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## Renewing Garden using Fish Amino Acid Liquid Fertilizer

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### Abstract

Fish amino acid' is an organic compound used by many gardeners today to increase the plants' immunity and get more results. Fish pieces and jaggery are the two main ingredients to prepare fish amino acids and both the ingredients are mixed with a ratio of 1:1. The amino acid liquid derived from low-cost fish is used as an organic fertilizer to fertile the soil based on the richness of nitrogen components for the better growth of the gardening plants. It's used for all kinds of vegetables and flower plants. The fish extract helps us give green manure most naturally.

### Introduction

Fish contains many nutrients among which ammonia provides better growth for plants. In recent years, many gardeners are using amino acid liquid derived from low-cost fish as an organic fertilizer to fertile the soil for the healthy growth of plants. In India, gardeners are well aware of the techniques to make the soil fertile based on organic manures. Similarly, fish waste will be useful for gardening crops to improve the yield by providing nitrogen-based nutrients for the crops. The dumping waste of fish can be used to renew the gardening crops (Menon, 2020; Sharan, 2019).

### Is the Fish Amino Acid Waste Good for the Garden?

The gardening crops can be enhanced by digging the fish pieces and wastes in a plastic drum or grow bag at a good depth and then planting vegetables or flowers. Fish waste is the best compost that adapts quickly to soil fertility. Such debris can be suppressed by digging a hole without any damage to roots after planting. It is suggested to make a pit of 5 cm deep. It should not pour a lot of water on the plant after digging. Watering is required in the containers themselves. After digging the fish head, pour the fermented porridge with water and it is good for the plant to grow instantly. It is beneficial for the plant to apply calcium hydroxide  $[Ca(OH)_2]$  to the soil 10 days before putting fish waste. Likewise, the water used in fish cleaning is good for healthy plant growth. If the water is poured on the bottom of the plant leaves will germinate well (Sarah, 2019; Anonymous, 2014).

### How to Prepare the Fish Amino Acid?

- 'Fish amino acid' is an organic compound used by many gardeners today. It is used to increase the plant's immunity and get more results. Fish is the main ingredient in fish amino acid preparation (Figure 1, Figure 2).



Figure 1: 1 Kg Native Fish

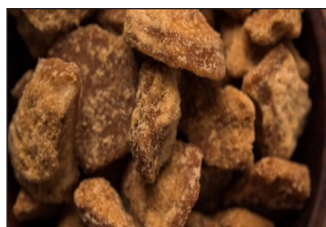


Figure 2: 1 Kg Jaggery

- Keep in mind that equal amounts of jaggery and fish pieces should be taken for their preparation. If 250 grams of jaggery is taken, it is estimated that 250 grams of fish pieces (Menon, 2020; Sharan, 2019).

- Layer the jaggery and fish evenly in an air-tight plastic drum. Fish waste should not float on the surface (Figure 3). Keep it out of direct sunlight for 30 days. It is essential to dehydrate it after 15 days of filling in a plastic drum (Menon, 2020; Sharan, 2019 Sarah, 2019).

- After 30 days, the extract with a nylon cloth. This nutrient is only used to be sufficient to improve plant growth.

- Fish can be used with amino acids for up to six months. Bury the remaining residue under the plant. It is best to bury the bottom of the fish waste, spinach eggplants, and tomatoes.

- Spraying with fish amino acids is also good for plants. When spraying, do it in the morning or the evening times. It's used for all kinds of vegetables and flowers. It can be used once in two weeks. The fish extract helps us give green manure most naturally.



Figure 3: Preparation of fish amino acid

## How to Use Fish Amino Acid (FAA) in the Garden

- Mixing with Fish Amino acid and water before use in the garden. We use Fish amino acid (FAA) in a homeopathic dose of 1:1000 parts water (Menon, 2020; Sharan, 2019).

- The Fish amino acid is rich with nitrogen and encourages plant growth during its vegetative state.
- It may be applied to both soil and vegetation.
- The fish amino acid may also be used as a plant leaf spray to repel insects such as worm moths and mites.

## Conclusion

The use of liquid organic fertilizer such as fish amino acid appears to be a promising alternative to chemicals. Organic fertilizer is a substance that is added to the soil to supply nutrients to the plant to improve the yield and quality of the agriculture's sustainability. Modern gardening depended on the heavy use of chemical fertilizers. The use of chemical fertilizer can speed up agricultural crop yields produced so much preferred by gardeners. However, the excessive use of chemical fertilizer causes air and groundwater pollution and causing health problems in humans. Therefore, the use of organic liquid fertilizer is an alternative way to replace chemical fertilizer.

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