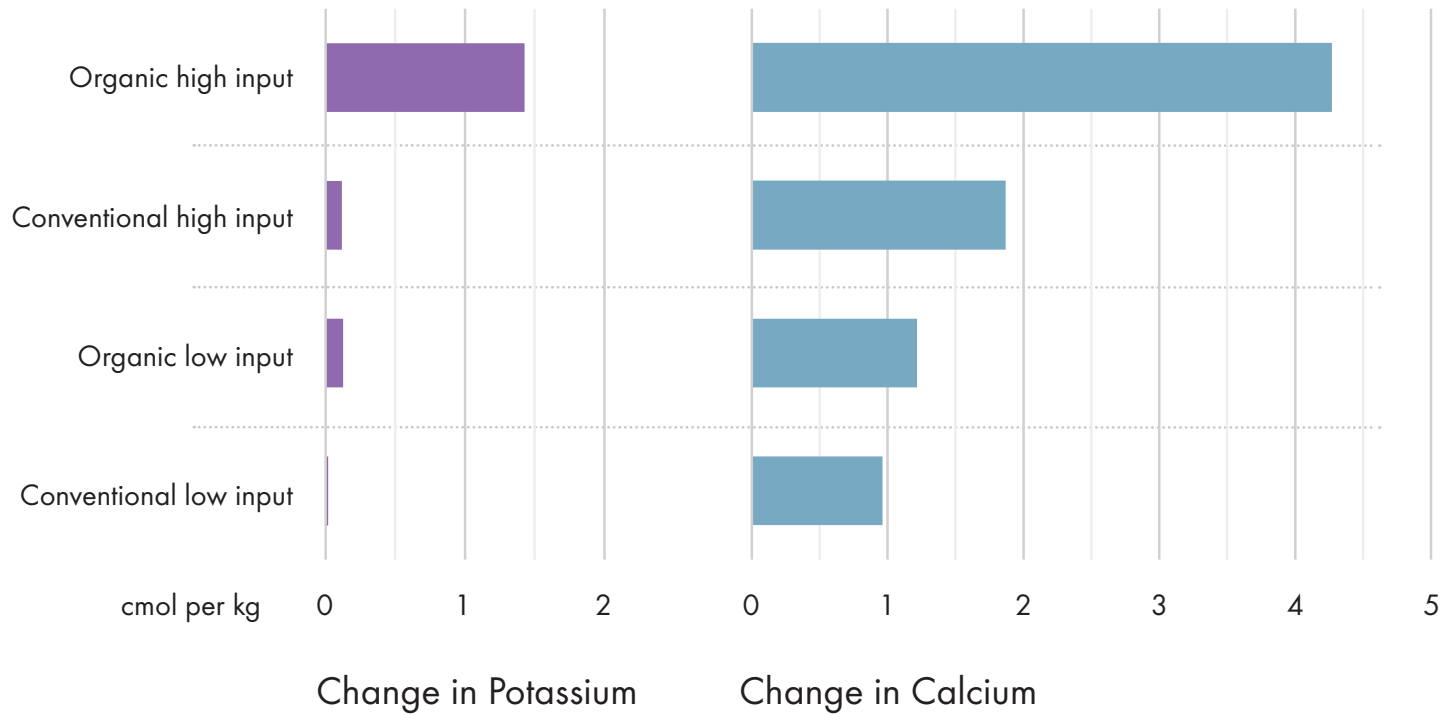


Changes in potassium and calcium contents of soils after 6 years of organic and conventional cultivation at Chuka, Kenya



Long-term Farming Systems Comparison Trials in Kenya

Impact of Organic and Conventional Farming on Soil Fertility



A fertile soil is characterised by its ability to supply the plants with nutrients and, thanks to a good structure, to prevent erosion and provide a habitat for a varied and active flora and fauna.

Results after six years of comparative cultivation at two sites (Chuka and Thika)

- Soil physical and chemical properties as well as microbial biomass and activity were significantly improved in the organic farming compared to conventional farming under a high input level of fertilizer and irrigation.
- Soil physical and chemical properties were similar in both systems at a low input level of fertilizer and no irrigation.
- With conventional farming more plant nutrients were removed through harvests and crop residues than in organic farming.
- Storage of organic carbon was similar in organic and conventional farming at low and high input levels.

Conclusion

Organic farming can contribute to improvement of soil fertility and ensures an efficient nutrient supply of food crops. Further studies are necessary to monitor the carbon storage and the resilience of the farming systems to climate change.

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