

Fish Amino Acid (FAA): A Natural Tonic for Organic Farming and a Catalyst for Rural Economy

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Abstract

In the face of rising agricultural costs, soil degradation, and declining productivity, Fish Amino Acid (FAA) emerges as a sustainable, eco-friendly alternative that unites aquaculture and agriculture. This article explores the preparation, application, and multiple benefits of FAA, especially its role in boosting plant growth, supporting organic farming, and fostering rural entrepreneurship through waste-to-wealth transformation.

Introduction

Agriculture is the foundation of civilization, and farmers are its pillars. Yet modern agriculture faces challenges—soaring input costs, soil nutrient depletion, and environmental imbalance caused by excessive chemical use. In this context, natural farming methods have gained renewed importance. Among several sustainable inputs, **Fish Amino Acid (FAA)** has emerged as a low-cost, organic, and highly effective growth promoter for plants.

FAA is a liquid fertilizer made through the fermentation of fish waste such as heads, viscera, swim bladders, and small fish. Rich in amino acids and micronutrients, FAA acts like a natural tonic for plants—enhancing growth, strengthening roots, improving flowering and fruiting, and increasing disease resistance—all while being cost-effective and environmentally friendly.

What is Fish Amino Acid (FAA)?

FAA is a nutrient-rich liquid bio-input produced by fermenting fish by-products. It contains essential amino acids like leucine, isoleucine, glutamic acid, lysine, arginine, and tryptophan, which stimulate plant cell division, hormone balance, chlorophyll production, and overall plant vigor.

Materials & Preparation Method

Ingredients:

- Fish waste (head, gut, swim bladder, small fish): 1 kg

- Jaggery or brown sugar: 1 kg
- Airtight container (glass/plastic jar), wooden or plastic spatula.

Procedure:

1. Chop fish waste into small pieces.
2. Mix thoroughly with equal weight of jaggery.
3. Transfer to a container and cover loosely to allow gas escape.
4. Stir the mixture daily or every other day.
5. After 15–20 days, the fermented liquid with a mild sour odor is ready for use.

Application Methods & Dosage

Application Stage	Method	Dosage
Vegetative stage	Foliar spray	20–30 ml per litre of water
Irrigation	Soil application	1 litre FAA in 10 litres water
Compost activation	Mix with compost	50 ml per 1 kg compost

- Apply every 10–15 days.
- Preferably during early morning or late afternoon.

Benefits of FAA

- Enhances plant growth through natural amino acids and enzymes.
- Boosts flowering and fruiting via hormone regulation.
- Improves root architecture for better nutrient uptake.
- Strengthens disease resistance.
- Supports soil microbiota and biodiversity.
- Reduces cost of chemical inputs.
- Eco-friendly and zero-waste product.

Business Potential & Rural Empowerment

FAA is more than just an input—it's a model for **rural enterprise** and **self-reliance**, especially for SHGs, women entrepreneurs, and fish farmers. Here's how:

a. Waste to Wealth

Thousands of tons of fish waste from markets and hatcheries can be transformed into valuable bio-input, reducing environmental pollution and waste disposal costs.

b. Microenterprise Model

FAA production requires no factory—just basic tools. SHGs or individuals can produce 10–20 litres monthly and supply to local farmers, agri-markets, or sell in agri-fairs.

c. Women Empowerment

Women in rural areas can produce FAA within the household, contributing to income and gaining confidence and social recognition.

d. Farmer–Fisher Synergy

Where aquaculture exists, raw materials are readily available. Joint efforts between fish farmers and cultivators ensure mutual benefit—sustainable integration of fish and farm.

e. Government & NGO Support

Government schemes and NGOs promoting organic farming can offer training, registration, branding, and marketing assistance for FAA-based enterprises.

f. Expanding Market

With growing awareness of organic farming, FAA is in high demand at:

- Bio-input shops
- Agri-cooperatives
- Farming clubs
- E-commerce platforms

g. Sustainable Development

FAA production ensures environmental protection, reduces chemical use, and promotes biodiversity—aligned with the goals of climate-resilient agriculture.

Storage & Precautions

- Store FAA in a cool, dark place.
- Use clean bottles after filtration.
- Always dilute 10–20 times with water before application.

Conclusion

FAA is not merely a fertilizer—it's nature's silent revolution. It harmonizes human practices with ecological balance. What was once discarded fish waste now holds the potential to fuel a new wave of sustainable, integrated farming.

By using FAA, farmers lower costs and increase yields, while fishers create a new income stream. Especially for SHGs, youth, and women, FAA offers a realistic pathway to rural entrepreneurship, social development, and eco-friendly agriculture.

It's time we recognize fish waste not as garbage, but as a golden opportunity. FAA is a living example of how nature, knowledge, and local innovation can create lasting change.

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