

## **JEEVAMRUTHAM, BEEJAMRUTHAM- Preparation and Application procedures**

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### **Introduction**

Excessive use of the chemical fertilizer has disadvantage over the fertility of the soil. Jeevamrutham is the best alternative that we can use in place of chemical fertilizer. Jeevamrutham is completely organic and can be used in the Natural farming. Jeevamrutham serves as the rich source of the microorganisms that fix nitrogen, solubilize phosphorus, also it is the rich source of carbon, nitrogen, phosphorus, potassium and many micronutrients. Jeevamrutham is low-cost improvised preparation that enriches the soil with indigenous microorganism required for mineralization from native cow dung, cow urine, horse gram and jaggery. Jeevamrutham, in acidic soil when applied increases pH and in alkaline soil decreases pH, thus creates favourable condition for availability of maximum nutrients to plants. This condition increases the crop yield and cuts down an entire expense of chemical fertilizer. The plant growth promoting Rhizobacteria, *Bacillus pumillus* and *B. licheniformis* produce high amount of physiologically active Gibberellins.

**Jeevamrutham** includes two words “Jeeva” and “Amrutham” which are derived from Sanskrit and are the most used by Hindus. The word “Jeeva” means a living organism and the word “Amrutham” stands for an elixir of life which has the capability to extend the life of any living organism. Jeevamrutham application is one of the best ways for the improvement of the number of microorganisms. For the first 2 years, you can provide as much Jeevamrutham as possible. More culture you add gives you the best results. The environment which is ideal for the microorganisms to survive is that the soil temperature which is in between 24°C to 30°C, the humidity of 88%, and maintaining moisture in the soil. This type of climate is available only in the monsoons. You can also make this happen through mulching. Mulching will help in the creation of micro-environment which will help in the improvement of microorganisms, which will, in turn, result in the formation of humus.

### **Jeevamrutham types**

#### **(i) Liquid state Jeevamrutham**

(ii) **Semi-solid state Jeevamrutham** If you are provided with an excess amount of cow dung, then you can use it in the preparation of semi-solid /Dry Jeevamrutham.

(iii) **Dry Jeevamrutham**

This Jeevamrutham can also be called as **Ghana Jeevamrutham**. This can be prepared when there is no water available for the preparation of Jeevamrutham. If there is no labour available to prepare Jeevamrutham, you can prepare it all at once and make use of it later by storing it.

**Preparation of liquid Jeevamrutham** You require Cow urine – ½ liter; Cow dung – ½ kg; Jaggery – 100 gms; Basin powder – 100 gms and Topsoil – 2 tablespoons

- Add cow dung, cow urine, Jaggery, and besan powder to 3 liters of water.
- Stir all the contents with the stick in such a way that there are no lumps in the liquid.
- Add 7 liters of water so that the solution will become up to 10 liters.
- Cover the container with a cloth and keep it in the shade in outdoors or under a tree.
- Stir the liquid in the container every day in the morning and evening times for about 15 minutes.
- The preparation of Jeevamrutham will be done in 2 days.
- **Application** If Jeevamrutham is given by **Irrigation like a drip, canal water, sprinkler utilize complete 200 liters**. When you are considering the spray, you can dilute the mixture. **First spray** – One month after seed sowing or transplanting of seedling. Take 100-liter water to add 5 liters of filtered Jeevamurtham.
- **Second spray** 21 days after the first spray. Here 150 liters of water plus 10 liters of filtered Jeevamrutham.
- **Third spray** 21 days after the second spray, take the third spray. 200 liters of water plus 20 liters of filtered Jeevamrutham.
- **Fourth spray** When fruits are beginning to show up. 200 liters of water plus 6 liters sour buttermilk can be sprayed for one acre.

In summer, spray to be done in early morning or evening. In winter any time of the day can be sprayed. It can also be applied by hands whenever there is a water scarcity problem or no sprayer available, still we can use Jeevamrutham. The first month after seed sowing or transplanting seedlings add one cup (50ml) Jeevamrutham in between two main vegetable plants on the surface of the soil.

Repeat this once or twice or even thrice a month. Repeat the same for every month for four months till the harvest is completed.

**Preparation of semi-solid state Jeevamrutham** you will require Cow dung – 50 kg; Cow urine – 2 liters; Jaggery – ½ kg; Pulse's flour – ½ kg. Mix all the above ingredients to one handful of soil which is fertile by using little quantity of water. After that, start making small balls from the mixture. Keep the balls in full sun in order to dry them.

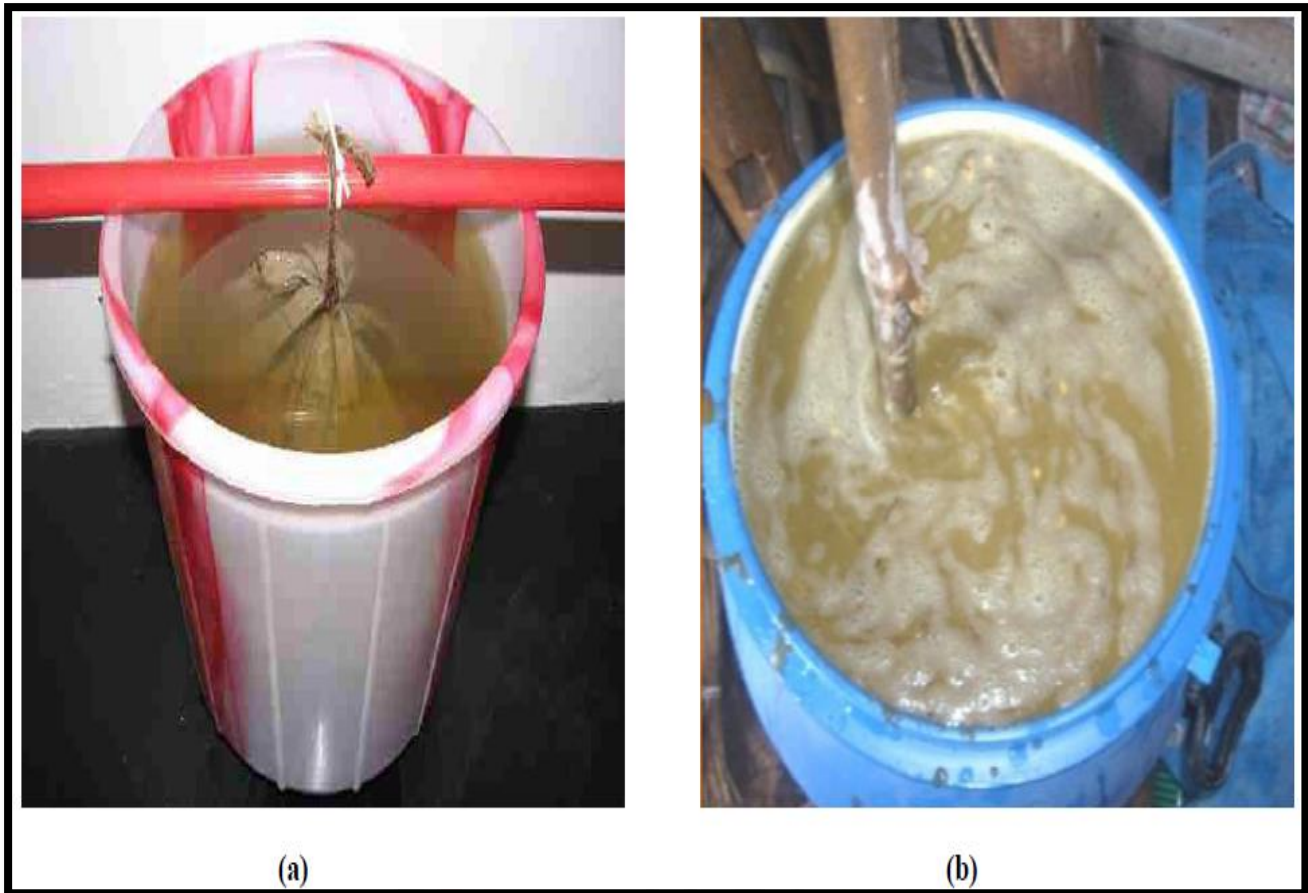
### **Preparation of Ghana Jeevamrutham**

You will need up to 50 kgs of cow dung. Spread all of this cow dung on the ground evenly for the formation of a layer. After that, add 5 liters liquid Jeevamrutham on this manure. Mix it completely. Now prepare the heaps of the cow dung and cover it by making use of a jute bag. This should be kept covered for 2 days for fermentation. Then, you should spread this mixture on the floor and let it dry in the sunlight. After this is dried completely, you will need to store it in jute bags in the room. Air should be kept flowing. The storage of Ghana Jeevamrutham can be done for 6 months. At the time of sowing, you can use Ghana Jeevamrutham. For each seed, you will need to use 2 handfuls of Ghana Jeevamrutham. At the time of flowering, you will need to add Ghana Jeevamrutham between the lines of the plants on the soil. You can expect amazing growth of plants by using this.

**Application** At the sowing period, use the 200kg Ghana Jeevamrutham per acre. For example, two handfuls of Ghana Jeevamrutham with each seed. Again, during the flowering period of the crop, add 50kg of Ghana Jeevamrutham in between two crop lines on the soil per acre. Amazing yield will be produced.

### **Preparation of Beejamrutham**

To treat one kg of seed, add 50 mL of desi cow urine (Gomuthram), 50g of desi cow dung and handful of soil from the undisturbed field to 200 mL of water, mix the contents thoroughly. Dissolve 0.5 g of edible lime in water and then add to the above solution. Stir the contents well until all the inputs were dissolved in water. Finally, it is covered with gunny bag and was incubated for overnight. Next day morning the contents were stirred well for one minute and let it to be stable. Then the beejamrutham is ready for seed treatment. The seed should be treated with beejamrutham by rubbing with hands (Palekar, 2006).



Preparation of (a) beejamrutham and (b) jeevamrutham

