

## JEEVAMRUTHAM: An effective activator of soil microorganisms

Ashmeet Kaur

University Institute of Agricultural Sciences, Chandigarh University,  
Mohali, 140413, Punjab, India  
\*Email- ashmeet079@gmail.com

Jeevamrutham is an organic fertilizer and a great replacement of chemical fertilizers.. It is a very good source of biomass, natural carbon, nitrogen, phosphorous, calcium and other nutrients which are essential for plant growth and development. The microorganisms which are present in the soil are responsible for increasing the fertility of the soil and the productivity of the crops. In order to increase the microorganisms in the soil Jeevamrutham is used. Jeevamrit enhances microbial activity in soil and helps in improvement of soil fertility

### Introduction

Jeevamrutham is moderate green in colour with mild foul odour and with progression in storage period it attains darker in colour with strong foul odour. Jeevamrutham is made of two words – Jeeva and Amrutham .Both are derived from Sanskrit. The word “Jeeva” means a living being and “Amrutham” means the elixir(medicine) upto extending life. According to agricultural view, Jeevamrutham is for crop life. It is the best culture to increase the count of microorganisms. Jeeamrut, is a microbial culture, mainly prepared from cow dung and cow urine generally used in organic farming to meet the nutritional requirement of crops. It has been proved that the use of jeevamrut in such varieties of rice(*Oryza sativa L.*) is better for the yield and its quality. Jeevamrut can be used in many crops like wheat (*Triticum aestivum*), Maize (*Zea mays L.*)- wheat cropping system. The freshly prepared Jeevamrutham was acidic in nature with a pH of 5.63. The EC (Electrical Conductivity) of Jeevamrutham was 0.23 dS m<sup>-1</sup> and the calcium content (66.4 ppm) was recorded in fresh preparation.

### According to agriculture view to fresh preparation.

### Types of Jeevamrutham

- The liquid state of Jeevamrutham

- The semi-solid state of Jeevamrutham
- Dry Jeevamrutham (Ghana jeevamrutham)

### **Method and application of liquid jeevamrutham**

**Requirements for liquid jeevamrutham-** Water, cowdung, cow urine, jaggery, flour of any pulse and a handful of fertile from the same land.

**Preparation:** The dung and urine of cow, hybrid cow, were prepared by using 1kg dung, 1 litre urine, 200 g jaggery, 200g flour and 100 g soil from the same field mix them in a big tank properly and keep the tank in shade and cover it with jute bag and it should be breathable and leave it. The mixtures were kept for incubation under shade for 5 days and stirred vigorously for 10–15 minutes three times a day with a wooden stick. The average minimum and maximum temperatures during the study period were 13.4 and 31.1°C, respectively. The final volumes of the mixtures were made to 20 litres with water in plastic containers.

**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 Jeevamrutham.

**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.

### **Method and preparation of semi-solid state jeevamrutham**

**Requirements for semi solid jeevamrutham-** 100kg desi cow dung, 5 litre urine, 1kg jaggery, 1kg pulse, one handful of soil from the same land.

**Preparation** -Mix all of them with a small amount of water. **Make the small balls out of the mixture.** Keep these balls in full sunlight to dry them. Now, these dried balls can be kept near the mouth of a dripper or near the sprinkler. When the waterfalls on the semi-solid Jeevamrutham, the microbes get activated again.

### **Method and application of Dry jevamrutham(Ghana jeevamrtham)**

Spread 200kg of cow dung on ground uniformly in the form of layer and add 20 liters of liquid jeevamrutham on it and mix it. Now, make a heap of treated cow dung and cover it using jute bag for 48 hours allow it for fermentation then spread on the floor, dry in the sunlight. After drying is completed, store it in jute bags in the room. Air should be flowing. You can store Ghana jeevamrutham for 6 months.

**Application** --At the sowing period, use the 200kg Ghana Jeevamrutham per acre. For example, two hands 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.

### **Advantages**

It helps the soil to activate their available nutrients, microorganisms to make them available for the crop sown in that particular area. It increases the count of earthworms in soil which is beneficial for soil fertility.Jeevamrutham is one of those organic fertilizer which have large number of nutrients like nitrogen, phosphorus, calcium, and other micronutrients. This will ensure higher yield by enhancing the availability of nutrients through faster decomposition of bulky organic manures by boosting the microbial activity in the soil. Many of these formulations are rich in beneficial micro flora and can act as efficient plant growth promoters

## Precaution

Do not use chemical fertilizers, pesticides or weedicides for 20 days before and after application of Jeevamrutha.

## Conclusion

Jeevamrutham helps to maintain the soil health and fertility. It provides varieties of benefits to user like less cost, easily adoptable to poor farmers, increase the crop productivity, environmental safety, and successful crop production. Generally, only the fresh preparations of liquid organic formulations are used by the farmers as they do not have information about the shelf life of liquid organic formulations. We can store jeevamrutham for many days or for weeks too. Stored material also have their own advantages like increase in nitrogen, micronutrients, EC, etc. To get good yield, healthy quality of crop, we must have to adopt this organic fertilizer application.

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