

NEWS RELEASE

UP students transform food waste into high-end products at UP-Cycled Food Experience



UP students are on a mission to address food waste in South Africa, which amounts to 10 million tonnes each year.

Pretoria - Final-year students from the University of Pretoria's (UP) Department of Consumer and Food Sciences recently showcased their ability to transform rescued food ingredients into high-quality retail and restaurant products during the second UP-Cycled Food Experience #waste2wonder. During the evening, attendees enjoyed an immersive retail and fine dining experience.

This event served as both a practical exam and an exhibition, highlighting the potential of academic research and innovation to create valuable food products from rescued foods, thus benefitting communities. South Africa contributes 10 million tonnes to the 1.3 billion tonnes of food wasted globally each year.

"Impact is a fundamental value at UP," said Dr Nadene Marx-Pienaar, a senior lecturer in the department, in her opening remarks. "In alignment with this, we sought to move beyond the conventional written exam by offering students the chance to showcase their skills to industry leaders, demonstrating their ability to shape the future and promote a more sustainable food system."

Nutrition and health lecturer Dr Adeline Pretorius explained that the initiative began last year with the first UP-Cycled Food Experience #wastenotwantnot, when Dr Marx-Pienaar, whose research focuses on food waste, was approached by the NGO SA Harvest with the idea of finding innovative solutions to tackle this issue and address food insecurity.

“We then brought together students from food retail management, hospitality management, and culinary science to develop retail products and a menu using rescued ingredients,” PhD candidate Nadine du Piesanie added. “This resulted in innovative and delicious food offerings.”

Bachelor of Consumer Science students Lerato Maine and Kayla Bishop expressed their pride in being young scientists at the forefront of innovation aimed at addressing the global food waste crisis.

They highlighted the stark contrast between the millions of tonnes of food wasted worldwide and the fact that many still go to bed hungry due to poverty and social challenges. They also pointed out that South Africa’s food retail industry alone produces about 1.4 million tonnes of food waste annually, with 19% occurring during post-harvest handling and storage, 49% during processing and packaging, and 32% at consumer level. In the hospitality industry, 65% of food is wasted each year, mainly due to overproduction (40 – 50%), poor planning and improper storage (5 – 15%), and staff knowledge gaps and guest waste (20 – 30%).

Culinary Arts lecturer Dr Hennie Fisher taught students advanced food preparation, plating skills and how to merge science with culinary art, while Dr Marx-Pienaar trained food retail management students on consumer behaviour, visual merchandising principles and food retail strategies. Behind the scenes, Dr Pretorius guided students in recruiting and managing support staff, while Du Piesanie honed their event management skills.

“As a group of lecturers, we take great pride in our students and their remarkable creativity and commitment to using their knowledge to address real-world challenges,” Dr Marx-Pienaar said.

“Their ability to transform food waste into high-quality dishes demonstrates not only their culinary skills but also their commitment to making a positive impact,” Dr Fisher added.

The successful development of the retail products and meals relied on the contributions of industry sponsors and collaborators such as SA Harvest.

“SA Harvest is proud to partner with UP on the UP-Cycled #waste2wonder initiative, supporting the next generation of leaders in tackling food waste,” said Ozzy Nel, Chief Operating Officer of SA Harvest. “Our collaboration involves mentoring students, sharing insights into food waste and value chains, and providing opportunities to connect with our extensive network in the food and sustainability sectors.”

He added that other sponsors included FarmWise, Glamour Veg Packers, Simply Garlic, Sunspray Solutions, Savannah, Cavalier, Mondanette, Kelly Jayne cakes, Time4Wine, Pico Grow, InToFoods, Schoonbee Landgoed, Graham Beck, Veld, Yara, The Tasting Room, UCook, Food Lovers Market, Best Before, Imbali cut flowers, Joekels, and Garden of Eden. Dr Marx-Pienaar expressed her gratitude to all the sponsors, whose support, she said, not only equipped the students with the necessary resources, but also fostered an enriching learning experience.

On the menu

- **Starter: The Glean** - The starter symbolised a field or garden ready to be gleaned, bringing nature’s bounty to the plate. It featured a homemade vegetable stock mousse, covered with dried olives and lentils and topped with roasted baby beetroot, carrot puree and sautéed asparagus off-cuts. The dish was garnished with edible flowers and microgreens.

- **Main: *The Salvaged*** - The main course was served in a tin to encourage guests to think about where unused ingredients could end up if changes are not made. Inside each of the tins, which were salvaged from local recyclers, was a beef ragu made of meat sourced from sausage and patty production and flavoured with leftover wine. The dish was paired with rescued seasonal vegetables and topped with a crispy potato rosti and crispy fried leeks.
- **Dessert: *The Wonder*** - This dessert featured coffee ice cream made from cauliflower and used coffee grounds, with a chocolate mousse insert. This was served on a vanilla cake made from cake off-cuts and drizzled with chocolate caramel sauce made with cocoa powder. The dish was garnished with an orange crumble and candied oranges.

On the shop floor

The following five retail products were developed:

- **WTF (Waste to Food)** is an instant drink mix that requires rehydrating one of three fruity flavours. It is made from dehydrated fruit skins and trimmings.
- **Ubuntu Blends:** This trio of spice, salt and meat rubs consists of used onion skins, carrots and other vegetable trimmings.
- **Joy in a Jar** is a sweet grape and chilli jam made from gleaned grapes collected after the harvest.
- **Eco-Bokkies** is a healthy breakfast alternative made from various rescued vegetables and trimmings.
- **Bush Bites:** These clusters of dehydrated potato, carrot and green veg waste and noodles are ideal for hiking packs.

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ABOUT THE UNIVERSITY OF PRETORIA

The University of Pretoria (UP) is one of the largest contact and residential universities in South Africa, with its administration offices located on its Hatfield Campus in Pretoria. This 115-year-old institution is also one of the largest producers of research in South Africa.

Spread over seven campuses, it has nine faculties and a business school, the Gordon Institute of Business Science (GIBS). It is the only university in the country with a Faculty of Veterinary Science, which is ranked the best in Africa. UP has 120 academic departments and 92 centres and institutes, accommodating more than 56 000 students and offering about 1 100 study programmes. It has the most academic staff with PhDs (70%), NRF-rated researchers (613).

The 2024 Times Higher Education subject rankings placed UP first in South Africa in the fields of Law, Veterinary Science, Accounting and Finance; Agriculture and Forestry and Electrical and Electronic Engineering. Quacquarelli Symonds (QS) ranked the University among the top five in Africa, as part of their 2024 World University Rankings (WUR). UP was the only South African university featured in the 2023 World University Rankings for Innovation (WURI), falling within in the 101-200 range of innovative universities.

For more information, please go to www.up.ac.za