post biotic

Florisis

Yeast culture + Acidifier

Yeast and bacteria culture with organic acids

Improve the immune system

Reduction of feed conversion ratio

Increasing gut health and reducing losses

Increasing the strength and thickness of the egg shell

Farzanegan Additive

Introduction

The digestive system plays a crucial role in maximizing growth, production, and disease resistance in poultry. The gut microbiota, consisting of beneficial and harmful microbes, interacts dynamically with the bird's metabolism, immunity, and overall health. The composition of gut microbiota is heavily influenced by feed composition and can significantly impact digestion and nutrient utilization.

A well-balanced gut microbiome enhances feed efficiency, ensuring better energy extraction from nutrients. Postbiotic supplements, such as Floresis, provide an effective way to support gut health, improve feed conversion, and serve as a natural alternative to antibiotic growth promoters in poultry nutrition.

Floresis postbiotic is an innovative feed additive developed through advanced microbial fermentation technology. It is designed to enhance gut function, strengthen immunity, and improve poultry performance in a safe and natural way.

The production process of Floresis involves two key fermentation stages:

1. Aerobic fermentation, where beneficial bacteria and yeast metabolize specific substrates.
2. Anaerobic fermentation, where further microbial activity generates bioactive metabolites that enhance gut health.

By using Floresis, poultry farmers can achieve:

✓ Healthier gut microbiota

✓ Improved digestion and nutrient absorption

✓ Stronger immune response

✓ Higher growth performance and egg quality

Floresis Postbiotic

In 2019, the International Scientific Association for Probiotics and Prebiotics (ISAPP) defined postbiotics as cellular components, metabolites, or byproducts of microbial fermentation that benefit host health.

Floresis postbiotic is a product that contains:

✓ Killed Lactobacillus bacteria

✓ Yeast cell wall derivatives

✓ Beta-glucans and mannan oligosaccharides (MOS)

✓ Bacterial DNA and proteins

✓ Peptides, amino acids, and lactic acid

✓ Minerals and other beneficial metabolites

The production process of Floresis occurs in two controlled stages:

1. Aerobic fermentation, where the necessary substrates, Lactobacillus bacteria, and yeast are cultivated.

2. Anaerobic fermentation, where further microbial metabolism occurs under controlled temperature, oxygen, and pH conditions to maximize beneficial bioactive compounds.

Before the process starts, molasses is diluted with distilled water and sterilized. It is then enriched with nitrogen, phosphate, minerals, and vitamins. The purified yeast strain Saccharomyces cerevisiae is introduced into the fermentation medium. After microbial proliferation, enzymes hydrolyze bacterial cell walls, breaking them down into smaller, bioavailable components.

Superiority of Floresis Postbiotic

Although probiotics have shown positive effects in poultry nutrition, they present several challenges:

- Survivability Issues: Live probiotic bacteria are sensitive to heat, humidity, pH, and sunlight, making them difficult to store and process.
- Risk of Antibiotic Resistance: Some probiotics carry antibiotic resistance genes, which may be transferred to harmful bacteria.
- Variable Effectiveness: The survival rate of probiotics varies under different environmental conditions, making dosage control difficult.

Postbiotics, such as Floresis, overcome these challenges because they:

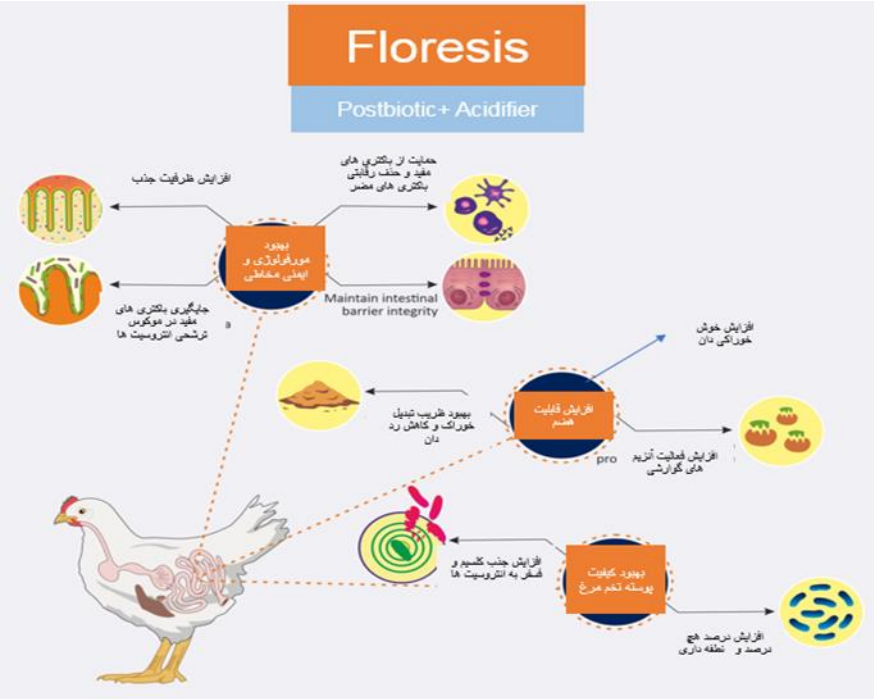
✓ Do not contain live microorganisms (ensuring stability during storage and feed processing)

✓ Do not transfer antibiotic resistance genes

✓ Have consistent and predictable effects

✓ Do not require refrigeration

Due to these advantages, Floresis is a reliable alternative to probiotics in poultry nutrition.



Composition of Floresis and Its Effects on Gut Health and Immunity

1. Bacterial Cell Wall Components

Floresis contains bacterial cell wall fragments from Lactobacillus and Bifidobacterium, which include:

✓ Peptidoglycans – Support gut immunity and help maintain microbial balance.

✓ Teichoic acids – Act as immunomodulators, enhancing immune response.

✓ Polysaccharides – Function as prebiotics, supporting beneficial gut bacteria.

These cell wall components strengthen the gut barrier and stimulate immune function.

2. Polysaccharides

Polysaccharides in Floresis are categorized into three types:

1. Exopolysaccharides (EPS) – Secreted by beneficial bacteria, improving gut microbiota composition and providing antibacterial and anti-inflammatory properties.
2. Capsular polysaccharides – Attached to bacterial cells, protecting them from environmental stress and contributing to gut barrier integrity.
3. Cell wall-bound polysaccharides – Involved in bacterial adhesion and immune regulation.

Research has shown that EPS from Lactobacillus rhamnosus exhibits antimicrobial properties against pathogens such as E. coli and Salmonella enterica.

3. Bacterial DNA

Floresis contains bacterial DNA fragments that act as immune stimulators. Specific sequences, known as CpG motifs, activate immune cells, leading to the production of cytokines (such as IL-6 and TNF-α), which enhance disease resistance.

Additionally, bacterial DNA from L. rhamnosus and B. longum BB536 has been shown to:

✓ Strengthen gut barrier function

✓ Reduce inflammatory responses

✓ Prevent allergic reactions

4. Proteins, Peptides, and Amino Acids

Floresis contains essential proteins, peptides, and amino acids, which:

✓ Support gut epithelial cell growth

✓ Enhance immune responses

✓ Prevent pathogen adhesion to gut cells

Specific surface proteins from Lactobacillus compete with Salmonella and E. coli, blocking their ability to colonize the gut.

5. Lactic Acid

Floresis contains 10-15% lactic acid, which:

✓ Lowers gut pH, promoting beneficial bacterial growth.

✓ Inhibits harmful bacteria by disrupting their DNA synthesis.

✓ Enhances mineral solubility and absorption.

✓ Improves feed conversion efficiency.

6. Yeast-Derived Metabolites

Floresis contains yeast-derived β-glucans, mannan oligosaccharides (MOS), and nucleotides, which:

✓ Bind and eliminate toxins from the gut.

✓ Activate immune cells, enhancing disease resistance.

✓ Improve digestion and nutrient absorption.

MOS prevents pathogenic bacteria from adhering to intestinal cells, reducing the risk of gut infections.

Floresis Benefits for Poultry Performance and Egg Production

1. Advantages of Floresis in the Poultry Industry

Floresis provides numerous benefits in commercial poultry farming by:

✓ Enhancing gut microbiota balance – Supports beneficial bacteria and inhibits pathogens.

✓ Improving feed efficiency – Helps poultry digest and absorb nutrients more effectively.

✓ Strengthening immune function – Enhances disease resistance and reduces infection risks.

✓ Reducing gut inflammation – Promotes gut health and improves overall well-being.

2. Positive Effects of Floresis on Meat and Egg Quality

Floresis has a direct impact on broiler growth and egg-laying performance:

✓ Improves feed conversion ratio (FCR) – Birds convert feed into meat or eggs more efficiently.

✓ Increases breast muscle yield – Broilers gain lean muscle mass faster.

✓ Enhances egg production and quality – Layers produce more eggs with stronger shells.

✓ Reduces intestinal infections – Minimizes diarrhea, gut stress, and mortality rates.

Studies have shown that postbiotics improve meat texture, reduce fat deposition, and enhance egg yolk color and shell strength.

3. Improved Digestibility and Nutrient Absorption

Floresis enhances digestive enzyme activity, leading to:

✓ Better protein and amino acid absorption.

✓ Increased calcium and phosphorus uptake, strengthening eggshells.

✓ Higher mineral retention, improving skeletal strength and bone health.

4. Effects on Gut Morphology

Floresis positively influences intestinal structure by:

✓ Increasing villus height, leading to better nutrient absorption.

✓ Strengthening the intestinal barrier, preventing pathogen entry.

✓ Boosting mucin production, protecting the gut lining from infections.

5. Immune System Enhancement

Floresis supports poultry immunity by:

✓ Stimulating antibody production – Boosts IgA and IgG levels, improving disease resistance.

✓ Activating macrophages and T-cells, enhancing immune responses.

✓ Reducing oxidative stress, protecting gut and body tissues.

Research has shown that postbiotics reduce the severity of bacterial and viral infections in poultry.

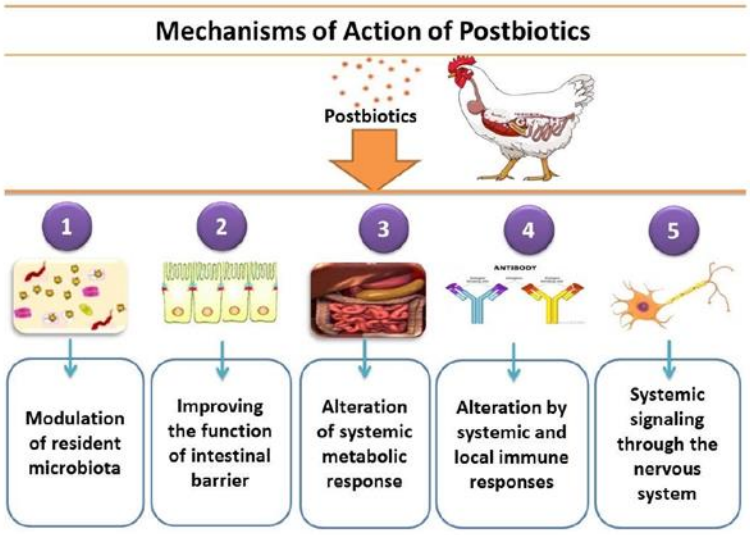


Fig. 1. Mechanisms of action of postbiotics.

Floresis Impact on Hatchability, Shell Quality, and Feed Intake

1. Improved Eggshell Quality

Floresis enhances eggshell formation by:

✓ Increasing calcium absorption, leading to stronger shells.

✓ Boosting mineral retention, reducing shell breakage.

✓ Enhancing protein synthesis, improving eggshell structure.

A stronger shell reduces egg losses during handling and transport, leading to higher economic returns for poultry farmers.

2. Increased Hatchability and Fertility

Floresis improves reproductive performance in breeding hens by:

✓ Increasing egg fertilization rates.

✓ Enhancing embryo development.

✓ Improving hatchability percentages.

Higher hatchability means more chicks per flock, increasing productivity in hatcheries.

3. Reduction of Feed Waste and Better Palatability

Floresis improves feed intake and palatability, leading to:

✓ Better digestion and nutrient absorption.

✓ Less feed wastage, reducing costs.

✓ Increased uniformity in bird growth rates.

By enhancing gut health and reducing intestinal stress, Floresis helps poultry achieve optimal growth and feed efficiency.

4. Lower Incidence of Ascites and Litter Moisture Reduction

✓ Floresis helps prevent ascites (fluid accumulation in the abdomen) by improving oxygen uptake and reducing oxidative stress.

✓ Reduces wet litter problems, leading to cleaner poultry houses and a lower risk of footpad dermatitis.

Cleaner litter improves bird comfort, reduces ammonia levels, and enhances overall farm hygiene.

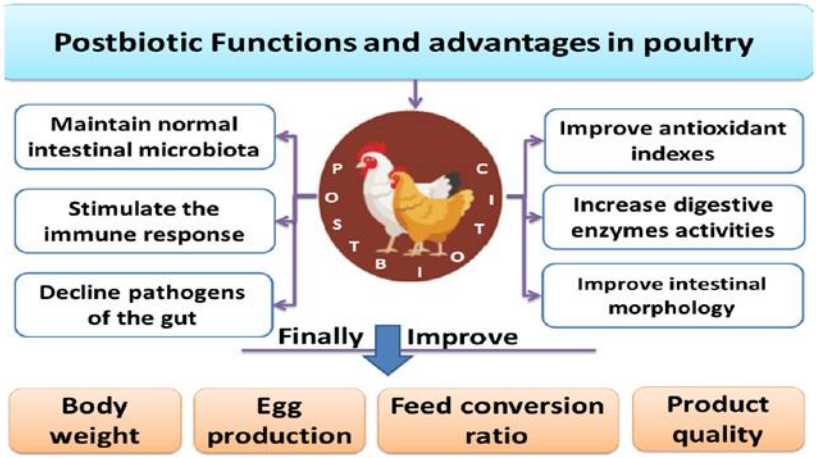


Fig. 2. Postbiotics perform many functions and advantages in poultry.

Effects of Floresis on Different Poultry Species

Floresis provides species-specific benefits in:

✓ Broilers – Faster growth, better FCR, and lower mortality rates.

✓ Layers – Increased egg production and improved shell quality.

✓ Breeders – Higher fertility and hatchability rates.

✓ Turkeys, ducks, and quails – Better gut health and overall performance.

Conclusion

Floresis postbiotic is a science-backed feed additive that enhances gut health, immunity, and production efficiency in poultry. By improving digestion, boosting disease resistance, and optimizing growth, it serves as a natural and effective alternative to antibiotics.

Its unique combination of bacterial metabolites, yeast derivatives, lactic acid, and immune-enhancing compounds makes it an ideal solution for improving poultry performance while ensuring sustainable and profitable farming.