



KOSMODE HEALTH

Rethinking waste: How food waste valorisation is revolutionising sustainability and innovation

By Cath Isabedra

When we talk about food waste, the focus often falls on its environmental toll. But what if we flipped the narrative to see waste not as refuse but as a resource with immense potential? Enter food waste valorisation, a process that transforms food byproducts into high-value materials, driving innovation and sustainability.

As **Florence Leong, Kosmode Health's Co-founder and Director**, shares, "Giving crops a second life, after the first round of food production, by using spent grains is not an option. It is a critical imperative to address immediate nutritional needs of the population without subjecting future generations to an existential threat." This powerful perspective underscores the urgency and opportunity within food waste valorisation.



The untapped goldmine

Food waste valorisation challenges the long-held view of waste as a liability. By applying cost-efficient extraction techniques, the company transforms spent barley grains (SBG) into protein- and fibre-rich products. These byproducts, often treated as disposable, are instead repurposed into functional foods that address health conditions like diabetes and weight management.

Highlighting this, Florence explains, “Spent grains collected in a food-grade manner after the first round of food production by large corporations like Nestlé contain higher concentrations of protein and fibre than whole unspent grains from the supermarket.” This revelation not only changes perceptions but also unlocks a path to sustainable nutrition.

Upcycling with purpose: The role of innovation

Innovation in food waste valorisation goes beyond creating new products—it’s about reshaping the food system. Kosmode Health’s **WOW(R) Noodle**, made from spent barley grains, exemplifies this. Clinically tested to have zero glycemic response, this functional staple food supports low-carb diets and improves cardiometabolic health.

“This is about solving health issues without burdening the planet,” notes the founder. “We are demonstrating that functional food security challenges can be addressed by using crops twice instead of once.” This dual-purpose approach showcases how valorisation bridges sustainability with health innovation.



Breaking barriers: Overcoming challenges in valorisation

Despite its promise, food waste valorisation isn't without hurdles. The scalability of processes like those at Kosmode Health depends on infrastructure and collaboration. "Spent grains are currently used as animal feed or fertiliser and are not collected in a food-grade manner. Harnessing all spent grains would involve investments in equipment and changes in standard operating procedures," Florence explains.

Additionally, consumer perceptions require careful management. Transparency is key. "By highlighting that spent grains are sourced from food-grade production processes, not kitchen waste, we've received positive responses," she shares. Building trust is crucial to mainstreaming upcycled products in the market.

A bigger vision: Valorisation as a global imperative

The ripple effects of food waste valorisation extend beyond individual companies. Scaling these practices globally could drastically reduce greenhouse gas emissions. Kosmode Health estimates valorising the 38 million tonnes of SBG produced annually could cut 39 million tonnes of CO2 emissions—a reduction equivalent to removing 8.4 million cars from the road for a year.

Looking ahead, the founder envisions a future where "the challenge of feeding the exploding and aging population with adequate nutrition, without burdening the earth, drives the growth of a repurposed category within the functional food market." This vision isn't just about innovation. It's about survival.

Turning potential into progress: A collective responsibility

Kosmode Health's work reveals a profound truth: food waste valorisation isn't merely an option—it's a necessity. Whether by supporting upcycled products or advocating for policy changes, individuals, businesses, and governments all have a role to play.

"Start small, think big," advises Florence. "Don't be satisfied with preventing dumping; be obsessed with maximising value—there is no greater value than human health and life."

The conversation begins here. How can we, as consumers, entrepreneurs, and policymakers, reshape the future of food and sustainability? Let's stop thinking of waste as the end of the line and start seeing it as the beginning of something extraordinary.



With insights from Florence Leong. Florence, Co-Founder of KosmodeHealth Singapore, is an ex-pharma executive turned MedTech start-up mentor and entrepreneur. Driven by a mission to sustain health of people without trading off planetary health, Florence is pushing for responsible use of earth's resources. For grown crops to be used twice, instead of once, by repurposing spent materials left over after the primary round of food production for human nutrition, even food as medicine for blood sugar and weight control.