

- Method to mitigate fungal growth and mycotoxin contamination in stored grains and animal feeds using “*Fungal and Mycotoxin Shield*”
- *Mycofun-Shield: “Effective Solution for a Healthier Livestock Industry, Crops Integrity, and Food Safety”*

# Problem Statement

Fungal contamination and mycotoxin production in grain are growing concerns. Mycotoxins can contaminate animal feed, resulting in reduced productivity, illness, and even livestock mortality. Financial losses of \$1.5 billion in the poultry industry and 3.5 trillion naira in Nigeria have been reported.

# Solution

## ➤ **Mycofun-shield is a Proven Solution.**

- Mycofun-shield, which was specially crafted from Amino Acid-Modified Nanoclay (AAMNC), is branded as “Fungal and Mycotoxin Shield (MycoFun-shield),”. Locally and affordable materials were transformed into innovative hybrid nanomaterials using eco-friendly chemicals.
- Designed to protect grains and animal feeds from fungal infections and mycotoxin contamination.

# Key Benefits

1. Offers total protection against Aflatoxin Total and mycotoxin contamination in animal feeds and grains.
2. Reduced food/feed waste, extended shelf life, and improved food safety and security.
3. Broad adaptability makes it a valuable solution for global needs.
4. Broad-spectrum activity with a universal efficiency.
5. Cost-effective production process and environmentally friendly.
6. Scalable and easy to integrate into existing feed production processes.

# Mycofun-Shield

## Product Image

(Ash and Golden colours)



# Market Opportunity

## ➤ Growing Demand for Safe Animal Feed.

- The global animal feed market is expanding, with a growing demand for safe and healthy feed.
- In 2021, the global animal feed market size reached \$400 billion and is projected to rise to about \$600 billion by 2028, growing at a Compound Annual Growth Rate (CAGR) of around 5%.
- Grains (Corn and soybean) meal are among the most commonly used ingredients in feed formulation, making up a significant portion of the total feed composition. They need to be aflatoxin/mycotoxin safe.
- A survey indicated that around 65% of consumers are willing to pay more for meat and dairy products that come from animals fed a safe and healthy diet, highlighting the increasing demand for quality animal feed.
- About 45% of global feed production goes to the poultry sector, followed by swine, ruminants, and aquaculture. This underscores the growing trends in the animal feed market and the importance of safety and health standards.

# Competitive Advantage

- Unique Home-Grown Hybrid Technology.
- Mycofun-shield's proprietary home-grown technology provides a competitive edge in eliminating Aflatoxin Total and Mycotoxin production in grains and broiler chickens fed with poultry feeds contaminated with Aflatoxins.
- Offers protection against a range of mycotoxin-producing fungi, like *Aspergillus niger*, *Aspergillus flavus*, *Aspergillus fumigatus*, *Aspergillus oryzae*, *Fusarium sp.*, *Mucor sp.*, *Neurospora sp.*, *Penicillium sp.*, *Penicillium notatum*, and *Rhizopus sp.*
- Cost-effective and environment-friendly.
- Scalable and adaptable potentials in feed production and other agricultural sectors.

# Business Model

## ➤ Revenue Streams.

- Sales (direct and online).
- Distribution partnerships and
- Consulting services.
- ✓ Employing a pricing strategy to ensure competitive pricing with discounts for bulk orders to remain relevant in the global market.



# Traction and Milestones

- Field testing under actual conditions recorded 96 to 100% (Aflatoxin Total) elimination in poultry.
- When added at three grams (3 g) of Mycofun-Shield per 1 Kilogram (1 Kg) of stored grains (maize/groundnut) and feeds, it recorded 85-95% (Aflatoxin Total) removal. No Aflatoxin Total detected after 12 months of storage under actual storage conditions.
- A patent was registered in Nigeria, with the Patent Certificate Number, CRP/ 011273, on a Method for Grain Preservation Using Amino Acid-Modified Nanoclay as Fungal and Mycotoxin Shield.

# Marketing and Sales Strategy

## ☐ Digital Marketing.

- Use of online platforms to reach farmers, feed manufacturers, and distributors.
- To partner and collaborate with industry associations, feed manufacturers, distributors, and research institutions for product modification and enhancement.

## ☐ Financial Projections

- Revenue growth is projected to reach ₦48,000,000 (Projected revenue for the next fiscal year).
- Expenses are estimated to be ₦20,000,000 (Estimated expenses for the next fiscal year).

# Conclusion

- Mycofun-Shield is redefining agriculture with our cutting-edge AAMNC Technology. We prioritize health, food security and food safety while driving global growth. Join us in this transformative initiative.