



Take advantage of our  
Test-Beds-the ideal platforms  
for proving your food product  
concepts in the market

04

Research for development;  
Another newly developed  
product is being tested  
in the market

11

NFTRC Hosts BDF Basic  
Logistics Course students

12

NFTRC supports Elderly  
Wellness Day

# EDITOR'S NOTE

Harvest season is in full swing in some parts of the country, and it is time to celebrate all the hard working farmers, caterers, food processors and everyone involved in providing us with enchanting foods and beverages.

Most of our communities celebrate the harvest season, known as *Letsema* in Setswana. On May 22<sup>nd</sup> the National Food Technology Research Centre (NFTRC) and other State Owned Enterprises under the Ministry of Agricultural Development and Food Security will commemorate their Open Day jointly with Masunga Cluster Harvest Day. As a result all roads will lead to Masunga, therefore you are kindly invited to the event.

At NFTRC, we strongly believe that through the food processing trainings under our Skills and Knowledge Transfer programme, post-harvest losses will be a thing of the past, and the national food import bill will be reduced allowing us to retain some of our expenditure to create jobs locally.

On the other hand, for Food Entrepreneurs who are starting or already in business, NFTRC has various services aimed at supporting the food industry. These include nutritional and chemical analysis with specific emphasis on mycotoxin testing, pesticide residue testing, shelf-life determination and basic food safety testing for pathogenic micro organisms to assure food safety.

If your food product is giving you a hard time we are just a phone call away; let us assist you in fine-tuning your product through our Product Development and Sensory Evaluation services.

For more information talk to us NOW...dial: +267 544 0441/5500

Email your enquiry to [mail@naftec.org](mailto:mail@naftec.org)

To learn more visit our website at [www.naftec.org](http://www.naftec.org)

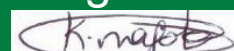
For daily interaction, like our Facebook page:

<https://www.facebook.com/www.naftec.org>

***Let me not keep you here, like I said it is harvest season, enjoy it while it lasts, and consider venturing into the food processing business...Enjoy your read...We will be back with another edition in June 2019.***



**Kelebogile Mafoko**



## EDITORIAL TEAM

Kelebogile Mafoko  
Dr Boitumelo S. Motswagole  
Selalelo M. Mpotokwane

Peoetsile Seitiso  
Thobiso Ditsheema  
Motlalepula Bomang

## INSIDE PAGES

About us	03
Research for development	04
Use Our Test-Beds, platforms for proving your food product concepts in the market	06
NFTRC Hosts BDF Basic Logistic Course students	11





## ABOUT US

**National Food Technology Research Centre (NFTRC)** was registered and incorporated in 1999 as company limited by guarantee. It is a research and development organisation funded by the Government of Botswana and reports to the Ministry of Agricultural Development and Food Security.

**Vision:** To Be an Internationally Recognized Centre of Excellence in Food Science and Technology.

**Mission:** To Generate Food Technologies and Services that Enhance Economic Diversification and Food Security through End-User Focused Research and Development.

### Services Offered:

- Nutritional and Chemical Analysis (for food labelling)
- Shelf-Life Studies (for food expiry dates)
- Food-Quality and Safety Testing (chemical and microbiological)
- Skills and Knowledge Transfer Programme (offers various food processing training workshops)
- Food-Product and Process Development
- Food Sensory Evaluation
- Nutrition and Dietetics Research and Consultancy
- Test beds for production of test batches, for use in testing consumer acceptance of new products. Installed test beds include vegetable processing line, dry-milling plant, meat processing line, canning line, and beverage processing and bottling plant.

NFTRC has set up Naftec Investments (Pty) Ltd-a subsidiary company whose sole mandate is to commercialise the Centre's Research and Development outputs. NAFTEC Investments established a horticultural agro-processing plant trading as National Agro Processing (NAPro) in Selebi Phikwe to process horticultural produce. It is the first of its kind in Botswana.

Through NAPro, we pride ourselves as the home of **Harvest Haven** Products which include Mixed Vegetable Pickles, Pickled Beetroot, Tomato Sauces (chilli, plain and onion flavours).

# Research for Development

*Are you aware of the new NFTRC sorghum cereal drink project? if NO let's hear about it from National Food Technology Research Centre (NFTRC) Acting Managing Director Dr Martin M. Kebakile.*



## ***Why the 'sorghum cereal drink' project and what benefits would it bring to the country?***

The project came as a proposal from Tshwane University of Technology (TUT) in South Africa, which NFTRC found relevant to accept because of the key ingredient used to produce the drink which is the sorghum grain. The sorghum grain is considered as Botswana's traditional food that is draught tolerant and very healthy.

Therefore we believe that if we could arrange ourselves better as a country we could use it to tackle issues of food security. Being a fermented sorghum cereal drink, we saw it as a possible competitor for the maize *mageu* thus providing choice to the local consumers. Moreover, manufacturing the drink locally would mean job creation and additional market opportunity for sorghum producers in the country.

Last but not least, the project could bring us together as research and technology development organisations in the Southern African Development Community (SADC) region thus facilitate cooperation, enhance converging of ideas towards the achievement of SADC industrialisation Strategy.

## ***Apart from TUT, Who are the other partners?***

Apart from TUT as our research and technology development partner, we have the main sponsors of this project who are; the Botswana Innovation Hub (BIH) in conjunction with NEPAD SANBio (Southern Africa Network for Biosciences) through the BioFISA II Programme (a Finnish-Southern African Partnership Programme to Strengthen NEPAD SANBio).

## ***What stage is the project currently on?***

Looking at the Technology Readiness Model (TRM) used by NFTRC, the project is entering the pilot testing stage where it will be distributed to stores for consumer feedback collection purposes in order to conclude the product formulation. Once it is done the technology will be then transferred to the private sector for full scale commercialisation.



## ***Meet the Young Female Scientist behind the product production***

***Ms Matlhogonolo Ntutu, mostly called "Pushy" by her peers, a young female working for NFTRC as an Assistant Research Scientist. Pushy is the Production Controller for the new NFTRC sorghum based cereal drink with probiotics. In this project she is responsible for planning, material and labour mobilization, processing and product quality control of the consumer and test market batches.***

## ***Pushy, tell us...what is your main role in this project?***

As a Production Controller I have been involved in this project from its prototype stage; I have been responsible for methodical planning, leading, coordinating and controlling of activities along the sorghum cereal drink production line.





### What is this “sorghum cereal drink” project all about?

The **sorghum cereal drink** is a functional fermented drink with probiotics; it has a sweet and sour taste with creamy appearance. Most people refer to it as “*mageu a mabele*” but I always tell them that, it is more than the ordinary “*mageu a mabele*”. It comes in four tastes which are banana, litchi, peach and original (unflavoured).

### One may ask, what are probiotics and how do they benefit the user?

Probiotics are live bacteria and yeasts that are essential for the body. These organisms take care of the gut health by normalising intestinal microflora balance, hence preventing or reducing diarrhea, constipation, intestinal infections and abdominal discomfort. It also prevents vaginitis, and is suitable to people who have lactose intolerance.

### What makes it the “TO GO FOR...” drink in the market so far?

Apart from the probiotic health benefits, sorghum cereal drink is a convenient food, high in protein, energy and fibre. Moreover it is gluten free, cholesterol free and lactose free. All four flavours in which the product is presented are very refreshing as well.

### What excites you most about this sorghum cereal drink project?

Apart from working on a product that has captured so much public interest during its pilot stage, what excites me most is the growth and experience that comes with the challenges encountered during processing. The quality and food safety issues take the lead because they are the most critical aspects that must be well taken care of at all the times. Working in a production environment, one is always under constant pressure to achieve targets within tight deadlines and this challenge always keeps one on his or her toes.

### What keeps you going despite these challenges?

Ohh ... the support I get from the team members keeps me going...it gives me the urge to keep satisfying the sorghum cereal drink users who demand for a more tastier beverage at all the times. The experience of a processing and production environment I am getting is also very fulfilling.



Pushy and some of the team members during processing



A batch of the sorghum cereal drink



## BOTTLING LINE →

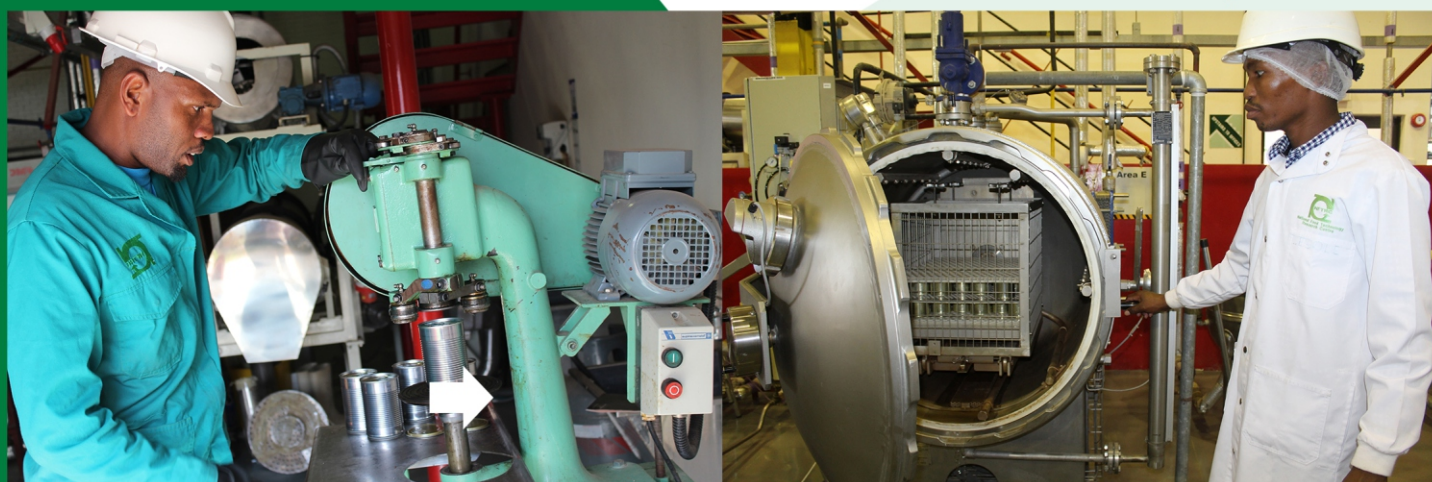
*Bottling blow moulding machinem, ROA with UV automated bottle filling machine-Plant is used for bottling water and various beverages such as juices, *mageu* and malt drinks; can package different bottle sizes*



## CANNING LINE →

*Can-sealing machine-for closing cans after filling in products*

*Retort machine-used for pressure cooking canned products*



## FRUIT AND VEGETABLE LINE →

*Used for processing fruit and vegetable products such as jams, pickled vegetables and others*



*Please contact us for more information*





NATIONAL FOOD TECHNOLOGY RESEARCH CENTRE

# Use our Test-Beds

Platforms for proving your food product concepts in the market

National Food Technology Research Centre (NFTRC) is making efforts to contribute to economic diversification by commercialisation of food products. To this end the organisation has established food processing test-beds for prioritised products and processes. The test-beds are intended to promote the uptake of technologies generated by the centre, thus intensifying commercialisation of the technologies by entrepreneurs.

The test beds include *Canning line*, *Meat Processing line*, *Milling line*, *Bottling line* and *Fruit and Vegetable Processing line*; these facilities are available for use by any interested entrepreneur at a fee.

## MEAT PROCESSING LINE



Used for processing meat products such as braaiwors, mince, patties and Russian Sausages



## MILLING LINE



Used for milling and packaging different food grains such as sorghum, millet and maize







**NATIONAL FOOD TECHNOLOGY RESEARCH CENTRE**



## **DO YOU WANT TO START**

*water bottling business?*

**If Yes NFTRC IS  
HERE FOR YOU...**

**With our Water Bottling Pilot Plant  
or Test Beds, we can produce a  
batch for you to do your  
market testing with**



### **ADVANTAGE OF WORKING WITH US:**

- You learn about the food production regulations of Botswana
- You acquire the key processing principles of bottling water
- You produce a highly competitive product (tested)
- You produce a test batch with us to get feedback about your product from the market.

**Capacity:  
2000 litres per hour.  
Bottle sizes: 300ml,  
500ml and 1.5l.**

*Order quantities and pricing are to be discussed at the point of order. Please contact us for more information*



# NFTRC attends 3<sup>rd</sup> Kgosi Malope II Annual Cycling Challenge

As it has become a norm, National Food Technology Research Centre (NFTRC) took the opportunity to disseminate information about its products and services, by exhibiting at the just ended 2019 Kgosi Malope II Annual Cycling Challenge. It was hosted at Tomela grounds in Kanye, and this year it attracted more than 170 cyclists from Botswana, South Africa and Zimbabwe.

The main sponsor of the event was Debswana Jwaneng Mine, and other sponsors included, Kanye Seventh Day Adventist Hospital, KTU express, and NFTRC, who sponsored cyclists with bottled water.

During the Cycling Challenge, Mr Kaone Rramontshonyana, Chairman of the Tsosa-Motse Society, who are the organisers, said that given the sanctity of Mmalekwa Cemetery, the development of which the event raises funds, the vision is to turn it into a communal open park, a youth business resource centre, a digital history library as well as a documentary viewing space, hence turning it into a tourist area that would also serve as a centre of knowledge.

He shared that this was the third year of the cycling challenge, and the Mmalekwa Cemetery developments had started, even though they were facing the challenge of few sponsorship opportunities.



Cyclist reaching the finishing point of the challenging race



Ms Kelebogile Mafoko (green t-shirt) sharing with stall visitors about the organisation's products and services



On behalf of NFTRC, Ms Kelebogile Mafoko (Public Relations Officer) presents awards to the winners of the 60km Open, 110km Junior and Senior races





NATIONAL FOOD TECHNOLOGY RESEARCH CENTRE

Is your product **safe** for  
**Consumption?**



**WE OFFER THE FOLLOWING TESTING SERVICES ON:**

- Testing for pathogens in foods
- Testing for toxins (e.g mycotoxins)
- Testing for pesticides
- Testing for undesirable physical objects in foods
- Determination of shelf life of foods

*For more information please contact us!!*



# NFTRC Hosts BDF Basic Logistics Course students



Group photo of BDF team and some of NFTRC staff members

National Food Technology Research Centre (NFTRC) recently hosted students from Botswana Defence Force (BDF) Basic Logistics Course Serial 2 of 2019. The purpose of the visit was to familiarise the students with general information regarding NFTRC operations, and how the organisation contributes to the economic growth of Botswana.

During his presentation, NFTRC Quality Assurance Coordinator, Mr Tathego Kooneeng stated that the

organization's mandate is to carry out research, development and commercialization of food processing technologies and nutritional products. He stated that if Botswana could take up NFTRC technologies in large numbers, the high national food import bill and the unemployment rate could be reduced.

NFTRC promotes the utilization of local food materials, as a result a lot of research has been conducted on indigenous or veld products which could be of great benefit to the food

industry if tapped into, for example the morama bean can yield high quality cooking oil, milk and butter", he added.

He further stated that NFTRC promotes the development of the food industry through integration and collaboration with strategic partners. He gave the example of the Synmba cereal drink, a sorghum based drink with probiotics, that came out of a collaboration between NFTRC and Tshwane University of Technology in South Africa.

He concluded that NFTRC promotes technical assistance to the food industry and offers Skills Transfer Programme. The presentation was concluded by a tour of NFTRC Research and Development laboratories.

In his closing remarks, Lt Ngubane expressed his profound gratitude to Mr Kooneeng and NFTRC team for the informative presentation which he said had imparted to them important aspects that they would use in their subsequent lessons, and in their military as they returned to their respective units.



NFTRC Senior Research Scientist Mr Juda Bogopa elaborating on services offered by Food Chemistry Department



Lt Ngubane giving vote of thanks



# NFTRC supports the Elderly Wellness Day

To ease the execution the second pillar of Vision 2036: **Human and Social Development, which speaks to Health, Wellness, Social Inclusion and Equality**, National Food Technology Research Centre (NFTRC) found it fit to join hands with the Leading Age Foundation, in

making Moshupa Elderly Wellness Day a success on the 8<sup>th</sup> March 2019.

As a way of giving back to society NFTRC offered a donation by buying a stall to the tune of P7, 000.00, and gave a talk on 'healthy ways of eating.'

When addressing Moshupa elders, NFTRC Nutrition and Dietetics Acting Head of Department Dr Lemogang Kwape said as we grow older the body generally gets weaker, the bones become fragile, blood pressure is impaired, eye sight decreases; and as a result the elderly are given medication stabilise their systems. He said as much as children are fed to grow, in the same way the elderly need food to have strength. He continued to say that research reveals that most of the diseases and illnesses affecting people are related to what they eat.

Dr Kwape also advised that some foods such as sugars, fats and additives are as addictive as alcohol and smoking. He highlighted that Batswana eating habits have changed considerably over the years. They now eat more processed foods high in salt, sugar and fat compared to the old diet that was unprocessed and high in fibre and other essential nutrients.

He concluded by encouraging the elderly to drink water regularly, and eat more of fruits on daily basis, as they are essential for their health and eating less sugary foods and fats, as well as doing light exercises such as washing for their grandchildren, watering plants, and cleaning the compound. He finished his talk by making a quote from Charles Darwin "It is not the strongest of the species that survives, nor the most intelligent that survives; It is the one that is most adaptable to change".

This wellness day which targeted the elderly population of Moshupa was held at the Main Kgotla and was



NFTRC-Acting Head of Nutrition and Dietetics Department Dr Lemogang Kwape addressing the elderly persons on healthy eating practices



The Vice President Mr Slumber Tsogwane (middle) during the proceedings



graced by the Vice President His Honour Mr Slumber Tsogwane. Accompanying the vice president was a team of Medical Doctors from Cuba. Present also at the occasion was the Moshupa Seventh Day Adventist Church representatives (SDA), the Moshupa Sub-District Health Management Team (DHMT), Member of Parliament for Moshupa/Manyana Hon Karabo S. Gare, Kgosi Oscar Mosielele of Moshupa.

When giving the keynote address, the Vice President Mr Slumber Tsogwane said wellness events are popularly known to be targeted to the youth as well as other able bodied members of the community. It is unusual to see an event like this focusing on the elderly persons. He applauded the organisers and pointed out that health impacts on the economic growth of the country therefore everyone should not be left behind as the nation moves towards vision 2036.

Mr Tsogwane said the National Development Plan 11 caters for everyone, including the elderly. "The event thus reminds us of the need to be continually mindful of the principle of inclusiveness in our day to day programmes and ventures, so that we do not leave anyone behind", he added.

For his part Kgosi Mosielele thanked the elderly persons who made it to the gathering to be tested for various health conditions. He said good health is important to every person therefore he applauded entities which answered the call to provide service to the elders.

Speaking during the gathering Kgosi Moroka who is also a founder of Leading Age Foundation said the primary mandate of Leading Age foundation is to focus on the health



The Vice President tasting NFTRC's newly developed healthy Sorghum Cereal Drink



NFTRC Research Scientist Ms Galase Mutumwa (second right) and the Assistant Research Scientist Ms Nametso Koushwang (light blue shirt) briefing the elders on the organisation's product and services.



Moshupa elderly persons listening attentively

care of the elderly, adding that the aged are left behind in many

developments which take place, due to dynamic technology growth.





# Our Products

## Tomato Sauces

Plain Tomato Sauce  
Tomato Onion Sauce  
Tomato Chilli Sauce

## Pickled Products

Mixed Vegetable Pickle  
Pickled Beetroot  
Pickled Onion

Available in Choppies, Sefalana Cash and Carry, Daily Needs and selected Spar outlets





**NATIONAL FOOD TECHNOLOGY RESEARCH CENTRE**



**ARE YOU INTERESTED  
IN KNOWING YOUR  
BODY COMPOSITION?**

***IF YES, PLEASE BOOK FOR  
CONSULTATION...***

**ALL AT  
P200**

- Cholesterol Testing
- Glucose Testing
- Blood Pressure Monitoring
- Body Mass Index (BMI)
- Waist Circumference
- Nutritional Counselling
- Haemoglobin Testing







## NEWS FROM HUMAN RESOURCES AND ADMINISTRATION DEPARTMENT

Management announces the following staff movement between December 2018 and March 2019.

### 1. Graduate Intern/Volunteer

Name	Institution	Qualification	Department	Start Date	Exit date
Ms. Lesego Bonang	Botho University	AAT Diploma	Finance	04-02-2019	03-02-2021

### 2. Termination

Name	Job Title	Date of Exit	Mode of Exit
Ms Asante Gabanamotse	Data Collector	13-02-2019	End of contract



National Food Technology Research Centre  
Private Bag 008 Kanye Botswana  
Tel: +267 544 0441/ 544 5500  
Fax: +267 5440713  
Email: [mail@naftec.org](mailto:mail@naftec.org)  
[www.naftec.org](http://www.naftec.org)

*Endless Possibilities in Food Research!!*