this surging production also generates millions of tonnes of waste annually, predominantly from crab, shrimp, and lobster shells. These seafood by-products pose significant environmental challenges due to their high chemical oxygen demand (COD) and biological oxygen demand (BOD). To address this waste management crisis, a five-tier circular economic model offers a comprehensive framework for efficiently capturing value from seafood side-streams. This model presents diverse opportunities to extract high-value compounds, with applications spanning pharmaceuticals, food production, animal feed, fertilizers, and energy fuel. By maximizing the potential of these underutilized seafood resources, this circular approach not only aligns with sustainability goals but also reduces the environmental impact of seafood processing waste.

Conclusions: Valorisation presents a compelling opportunity to drive the industry towards a more circular, resource-efficient, and environmentally responsible future, ultimately enhancing the overall sustainability and resilience of the global food system.

1.15.4. Consumer Perceptions on the Use of Seaweed in Diet

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Background: Seaweed has become increasingly popular and a dietary trend among certain consumer groups, particularly vegans and vegetarians, as it supplements their diet with a rich array of nutrients and provides a sustainable alternative to traditional nutrient sources. This study explored consumer perceptions and attitudes towards the inclusion of seaweed in their diet in a non-coastal country (Serbia).

Methods: The research aimed to understand the factors influencing consumer acceptance, including health benefits, taste preferences, cultural influences, and perceived barriers. Data was collected through online survey with a diverse and statistically significant demographic sample (n = 860).

Results: Findings indicate a growing awareness of seaweed's health advantages; yet highlight significant hesitations linked to unfamiliarity and taste concerns. The study showed that the majority of respondents (77%) do not include seaweed in their diet, although they consume industrial food products containing seaweed-derived additives without being clearly aware of their origin. When informed that seaweed can be used as an ingredient in vegan-friendly products, reduce added salt content, eliminate the need for additives, and serve as a sustainable food source, 86.9% of respondents indicated a willingness to purchase products containing seaweed, even at a higher price (56.9%). According to consumer opinions, the most suitable food products for incorporating seaweed as an ingredient would be spreads, sauces, and dressings (39.7%), followed by dietary supplements (23.6%) and bakery products (17.9%).

Conclusions: The study recommended educational campaigns and product innovation to boost consumer acceptance and integrate seaweed into everyday diets. Some consumers exhibited food neophobia, which targeted education can address.

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1.16. Invited Session 9—Designing Food for Health (September 10th, 2024)

1.16.1. Designing Tasty and Nutritious Plant-Based Meat Alternatives

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Over the last 10 years, the interest and market of plant-based meat have grown to unprecedented levels. Driven by the inherent sustainability of such alternatives, Unilever with the brand 'The Vegetarian Butcher' has been in the front seat of this food revolution to remove animals from the food chain. From a small Dutch start-up, The Vegetarian