



# **Fermented Plant Juice (FPJ) Production Guide**



Republic of the Philippines  
Department of Agriculture  
AGRICULTURAL TRAINING INSTITUTE

# Fermented Plant Juice

Fermented Plant Juice or FPJ is made from axillary buds and young fruits, fast growing plants, young leaves of plants and grasses. Mixed with crude sugar or molasses, the juice is extracted and fermented after storing for a period of time. The liquid is applied to plant's leaves and growing points, soil around the plant, compost heap and animal beddings to fortify microbial activities.

## Choosing the raw materials for FPJ

You choose materials that are:

- ▶ Young and fresh
- ▶ Free from insect pests and diseases
- ▶ Abundant in the production area
- ▶ Free from chemical containments

## Materials needed in making FPJ

- Local plants that are fast growing like kangkong, legumes and grasses.
- You can also use bamboo shoots, asparagus shoots, actively growing plant parts and young fruits of cucumber, squash, melon, watermelon, ampalaya and other cucurbits.
- Weed species that are found growing in the production area, young leaves of trees, banana trunks, young leaves and fruits of stress tolerant crops are also good materials for FPJ.
- You can use either crude sugar or molasses or whichever is available and can be bought at a lower price.
- You will need basin, ceramic pot or plastic pail, net bag or cloth bag, paper or cloth for cover, string, stone as weight, bolo, chopping board, marking pen and glass jars.

## Steps in making FPJ

- 1** Collect the plant materials early in the morning while they are fresh and the microorganisms are still present. Do not wash the plant materials.
- 2** Cut the plant materials into small pieces so that the juice can be easily extracted.
- 3** Put 3 kg chopped plant materials in a basin, add 1 kg crude sugar or molasses, then mix thoroughly with your hands. Make sure that all plant materials are mixed with sugar so that the juice can be extracted easily.
- 4** Put the mixture in a net bag or cloth bag. This is done so that the extracted juice will ooze from all sides of the bag.
- 5** Put the bagged mixture in a ceramic pot or plastic pail, and put weight to compress the mixture. Stone is a good material used to weigh down the mixture.



**6** Cover the pot or pail with paper or cloth, and secure with a string or rubber band. Paper or cloth is used as cover to allow some air to get inside the pot and for the gas that is being produced during the fermentation process to escape. On the cover, write the date of processing and the expected date of harvest

**7** Store the container with the bagged mixture in a cool dry shady place. Make sure that the storage area is not infested with cockroaches or mice, because they might feed on the mixture and contaminate the extract. In 7 days, plant juice is extracted and fermented. The plant extract will change its color from green to yellow, then to brown and will smell sweet and alcoholic.

**8** After 7 days, lift the bagged mixture and squeeze hard to get the remaining extracts.

**9** Collect the fermented extracts and preserve in dark colored glass jar. To cover the jar, use paper or cloth to allow the gas to escape during further fermentation, then, store in a cool, shady place. You may add the plant residue to the compost pile to hasten decomposition or you can apply it to the garden plots as source of organic matter. Use your FPJ more effectively if it is stored for another one week after completion.



## Uses and rates of application of FPJ

- As seed treatment before sowing – soak the seeds in 0.2 % solution for 4 to 5 hours to facilitate germination and as a start-up solution to germinating seeds.
- As a natural growth enhancer – FPJ made from actively growing plant parts and fast growing plants may contain natural growth hormones and mineralized nitrogen that promotes plant growth. Mix 1 teaspoon of FPJ per liter of water and spray on the leaves or apply directly to the soil around the plants from seedling stage up to pre-flowering stage. You can apply weekly or depending on plant vigor. Please note that with the use of FPJ, there is no overdose; you may use it liberally. However, the soil must be watered first before applying FPJ to avoid scorching of the roots.
- Apply FPJ to the soil to serve as source of energy to accelerate activities of soil microorganism. This activity will make the nutrients available to the plants.
- Give FPJ, as drink, to livestock at 1 tbsp/liter to increase microbial activities in gastro-intestinal tracts. This would result to better absorption of nutrients.
- Spray to animal beddings to hasten manure decomposition.



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