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Article · August 2021

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Jeevamrut

a low cost organic liquid manure in organic farming for sustainable crop production

AMIT KUMAR[1]
R.K. AVASTHE[2]
SUBHASH BABU[3]
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GAURAV VERMA[5*]
A.K. DHAKA[6]
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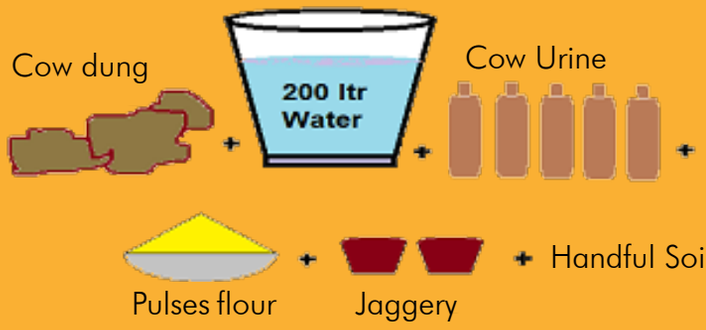
MOHAMMAD HASANAIN[12]

ICAR Research Complex for NEH Region,
Sikkim Centre, Tadong, Gangtok,
Sikkim-737102
*Corresponding author
Email:gaurav.agronomy@gmail.com



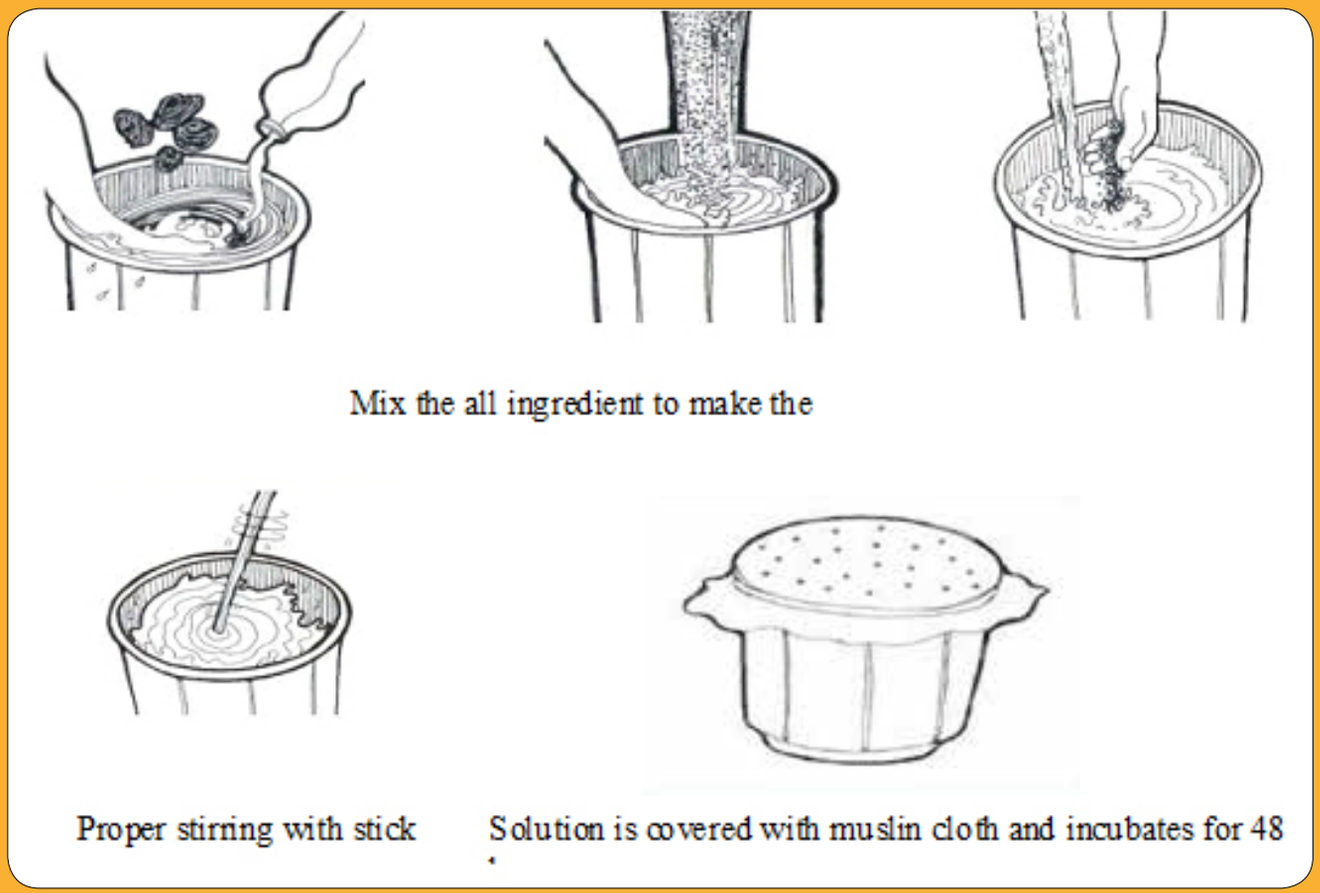
Jeevamrut is a liquid organic manure which is an excellent source of natural carbon and biomass that contains macro and micro nutrients required by crops. In comparison to other forms of manures, Jeevamrut has proven to be more effective and can be used along with other manures.The product of organic liquid fertilizer is meant for the fermentation process, which constitutes efficient living soil microorganism that improves the plant growth, productivity and supply sufficient amount of nutrients.Such fertilizers are cost effective and eco-friendly bio-inoculants having great potential to enhance agricultural production in a sustainable way.It can reduce excessive use of the chemical fertilizers in the soil which cause low fertility of the soil. Therefore, Jeevamrut is the best alternative to chemical fertilizer. Jeevamrut is completely organic.Therefore, it can be used in the organic farming, serves as a rich source of the micro-organism that fixes the nitrogen and solubilize phosphorus and also it is a rich

Ingredients' required for the preparation of Jeevamrut

Fresh cowdung	10 kg
Water	200 litre
Cow urine	10 litre
Virgin soil	500 gm
Jaggery	2 kg

Beneficialeffects of Jeevamrut on crops

- **Increased plant growth**
- **Increased palatability**
- **Increased sustainable crop productivity and profitability**
- **Increases nutrient content and uptake by crop**
- **Increased quality of produce**
- **Increased nutrient use efficiency, energy**
- **use efficiency, water productivity and resource use efficiency**



source of carbon, nitrogen, phosphorus, potassium and many micronutrients. From the point of preparation, jeevamrut is cost effective that enriches soil with indigenous microorganism required for mineralization. It is obtained from cow dung, cow urine, pulses flour (Besan) and jaggery. The use of jeevamrut is, in acidic soil increases the pH level and vice versa in alkaline soil. It sustainably increases crop yield and cuts down an entire expense of chemical fertilizer and improves the soil health.

Protocol for preparation of Jeevamrut

- Take 200 litre water in barrel.
- Take 10 kg local cow dung (Indian breed) and 5-10 litre cow urine (Gomutra) and add it in water.
- Add 2 kg jaggery (Gud), 2 kg

pulses flour and handful soil from virgin soil of the farm in barrel.

- Then stir the solution well and need to keep it for 48 hours in the shadow. The mixture needs to be stirred couple of times for minimum 10 minutes. It gets fermented. After 48 hours Jeevamrut is ready to use. It can be used for 2-3 days.

Nutrient composition of Jeevamrut

Jeevamrut is acidic in nature (4.93) and good source of macro and micro nutrients(N 1.97%, P 0.172%, K 0.29%, Mn 47 ppm and Cu 50 ppm).

Application dose pattern of Jeevamrut

In liquid form – Spray 5-10% of jeevamrut in water at the time of irrigation. For one acre, 100-200 litre of jeevamrut is needed. Moreover, it is beneficial when used once in 7-10 days.

Beneficial effects of Jeevamrut on soil health

Jeevamrut is a rich source of microbial population. Maximum microbial population was found from 8th to13th day after preparation. Jeevamrut also enhances the growth of nitrogen fixing bacteria in locally available substrates such as farm yard manure, compost, biogas slurry etc. Many scientists studied and found that rise in count of nitrogen fixing bacteria on 11th day further resulting in decrease from 12th day up to 20th day.

The quality of the jeevamrut mainly depends upon the breeds of the cow urine, milk and type of pulses. Addition of banana peels resulted in increase of nutritive value of jeevamrut, that helped to increase the colony count of various beneficial microorganisms like, Nitrogen fixing and phosphate solubilizing bacteria. Significant growth of viable microbes in seven month old Jeevamrut would prove significance of using it as consortium of microorganism, also reported the uncountable rate of Bacillus spp. Higher microbial population of the liquid formulation made them a potent source to maintain soil fertility and to enhance the nutrient availability by faster decomposition of bulky organic manures. In the laboratory studies it was found that phosphate solubilizing bacteria in high titre value.

Gram staining have proved them as Bacillus spp. Indigenous formulation based on cow dung fermentation are commonly used in organic farming and the results obtained from such biodynamic preparation provide a basis for understanding the beneficial effect of biodynamic preparation.

Durability of Jeevamrut

Jeevamrut has to be kept in the shade and should be kept covered. Care should be taken that no insect falls in the mixture or lays eggs in it. To prevent this, the container should always be covered with a wire mesh or plastic cover.

It can be stored for 60 to 75 days without any effect to its quality, provided that it is kept in the shade and is being stirred twice a day. The solution thickens over time, so water has to be added appropriately.

Advantage of Jeevamrut

- Acts as an agent to increase the microbial count & friendly bacteria in the soil.
- Improves pH of the soil.
- It can be made within 4-5 days so it can be used effectively and frequently.
- Suitable for all crops and increases the yield.
- Reduces costs of chemical fertilizers.
- It is easily used with irrigation water as fertigation.

Disadvantage of Jeevamrut

- It is prepared from animal remains and naturally it has a very foul smell.
- It is in liquid state thus not use for broadcasting.
- The liquid has a shelf life of not more than 10-12 days beyond which it isn't potent.

Conclusion

Jeevamrut is a low cost liquid organic manure which is an excellent source of natural carbon, beneficial micro-organism such as nitrogen fixing and phosphate solubilizing bacteria, macro and micro nutrients which is efficiently used between 8th and 12th days of preparation.

Thus, the use of Jeevamrut is the best alternative organic source of nutrients instead of chemical fertilizer and better bio-enhancer to improve the fertility status of soil and increase the sustainable crop productivity, quality, profitability, nutrient use efficiency and resources use efficiency.