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Probiotic Animal Feed from Food Waste Via Double Stage Fermentation



Introduction

- Food waste can be described as edible food materials that are produced and made available to be consumed by human but left uneaten.
- Each year, there is an estimated 1.3 billion tons of food for humans is lost and wasted globally (Gustavsson et al., 2011).
- Recovering food waste for animal feeding (ReFeed) - solve problems faced in waste management such as food waste (Zheng et al., 2018).
- For instance, producing animal feed from food waste can reduce food waste problem effectively (ReFED, 2016).

Problem Statement

- In Malaysia, the primary protein source for the majority of Malaysian populations is the broiler meat. Therefore, demand of broiler meat become increase year by year.
- Statistics have shown that consumption of chicken meat per capita is about 37.7 kg. (Ministry of Agriculture, 2005).
- Therefore, it is very important to have a sustainable production of chicken meat.
- In 2015, the food waste in Malaysia reached 15,000 tonnes daily
- Therefore, there is a need for an appropriate management of food waste (Ma et al., 2009a).
- Current method: Use animal feed can lead to animal disease.

Inventiveness And Novelty

● Inventiveness:

1. Using specific and special microbes to convert food waste to become animal feed and fulfil Malaysia and International Standard for Chicken Feed.
2. Chicken feed from this process also completed with probiotic.

● Novelty

1. The process conversion food waste to become chicken feed via double stage fermentation. Currently not have any record from any sources about this method. This process allows supportive probiotic to growth in this chicken feed.
2. Process of control raw material to get the consist of nutrient for every batch of end products (chicken feed).

Intellectual Property Status

- Copyright: Food Waste To Probiotic Chicken Feed via double stage fermentation
- Trade Secret: Microorganism and probiotic to convert food waste to chicken feed

Usefulness And Application

- Reduce price of chicken feed. Currently, market price 1 kg of chicken feed is RM 2/kg. However, with this innovation chicken feed can be reduced until RM 0.70/kg
- Chicken feed from this innovation completed with probiotic, then it will increase the quality of chicken meat and healthiness of chicken.
- Solve problem of solid waste management. 60% solid waste in the landfill is food waste.

Status Of Invention

- Complete and capable to scale up with various type of food waste
- Non exclusive licensing

Commercial Potential

On going to licensing for transfer knowledge (Non exclusive)

- Received research contract from partners to using their food waste to convert consistent nutrient of probiotic chicken feed.

Potential Partners

- 1) E-Idaman Sdn. Bhd
- 2) Green Resources Recovery Sdn Bhd
- 3) Urus Sisa Sdn Bhd

Knowledge Management

This innovation come from concept of Biological process and solve the problem of solid waste management. Then it distribute to industry to increase generate income and solve the local problem about quality and quantity chicken meat.



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