

# Advanced Agriculture and Food

Innovating Food Products

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03 July 2024

EnergyWater Food Climate Nexus International Summit -  
Mangosuthu University of Technology



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Science and Innovation  
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# CSIR

- CSIR is a well-known scientific entity in our continent and globally.
- Our research focuses on leading scientific discoveries and innovations, and on understanding what our society needs.



# Advanced Agriculture and Food Cluster

## Platforms

- Precision Agriculture - Climate modelling, Remote sensing, Geographic Information Systems, Drone Technologies
- Agroprocessing - Improve South Africa's biodiversity by formulating high-value products (food, cosmetics, nutraceuticals and African traditional medicines) based on indigenous plants
- Food Safety - tools used to preserve the quality of food and to prevent contamination and foodborne illness. It includes quality and safety through the whole food chain.

# Food Innovations using Indigenous Edible Plants

## What are food innovative products:

- New or improved food products that meet consumers' needs, address emerging trends, or solve specific problems within the food industry.
- Foods that have health benefits, have sustainability and convenience.

## Examples of Innovative Foods

- Plant based; dairy alternatives (soy milk, almond milk, oat milk)
- Functional foods and beverages (yoghurts, cereals, snacks etc.)
- Convenient foods (Ready to eat meals)
- Indigenous foods that can be considered smart foods are from climate smart grains such as Sorghum (*Sorghum bicolor*), Millets, Bambara nut (underutilized)



# Innovative Foods Developed by CSIR

## Butternut Puree developed for Success Foods



- High in vitamins A, C, and E.
- Contains minerals like potassium, magnesium, and manganese.
- A good source of dietary fiber, promoting digestive health.

### Uses

- Soups/stews
- Baking
- Smoothies

# Innovative Foods Developed by CSIR

## Umpetha Iced for Mabena



- Immune booster, helping the body fend off infections and illnesses.
- Daily healthy tonic
- Supports overall well-being

# Innovative Foods Developed by CSIR



# Innovative Fermented Food Products

- Marula (*Sclerocarya birrea*)
  - Traditional non-alcoholic beverage, Mkumbi, is produced by lactic acid fermentation of the fruit juice
  - Popular commercial beverage Amarula Cream
- Sorghum
  - Sorghum is prepared into food fermented products such as Ting, lactic acid fermented porridge and
  - Motoho, a non-alcoholic fermented beverage
- Maize
  - Maize is fermented into Mahewu, a non-alcoholic beverage





# Commercialization of Indigenous Herbal Beverages and Foods

- Some products developed are now ready for the markets, and some have been commercialized
  - Setsong Herbal Teas (Setsong Tea Crafters)
  - Mpetha Herbal Iced Tea (Mabena)
  - Canned Butternut (Imbali-Agri)
  - Snack bars and porridges based on Baobab



# Conclusion

Food Innovative Products address:

- Consumer demands for health, convenience and unique experiences,
- Help shape the future of the food industry
- Reduce costs, making nutritious foods more accessible and affordable for a broader population.

# Thank you to our funders of research



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The background is a dark blue gradient with abstract geometric patterns. On the left side, there are several overlapping circles and lines in a lighter blue shade, creating a complex, layered effect. The right side is a solid, slightly darker blue.

**Thank you**