

Mapping Underutilised and Emerging Food Sources to Provide Safe, Affordable and Nutritious Foods for South Africans

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Abstract

There are clear signs that the South African food system is failing as we experience increasing trends in hunger, rising food costs, lack of dietary diversity, child stunting, foodborne illnesses, food waste and an obesity epidemic coupled with malnutrition. Fortunately, we are also on the edge of revolutionary disruption in food and agricultural production with the uncoupling of our dependence on land and sea resources to utilise novel protein sources derived from bacteria, yeasts and fungi. A literature review was conducted to identify underutilised or emerging new food sources (UEFS). They were identified as indigenous African crops (IACs), insects, fermentation, cell-based meat and seafood, food waste recovery and algae. Criteria were developed to assess these UEFS to evaluate their ability to provide affordable, nutritious, safe and relevant for South Africans (ANSSA). A survey was then conducted with respondents being food professionals from industry, academia and government evaluating these UEFS against the ANSSA criteria. Findings indicated that the two most promising UEFSs, IACs and food waste recovery, could be available to South Africans within three to five years and were rated highest in their ability to meet the ANSSA criteria identified. The two underutilised or emerging food sources with the longest time frame to commercialisation were cell-based meat and seafood and algae (> 5 to 10 years), with cell-based meat and seafood scoring the lowest of all six UEFS against the ANSSA criteria. Future diets of South Africans could be far more diverse and nutritious with less impact on the environment if we invest in UEFS through research, capability building, a supportive regulatory environment and scale-up infrastructure.

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Lisa is a passionate Food Scientist with extensive global experience working in a variety of multinationals from Unilever, Mars, Woolworths, and MANE across the food FMCG environment (ingredients, flavours, manufacturing and retail). She has a particular passion for ensuring the application of science and technology is meaningful for both people and planet. Lisa recently moved from South Africa, where she was R&D Executive for Mane Flavours leading their Innovation Centre for Sub-Saharan Africa, to join v2food in Australia. Lisa is currently Head of Science & Technology where she is responsible for leading and translating v2food's research programs into meaningful product and sustainability advancements. Lisa is completing her PhD in Food Science through the University of Stellenbosch, exploring the current and future application of food science & technology in South Africa in responding to major shifts in food consumption patterns since 1994.