PARBASOL: Enhancing Aquaculture Sustainability with Thyme and Garlic Essential Oils

PARBASOL is a revolutionary approach to sustainable aquaculture, utilizing the power of thyme and garlic essential oils (EOs) to enhance fish health, growth, and immunity. These natural additives offer a compelling alternative to synthetic chemicals, fostering a healthier and more sustainable aquaculture environment.

By *SAFA SU TARIM GIDA ÜRN.DAN.İTH.İHR.LTD.ŞTİ.*

Key Benefits of PARBASOL

Health Improvement

PARBASOL reduces fish susceptibility to diseases, promoting a robust and resilient population.

Immune Support

These EOs stimulate both innate and adaptive immunity, strengthening fish defenses against pathogens.

Growth Enhancement

PARBASOL improves feed conversion ratios and nutrient absorption, leading to faster growth and increased yield.

Stress Mitigation

PARBASOL supports better performance under suboptimal conditions, such as temperature stress or hypoxia, ensuring fish thrive despite challenges.

Thyme Essential Oil: A Powerful Ally for Aquaculture

1 Antimicrobial Activity

Thyme EO inhibits the growth of pathogens like Aeromonas hydrophila and Vibrio spp., reducing disease incidence and antibiotic usage.

2 Immunostimulant

It enhances immune response by increasing the activity of immune cells, making fish more resistant to infections.

3 Antioxidant

Thyme EO protects fish tissues from oxidative stress, promoting overall health and longevity.

4 Growth Promotion

It improves feed conversion ratios by enhancing digestion and nutrient absorption, leading to increased weight gain and faster growth.

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Garlic Essential Oil: A Multifaceted Solution for Aquaculture

Antiparasitic

Garlic EO effectively combats ectoparasites like Ichthyophthirius multifiliis and endoparasites such as Diplostomum spp., protecting fish from infestations.

Immunostimulant

It boosts immune system functions by stimulating antibody production and enhancing phagocytosis, leading to improved resistance to diseases and faster recovery from infections.

Hepatoprotective

Garlic EO protects the liver from damage caused by toxins or metabolic imbalances, promoting overall fish health.

Gut Health Improvement

It promotes beneficial gut microbiota, improving digestion and growth performance, ensuring optimal nutrient utilization.

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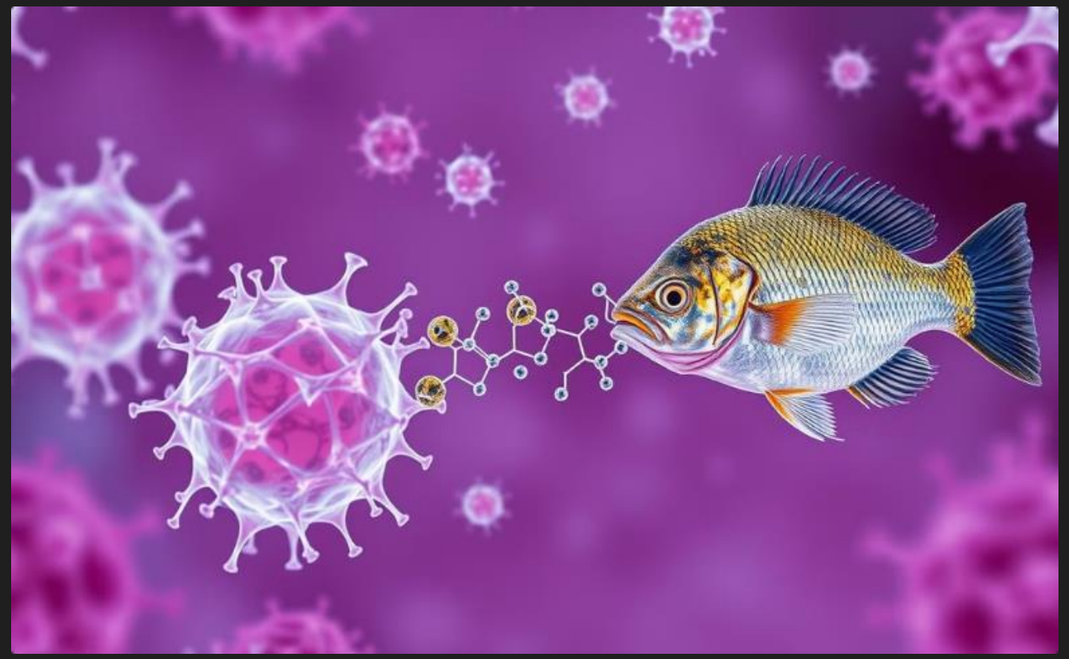
Harnessing the Antimicrobial Power of PARBASOL



Mechanism of Action

Thyme EO's thymol and carvacrol disrupt microbial cell membranes, inhibiting bacterial growth. Garlic EO's allicin and sulfur compounds interfere with bacterial metabolism, reducing pathogen virulence.

Applications

PARBASOL effectively controls diseases like Aeromonas hydrophila, Vibrio spp., and Edwardsiella tarda in aquaculture systems, ensuring a healthier environment for fish.

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Boosting Fish Immunity

Mechanism

PARBASOL stimulates the production of immune cells, increases levels of immunoglobulins, and enhances cytokine activity, strengthening the fish's immune response.

Benefits

Improved resistance to diseases, enhanced recovery from infections, and a healthier and more resilient fish population.

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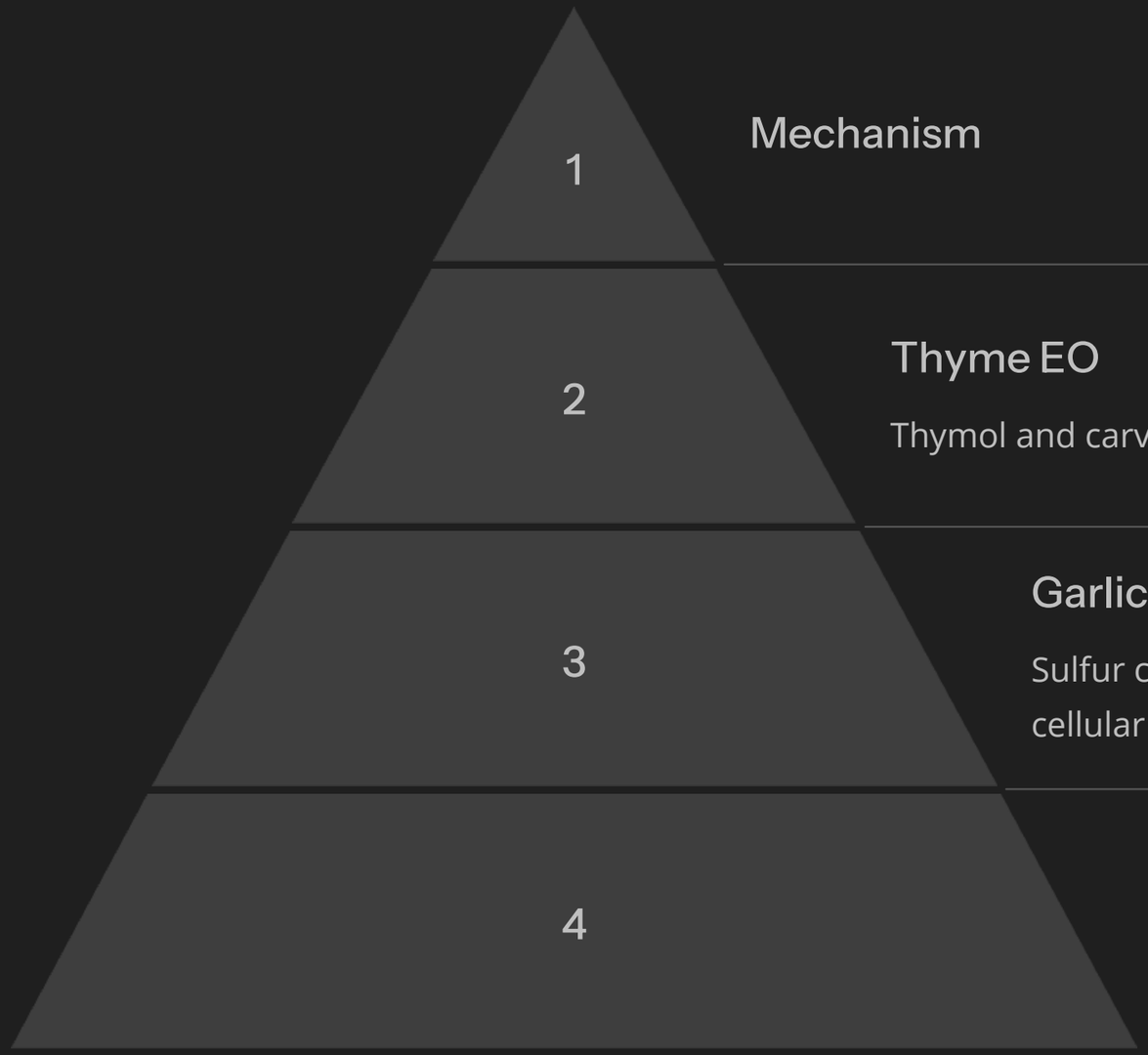
Protecting Fish from Oxidative Stress with PARBASOL



Mechanism

Thyme EO

Thymol and carvacrol neutralize free radicals and reduce lipid peroxidation.

Garlic EO

Sulfur compounds and selenium content combat oxidative damage at the cellular level.

Benefits

Protection of vital organs, improved overall health, and enhanced longevity.

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Optimizing Growth Performance with PARBASOL

1 Mechanism

2 Thyme EO

Stimulates the secretion of digestive enzymes, improving feed conversion ratios.

3 Garlic EO

Allicin improves gut health and enhances nutrient absorption, leading to increased weight gain and faster growth.

4 Benefits

Increased weight gain, improved specific growth rate, and enhanced feed efficiency.

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Mitigating Stress and Enhancing Resilience with PARBASOL

1

Mechanism

PARBASOL reduces the production of stress hormones and modulates stress-related pathways at the molecular level.

2

Benefits

Lower mortality rates during stressful conditions, enhanced resilience to environmental stressors, and a more robust fish population.

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PARBASOL: A Sustainable Future for Aquaculture

PARBASOL empowers aquaculture professionals with natural and safe alternatives to synthetic additives, promoting fish health, sustainability, and profitability. By enhancing immunity, controlling pathogens, and improving growth performance, PARBASOL contributes to a more sustainable and responsible aquaculture industry.

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