



Multi-Layered Aqua Mate Dryer (MAMADry)

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Fish feed pellet formularized with Dried Giant Salvinia and Water Hyacinth



TECHNOLOGY

Multi-Layered Aqua Mate Dryer (MAMADry) is a vertical drying rack specifically designed for fishmeal pellet formulation. It features a multi-layered rack design and a continuous airflow system with an electrical source from solar energy

PROBLEM STATEMENT & CURRENT ISSUES

- Fish farmers now incorporate alternative protein sources in addition to commercial fish pellets. Additional sources, such as chicken intestines, coconut dregs, and other waste materials, supplement the diet of fish, particularly tilapia and catfish. While these alternatives are cost-effective and rich in protein, direct feeding poses challenges, leading to odor pollution and limited storage.
- This research also explores the potential of utilizing Giant Salvinia and Water Hyacinth, both are invasive floating plants that contribute to overcrowding in fish cages. They prevent sunlight from penetrating to the bottom of lake and complicate fish farming activities. These plants have been discovered with substantial protein content, making them promising candidates for incorporation into fish feed.

INVENTIVENESS AND NOVELTY

This MAMADry was proven to have more advantages over the conventional drying process. It provides faster drying than the conventional method while protecting the dried materials from environmental factors and improving hygiene control for the final product. It also equipped with mini solar system to provide electric for continuous airflow system which is much cost-effective in the long run.

USEFULNESS AND APPLICATION

MAMADry drying system offers fish farmers a practical and efficient way to produce cost-effective and nutritious fish feed using alternative protein sources. Its design and functionality address common challenges in fish feed formulation, storage, and environmental impact, making it a valuable addition to contemporary fish farming practices.

IMPACT OF THE PRODUCT

1. Improved Fish Feed Quality
 - The MAMADry ensures efficient and uniform drying of alternative protein sources, resulting in higher-quality fishmeal pellets that provide better nutrition to the fish.
2. Optimal Storage
 - Drying the fishmeal pellets increases their shelf life, allowing for better storage and management of the fish feed inventory on the farm.
3. Advancements in Fish Feed Technology
 - The development of the MAMADry and the research on alternative protein sources demonstrate progress in the aquaculture industry, encouraging further innovation and improvement in fish farming practices.

MARKET POTENTIAL

1. Aquaculture Industry Suppliers
 - Companies producing aquaculture equipment can offer fish farmers MAMADry as an innovative drying solution.
2. Fish Farming Operations
 - MAMADry's versatile and cost-effective design makes it attractive to small-scale fish farmers who are looking to enhance their feed production capabilities
 - Fish farmers can reduce feed costs and improve quality without significant capital investment.

TRL : 5 - Validation in real environment



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