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PREPARATION OF MATKA KHAD, EGG AMINO ACID AND FISH AMINO ACID IN ORGANIC FARMING

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ABSTRACT

Organic farming emphasizes the use of natural inputs to maintain soil fertility, promote plant health, and ensure environmental sustainability. Among the various bio-formulations used by farmers, Matka Khad, Egg Amino Acid (EAA), and Fish Amino Acid (FAA) have gained prominence as simple, cost-effective, and highly beneficial organic nutrient sources. These preparations supply essential nutrients, stimulate microbial activity in the soil, and enhance crop growth and yield without relying on synthetic fertilizers. This article discusses the easy and farmer-friendly methods of preparing these formulations, their nutrient composition, and their role in strengthening the organic farming ecosystem.

KEYWORDS: Amino acid bio-fertilizers, indigenous liquid manures, matka Khad, organic farming, sustainable nutrient management

INTRODUCTION

Organic farming aims to create a self-sustaining and eco-balanced production system where soil, plants, animals, and microorganisms coexist harmoniously. To achieve this, farmers are increasingly adopting homemade organic nutrient solutions that can be prepared from locally available materials. *Matka Khad*, Egg Amino Acid, and Fish Amino Acid are three such vital inputs that enrich the soil with organic carbon and biologically available nutrients.

- **Matka Khad**, a traditional fermented liquid manure, is prepared using cow dung, cow urine, jaggery, and pulses flour, and is rich in beneficial microbes and nutrients. (Chadha *et al*., 2012)
- **Egg Amino Acid** serves as a rich source of nitrogen, amino acids, and micronutrients that enhance vegetative growth and vigor.
- **Fish Amino Acid**, made by fermenting fish waste with jaggery, provides proteins, enzymes, and growth hormones beneficial for flowering and fruiting stages.

These formulations not only promote plant health but also minimize dependence on costly chemical fertilizers, thereby supporting sustainable, low-input organic farming. Their simplicity of preparation and

effectiveness make them popular among small and marginal farmers, aligning perfectly with the goals of natural farming movements also across India.

MATKA KHAD (MUD POT MANURE)

The term comes from the fact that the *matka khad* is made in a mud pot, or *matka*.

Ingredients for the preparation of *Matka khad*

1. Chickpea flour : 1 kg
2. Jaggery : 1 kg
3. Fresh indigenous cow dung (not older than 24 hours) : 15 kg
4. Indigenous cow urine : 15 L
5. One handful soil from below the tree of *peepal* (*Ficus religiosa*) or banyan or neem or forest or bund of the field,

Preparation

All the required ingredients were thoroughly combined in a mud pot by adding 15 litres of water to ensure uniform mixing. The prepared mixture was allowed to undergo a natural fermentation process for a period of 15 days, during which it was stirred once daily for approximately five minutes in a clockwise direction using a wooden stick. Regular stirring facilitated proper aeration and enhanced microbial activity, thereby promoting effective decomposition and nutrient solubilization. At the end of the 15-day fermentation period, the organic manure attained a stable and usable form. The fermented mixture was then carefully filtered using a clean cotton cloth to remove coarse and undissolved materials, resulting in a clear liquid extract. This filtered liquid obtained from one mud pot was subsequently diluted with 200 litres of clean water to achieve the desired concentration. The diluted solution was applied as a foliar spray, which was sufficient to cover one acre of crop area, ensuring uniform nutrient distribution and effective utilization by the plants.

Usage:

1. It can be used as drenching in wider spaced crops.
2. The *matka khad* filled in a can with a tape, is kept at one side of the irrigation channel and the *matka khad* come out drop by drop from the can in the irrigation channel and reaches entire field with the irrigation water. About 400 litres of *matka khad* is sufficient for direct use with irrigation water or by drip irrigation.
3. The spraying of this liquid manure is done every 15 days interval up to the 50% flowering stage.

Egg amino acid

Eggs, lemon and jaggery are used to make egg amino acids. It is a blend of nutrients that encourages fruit set, flowering, and plant growth. It aids in the treatment of crop calcium deficiencies. Egg amino acids are now a lucrative and cutting-edge bio-based product that has greatly advanced organic farming practices. This natural and biodegradable solution, which is made from eggs, is a powerful organic fertilizer and plant growth stimulant since it contains a wide variety of important amino acids. Egg amino acids have emerged as a crucial element in the quest for high-yielding and environmentally conscious farming methods due to their capacity to increase soil fertility, boost crop output, and strengthen plant resilience to stresses.

Ingredients for the preparation of egg amino acid (20L) (Shiyas, 2023)

1. Eggs : 15 No.
2. Lemon : 25 kg
3. Jaggery : 3 g

Preparation:

For the preparation of this formulation, fresh eggs are placed in an airtight container, after which freshly extracted lemon juice is poured in sufficient quantity to ensure that the eggs are completely immersed. The container is then tightly sealed and stored undisturbed. Over a period of 15 days, the acidic lemon juice gradually dissolves the eggs, resulting in a homogeneous solution. After this dissolution stage, the mixture is stirred thoroughly, and an equal quantity of cooled molten jaggery is added to enhance nutrient availability and fermentation. The container is again sealed and allowed to ferment further. After 30 days from the initial preparation, the mixture is filtered using a clean cotton cloth to remove any residues or impurities. The resulting filtrate is a well-processed liquid formulation, suitable for field application. This method ensures effective extraction of nutrients from the eggs and their stabilization through fermentation, making the final product ready for agricultural use.

Usage:

- 4 mL egg amino acid diluted in 1L water can be used as basal application or foliar spray.

FISH AMINO ACID

It is composed of jaggery and fish. It encourages plant development and has a high nitrogen content. Additionally, it possesses insect-repelling qualities. There are several noteworthy advantages to this creative farming technique. In order to create a loose soil structure that supports the flourishing biomass

of microorganisms and earthworms and ensures a healthy and sustainable soil environment, it first concentrates on improving soil fertility and enriching nutrients. Second, it actively encourages the growth of crop roots and leaves, which improves photosynthesis and the development of the crop as a whole. With an anticipated 10% to 40% increase in production, the effect on farmers' productivity is as remarkable. Additionally, the technique improves crop quality by extending the harvest season and enhancing long-term storage capacity without sacrificing nutritional content or freshness. Additionally, the treatment increases crops' ability to tolerate pests and illnesses by strengthening their resilience to a variety of obstacles. For specific insect difficulties, it can also function as an effective repellent against rice bug and pod bugs when sprayed at a recommended dilution rate of 15-20 mL per liter of water. All things considered, this all-encompassing strategy enables farmers to produce better crops, promote sustainable agriculture, and satisfy the needs of an expanding population. (Maghirang, 2011)

Ingredients for the preparation of fish amino acid (30L)

1. Fish : 30 kg
2. Jaggery : 30 kg

Preparation:

Egg amino acid is prepared using fish materials, which may include any part of the fish such as the head, bones, and internal organs, making the process both economical and sustainable. The fish components are cut into small pieces and placed in a large container in layers, with each layer consisting of approximately one kilogram of fish. After placing each fish layer, an equal layer of finely shredded jaggery is added to facilitate fermentation and extraction of nutrients. This layering process is repeated systematically, ensuring slight spacing between layers to allow proper microbial activity. Once all the layers are arranged, the container is sealed in an airtight manner to create anaerobic conditions essential for fermentation. The mixture is then left undisturbed for a period of about 30 days, during which enzymatic and microbial processes break down the fish tissues and release amino acids into the solution. After the fermentation period, the container is opened and the contents are sieved to remove solid residues. The filtered liquid obtained is the final egg amino acid preparation, which is then ready for agricultural use.

Usage:

- 4mL fish amino acid diluted in 1 L of water can be used for a basal application or as a foliar spray.
- Fish amino acid fertilisers have an NPK ratio of 4:1:1. High in nitrogen (N) and low in phosphorus (P) and potassium (K). It also contains trace elements and secondary nutrient elements like calcium and magnesium.

CONCLUSION

The use of *Matka Khad*, *Egg Amino Acid*, and *Fish Amino Acid* represents a practical and sustainable approach to nutrient management in organic farming. These indigenous formulations recycle farm and household wastes into valuable bio-fertilisers, enhancing soil fertility, plant growth, and resistance to pests and diseases. By integrating these preparations into regular farm practices, farmers can reduce input costs, improve crop quality, and contribute to the long-term health of agro-ecosystems. Encouraging the preparation and application of such natural concoctions at the farm level is a vital step toward achieving resilient, chemical-free, and environmentally responsible agriculture.

References:

Chadha S., Ashlesha R., Sahi J.P., Paul Y.S. 2012. Sustainable livelihood option for small and marginal farmers. *Indian Journal of Traditional Knowledge* 11(3):480-486.

Maghirang, R.G. 2011. Organic Fertilizers from Farm Waste Adopted by Farmers in the Philippines. http://www.agnet.org/library

Shiyas, V. 2023. Utilization of Liquid Manures: A Comparative Study of Panchagavya, Fish Amino Acid, Egg Amino Acid, and Vermiwash. *International Journal of Research Publication and Reviews* 4(7): 2742-2747.

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