

Fisharkh – An Indigenous Approach For Enhancing Agricultural Productivity

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Abstract

To improve agricultural yields and soil health, sustainable and environmentally friendly options are becoming more popular as traditional farming methods are reevaluated for their effects on the environment. The usage of Fish Arkh in agriculture is one such strategy that is gaining popularity. Fish arkh, also known as fish amino acid, is a type of liquid natural fertiliser made from fish waste. FAA stands out as a viable tool for farmers aiming for both improved yields and ecological responsibility at a time when the world is still looking for alternatives to chemical fertilisers and unsustainable agricultural methods. Fish Arkh can be used in greenhouse farming, organic farming, grain farming, and fruits and vegetable production.

Keyword: - Fish Arkh, Liquid natural fertilizer, Sustainable

Introduction

Many indigenous communities reside in India, and most of them have their own unique traditional knowledge and technological basis. Many of these skills and technologies are out of date with the current knowledge and technological systems, yet they have given the native populations convenience and self-sufficiency. Possibility for society to benefit significantly from a proper integration of ancient and modern knowledge and technology systems development and good crop yields, commercial fertilizers provide an affordable way to add nitrogen (N) to the soil but are not sustainable in the long term. However, if N fertilizer is used improperly or excessively, it can nitrate-pollute the ground or surface water below but by using fertilizer Best Management Practices (BMPs) that minimize nutrient losses and prevent runoff and leaching from agricultural areas, producers can lessen the severity of this situation.

Natural farming uses fish amino acids (FAA) and native microorganisms to boost nitrogen (N) availability in soils and increase crop yields while maintaining water quality.

Farmers' long-standing knowledge of the land, its flora, and fauna has taught them how to protect their crops using eco-friendly cultural practices and an understanding of pest life cycles. Fish emulsion has been shown to encourage fruiting (Aung and Flick 1980), seedling growth and microbial activity in the soil. Fish amino acid (FAA) is made by fermenting fresh fish by-products (bones, head, skin, and other tankage pieces) with brown sugar or jaggery. To combat pests in crops, a product called "Fish amino acid also known as Fish arkh" is created from fish and jaggery. It helps in the increase of soil fertility and yield.



Fig:1.1 – Small pieces Fish



Fig:1.2 - Jaggery



Fig : 1.3 - Day-1 to Day-5



Fig :1.4 - Day-6 to Day-10



Fig:1.5 -Extracted fish arkh

Materials And Methods for Preparation of Fish Arkh

Fish arkh is an economical organic formulation which uses fish or fish waste and jaggery as its primary ingredient. 1 kg of fish cut into very small pieces or fish waste such as skin, bones, head, small pieces, etc. are used to make 1 LITRE of fish arkh. Fish intestines can also be used, but only after they have been thoroughly cleaned and minced because fish intestines contain acids that interfere with the pH and cause slow fermentation and a foul odour. Once the fish or fish waste has been collected and minced, it is combined with 1 kg of jaggery and placed in an earthen pot. An earthen pot is the best vessel because it is non-reactive with the formulation. Plastic buckets with lids or glass jars can be used in place of earthen pots if they are not available. The earthen pot is covered with a lid or a clean piece of cloth tied properly and left to ferment for 10 days. During these ten days, the arkh is mixed with a clean stick at two-day intervals. During the entire procedure, no water should be added. After 10 days, the honey-syrup-like substance should be extracted from the solution by using a clean muslin cloth or mesh and stored for further use.

Things To Know About Fish Arkh

How is Fisharkh Used?

Application of fish arkh can be done to the soil through drip or sprayer but direct application is avoided. The recommended dose is 5 ml of fish arkh in one litre of water. For bulk quantity, a minimum of 5kg of fish and 5kg of jaggery is used. Fish arkh can be stored for 9 months but for best result it should be used within 6-8 months. It should be thoroughly shaken before use and kept out of direct sunlight. Fish arkh should not be sprayed in high temperatures. It can be used for all types of crops. The advantages of fish amino acids are

- It is an efficient organic liquid fertiliser for fruit tree growth and flowering. Trees absorb nutrients more easily from liquid fertilisers

- FAA will improve nutrient enrichment, soil fertility, promotes crop root and leaf growth and increase photosynthesis.
- It is high in nitrogen, which promotes tree growth during the vegetative stage.
- It will also help in pest management such as mites, aphids, nymphs, grasshoppers, and so on.
- The effects of fish arkh application on fruiting trees is visible after 10 to 30 days of application.

Conclusion

One of the most promising ITKs used in agriculture is fish arkh. It proves Fertilizers can be eco-friendly rather than inorganic substances. It can improve soil pH, soil health, and soil fertility. The use of natural products in preparation can give good health to plants as well as humans. It improves aquaculture branches indirectly related to agriculture and manages the waste from aquaculture. The total production cost is about Rs.30/- per litre. Fisharkh is not only cheaper in cost but also enhances photosynthesis and increases yield. It has significant use in the history, of farmers which is relevant today also.

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