

# Multi-purpose benefits



- . **Bio-extract can be used for horticulture by diluting with water and then spraying both garden & house plants**
- . **Bio-extract can transform kitchen waste to bio-degradable compost, helping to reduce both household and city waste**
- . **Bio-extract can help neutralize foul odors specifically from garbage and/or animals**
- . **Bio-extract can help to improve soil substance & fertility, and reduce insects, viruses and other infestation.**
- . **Bio-extract can help mitigate disease, viruses and water pollution affecting fisheries.**
- . **And much more**



# More information

Other available informative materials:

**- BROCHURES:**

- Bio-pesticide
- Bio-Hormone
- .Bio-compost
- Chemical Pesticide: The Warning Signs

**- VCD's:**

- Bio-Extract production & use
- Organic Rice field fertilizer
- Organic Farming
- Integrated Agriculture
- Frog production
- Organic poultry rearing
- Organic fertilizer
- Alternative income generation
- Live Earth



We also offer many benefits through our membership & services programs, to individuals & organizations alike

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# SAF



SUSTAINABLE AGRICULTURE FORUM

# BIO-EXTRACT



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## WHAT IS BIO-EXTRACT?

Bio-Extract is a liquid derived from the fermentation of vegetables and fruits with sugar. It contains vitamins, minerals, hormones, and enzymes. It is an organic substance and an effective micro-organism. There also is a Bio-Extract made from animal substance. It produces nutrients for all types of plants & vegetation. Bio-Extract helps to develop soil productivity by introducing organic matters to increase soil fertility.



## HOW TO MAKE BIO-EXTRACT?

### • FROM PLANTS

- Slice into small pieces fresh vegetables or fresh fruits. Fruits & vegetables should be raw. They can be unripe or ripe, but not rotten. Both the vegetable/fruit and skins can be used. All should be mixed together & placed in a large plastic container/ bucket with an air tight lid. Add sugar / amount of sugar should equate 1/3 of total weight of vegetables/fruits. Any kind of sugar can be used: black, brown, white and/or molasses.

<u>Formula:</u> Vegetables (plants)	3 kg
Sugar or molasses	1 kg

- Seal contents—allow to ferment for 5-7 days. After seven days collect the liquid from the bucket, resealing it after each collection. Repeat this process until liquid is finished.
  - The liquid is Bio-Extract. It can be kept for six months. The pH of Bio-Extract is about 3-5 days.
  - The fermented vegetables and fruits can be used for Bio-Composting. It is a quality organic matter. It should be applied to plants.
  - Other bio-degradable kitchen waste can also be added & mixed with the vegetables and fruits, always adding sugar.
- Bio-Extract can be multiplied by diluting one part of Bio-Extract and one part of sugar to ten parts of water, leave it for tree days.

### • FROM ANIMALS

- Snails, crabs, fish and such serve as key ingredients in the animal bio-extract process. The proportions are:
  - Golden snails, crabs or fish 1kg
  - Sugar or molasses 1kg
- Crush snails/crabs or slice fish and put them in a plastic bucket, adding equal parts sugar or molasses.
- Close & seal the container for 7 days. After 7 days, add 3 liters of clean water, & stir thoroughly. Repeat stir 2/3 daily for three weeks.
- After 3 weeks or more the bio-extract from animal can be used or can be kept between 6 to 12 months in an air tight sealed container



## HOW TO APPLY BIO-EXTRACT?

### For plants:

- Dilute one spoon of bio-extract to 10L of water and spray to plants every day or at least once a week
- Dilute 2-3 spoons of bio-extract to 10L of water in the ratio & spray soil mixed with manure for seven days to improve plant growth. (Green manure or animal's dung)
- Soak plant seeds water diluted bio-extract, mixing in one spoon of bio-extract per 10L of water for about thirty minutes for more efficient germination.
- Preparing fruit plant hole. Hole soil should be mixed with manure, bio-compost, dry straw, dry leaves or organic matter. Spray or water with Bio-Extract/ water mix using above ratio for seven days before transplant.

### For animals or livestock:

- Dilute bio-extract in animal's drinking water measuring one to ten thousand Liters. Doing this helps livestock digestion, and helps to suppress foul odor, as well diminish water born viruses & diseases.
- Dilute Bio-Extract with water one to five hundred to clean the floor of pig & cow stalls. If the chicken den floor is covered by rice husk; it should be sprayed every three days. This helps sanitize, diminish foul odor, without using harmful ammonia. Poultry C R D problems are avoided Fly infestation is reduced, as the bio-extract hormones prevent flies from laying/hatching their eggs. Most noted and relevant is that livestock health is improved, death is significantly decreased and as such income improved

- Spray bio-extract directly on manure to improve fertilizer quality when preparing/ plowing/ planting



### For fisheries

- Dilute bio-extract with pond/fish pool water one to one thousand Liters. Diseases & viruses are prevented from growing especially in the mud or the floor of the pond. Effective BE micro-organisms stop ammonia from feed waste to accumulate on the floor of the pond. Bio-extract should be added to pond/ fish pool water once or twice per week - this method can also apply to frog, crocodile, turtle and shrimp farms.

### For environment

- Bio-extract can be used as a household air cleaner, by diluting with water 1:100-500 & spraying garage, toilet or kitchen waste before packing.
- Bio-extract can help keep the toilet clean & waste tank unclogged.
- Kitchen waste can become compost ingredients by spraying bio-extract 1:100 & allowing to ferment for a couple of days.