

Utilization of municipal food wastes for the production of livestock feed



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Introduction

The escalating environmental degradation coupled with human population growth, necessitates the implementation of novel, viable and sustainable technologies with focus on the valorization of by-products generated from diverse sectors.

- Municipal wastes, comprising 14% of total wastes produced within the European Union, underscore the urgent need for cost and energy-efficient management strategies.
- Priority on reducing landfill wastes appears essential to diminish environmental pollution and the associated risks to human health.
- Animal husbandry emerges as one of the most rapidly expanding sectors of agricultural production systems, while facing widespread shortage and increased expenses of required feedstuffs across numerous countries.

Aim

The utilization of municipal food waste flows for the development of animal feed supplements within the livestock sector presents an intriguing prospect due to their rich nutritional composition.

Discussion

Food wastes' exploitation as alternative pathway to produce high-quality livestock feed has the potential to to substantially contribute to alleviating the prevailing shortage and concurrently leading to reduction in costs. This integrated approach aligns with the imperative for environmental conservation and sustainability in the terms of circular economy.

Materials & Methods

Municipal Food wastes collection

Suggestions and recommendations regarding the possibility of investments

Biotransformation of food wastes into animal feedstuffs

Acceptance Survey

Incorporation of generated feedstuff into animals' diet

Evaluation of the developed feedstuff

Results

Results are expected to contribute at:

- ✓ Reduction of food wastes' disposal into landfills
- ✓ Utilization of food wastes without commercial value for the development of novel products
- ✓ Production of novel animal feeds
- ✓ Reduction of production costs with a parallel increment of agro-livestock income
- ✓ Decrease waste disposal and pollution by adopting novel strategies in the food chain (food waste exploitation)
- ✓ Promotion, development and dissemination of novel ideas, products and techniques, targeting their integration into the productive procedure

References

Eliopoulos, C., Markou, G., Langousi, I., Arapoglou, D., 2022. Reintegration of Food Industry By-Products: Potential Applications. Foods 11, 3743 San Martin D., Ramos S., Zufía J., 2016. Valorisation of food waste to produce new raw materials for animal feed, Food Chemistry, Volume 198, Pages 68-74, ISSN 0308-8146, https://doi.org/10.1016/j.foodchem.2015.11.035.

Galanakis, C.M., 2012. Recovery of high added-value components from food wastes: Conventional, emerging technologies and commercialized applications. Trends in Food Science & Technology 26, 68–87. https://doi.org/10.1016/j.tifs.2012.03.003