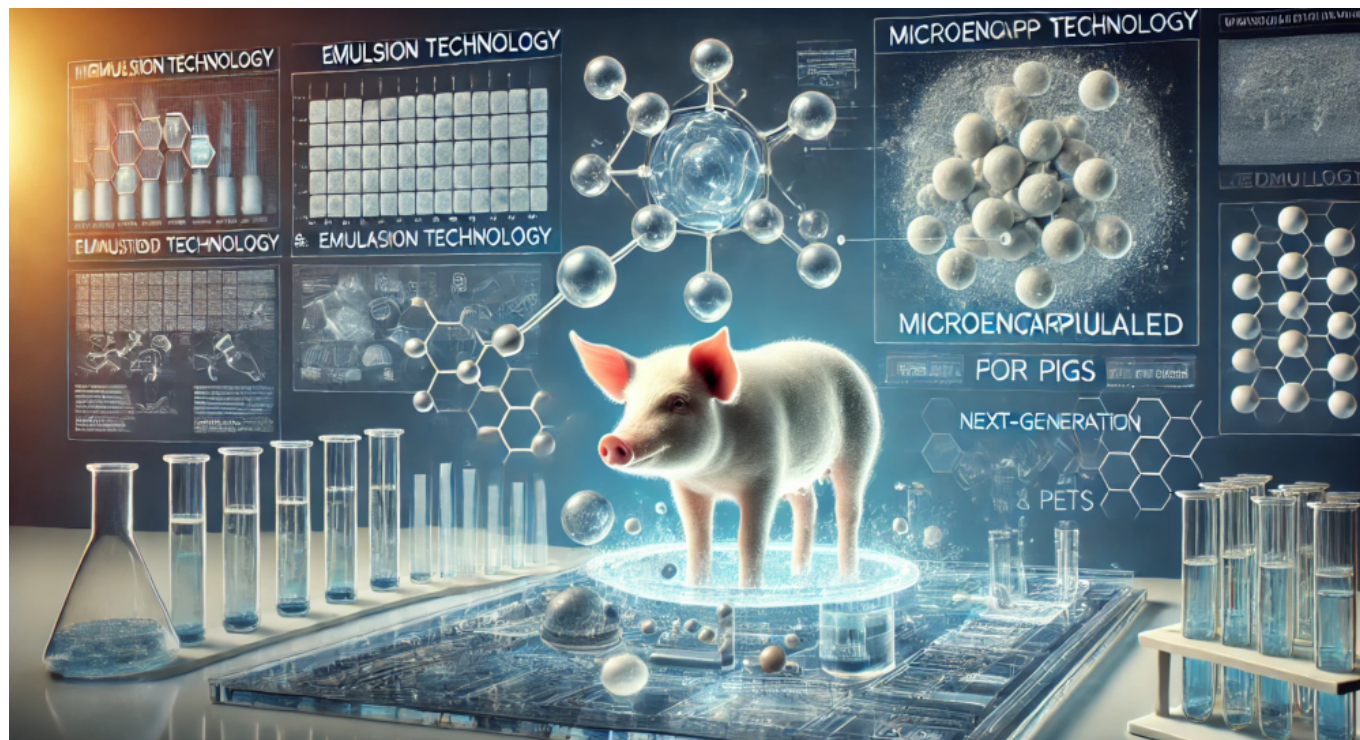


## TECH OFFER

### Instant Energy Booster Powder for Piglets



#### KEY INFORMATION

TECHNOLOGY CATEGORY:

Chemicals - Agrochemicals

TECHNOLOGY READINESS LEVEL (TRL): **TRL5**

COUNTRY: **THAILAND**

ID NUMBER: **TO175253**

#### OVERVIEW

The livestock industry is increasingly prioritizing the reduction of antibiotic use as a strategy for lowering production costs in pig farming. A common challenge in this sector is that piglets in smaller groups often do not receive sufficient colostrum. This deficiency can lead to inadequate energy reserves, increasing the vulnerability of piglets to bacterial infections. Consequently, the incidence of diarrheal diseases rises significantly, with rates exceeding 60–70%, which can result in growth stagnation and below-average weaning weights.

A specialized formulation blend has been developed to address these issues, which contains supplements to provide energy and boost their immune system. This blend features fat powders with medium-chain fatty acids (MCFAs) sourced from decarboxylated palm kernel oil. It also has important ingredients such as lauric acid and monolaurin making up more than 40% of the fatty acid profile, glucose, insulin and select natural extracts and curcuminoids.

Using innovative delivery methods, like microencapsulation and nano-emulsions, this blend promotes rapid recovery, disinfection,

viral inhibition, a healthy gut microbiome, oxidative stress mitigation, anti-inflammation, and enhanced piglet immune function. This optimizes piglet health, growth, and nutrition, particularly during the critical early stages of swine.

## TECHNOLOGY FEATURES & SPECIFICATIONS

Our advanced delivery systems, including microencapsulation and nano-emulsions, ensure superior stability and bioavailability of active compounds, resulting in optimal nutrient absorption and improved piglet.

### Key Features & Benefits:

- Enhanced Immune Function:** Boosts immune response, significantly reducing the risk of bacterial and viral infections.
  - Mortality Reduction:** Lowers mortality rates by 35–40%, promoting healthier piglets and better survival rates.
  - Improved Growth & Weaning Weights:** Increases weaning weights by 25–30%, while boosting overall growth rates by over 25%.
  - Diarrhea Prevention:** Reduces diarrhea incidence by 45%, supporting better gut health and nutrient absorption.
  - Elevated Blood Protein Levels:** Raises total protein, albumin, and globulin levels, outperforming traditional antibiotic treatments.
- This formulation delivers measurable improvements in piglet health and performance, positioning it as a superior alternative to conventional feed additives.

### Ingredients:

Energy Sources	Crude Palm Kernel Oil (CPKO) and Medium-Chain Fatty Acids (MCFAs)	Raw materials function as highly digestible energy enhancers, effectively diminishing the risk of pathogenic bacterial infections.
Fatty Acids for Immune Stimulation	Glyceryl Monolaurate (Monolaurin) and Lauric Acid (C12)	Fatty acids demonstrate efficacy in suppressing bacterial proliferation and pathogenic viral activity, while also promoting immune function.
Phytochemicals	Natural extracts and curcuminoids	The essential function of mitigating inflammation and reducing oxidative stress.
Sow Colostrum Milk Proteins	Lactoferrin and growth-stimulating proteins	Essential components can serve as substitutes for colostrum milk, while growth stimulators play a significant role in enhancing the health and growth of piglets.

## POTENTIAL APPLICATIONS

This product can be adapted for use in various animals, including sows, finishing pigs and dogs, delivering targeted nutrition, enhanced energy utilization, and improved health outcomes

### 1. Sows:

Purpose: supports lactation, enhances energy levels, and improves gut health.

Dosage: 50–70 grams per day

Benefits: Boosts milk production, aids in postpartum recovery and enhances immune function.

Application Method: Integrate into daily feed rations during late gestation and lactation periods for optimal performance.

## 2. Finishing Pigs:

Purpose: maximizes weight gain and feed efficiency in the finishing phase.

Dosage: 60–90 grams per day

Benefits: Promotes rapid weight gain, enhances feed conversion, and reduces fat deposition.

Application Method: Mix into finishing feed throughout the fattening period to achieve optimal growth rates and carcass quality.

## 3. Dogs:

Purpose: Supports energy levels, gut health, and immune function, particularly in active or working dogs.

Dosage: 5–10 grams per day, depending on the dog's weight.

Benefits: Enhances stamina, reduces gastrointestinal issues, and improves coat condition.

Application Method: Sprinkle onto regular dog food or mix with wet food for easier administration.

## MARKET TRENDS & OPPORTUNITIES

The ASEAN livestock additive market, part of the larger Asia-Pacific feed additives sector, was valued at \$12 billion in 2023 and is projected to grow to \$20 billion by 2030, with a CAGR of 8.15%. Energy and milk protein replacement additives make up 10% of this, equating to a \$2 billion opportunity.

Key growth markets include Europe, Australia, Canada, the Philippines, and Vietnam, which offer higher market value than Thailand. However, Thailand's advanced technology, strong research infrastructure, and abundant resources position it as a leading producer with significant export potential.

This technology targets the ASEAN region, where the livestock feed additives market is expected to grow by 5-10%, driving an estimated \$100-\$150 million increase. This strategic focus capitalizes on regional demand while laying the groundwork for international expansion.

## UNIQUE VALUE PROPOSITION

**Precision Nutrition:** Tailored for piglets, growers, and sows, this formulation meets specific energy needs, optimizing performance and reducing feed costs.

**Gut Health Support:** Enriched with fatty acids and antioxidants, it promotes a balanced gut microbiota, essential for digestion, nutrient absorption, and immune strength.

**Sustainable Efficiency:** Designed with sustainability in mind, this blend improves feed conversion, reduces waste, and enhances production efficiency while maintaining environmental responsibility.

**Proven Results:** Field-tested in industrial settings, this blend has shown significant improvements in pig growth, health metrics, and farm profitability.