Jeevamrut: An Organic Way to Nourish Soil and Plant

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The specialty of Jeevamrut, a traditional Indian biopesticide and organic manure, is the fermentation of a blend of cow dung, cow urine, jaggery, pulse flour, soil, and water. It is not only economical, but also good for the soil and plants. Instead of wasting money on expensive pesticides and fertilizers, farmers may employ this incredible indigenous plant therapy. Jeevamrut is entirely organic and doesn't negatively impact the health of the soil. It consists of the two terms "Jeevan" and "Amrit." Jeevan, the first term, means "life," and Amrit, the second, means "medicinal potion." By encouraging the activity of soil-dwelling microorganisms as well as phyllospheric microorganisms when they are sprayed on leaves, jeevamrut functions as a biostimulant. It boosts the number of native earthworms and serves as a primer for microbial activity.

Jeevamrut is a type of liquid organic manure that is rich in biomass and natural carbon. It also includes the macro and micronutrients that crops need. Jeevamrut has shown to be more effective than other manures and may be used in conjunction with them. The end result of organic liquid fertilizer is intended for use in fermentation, a process that produces effective live soil microorganisms that increase plant production and development while also providing an adequate supply of nutrients. These fertilizers are affordable, environmentally friendly bio-inoculants with significant potential to improve agricultural output in a sustainable manner. It can lessen the overuse of chemical fertilizers in the soil, which lowers the soil's fertility. Jeevamrut is therefore the ideal substitute for chemical fertilizer. Jeevamrut is entirely natural. As a result, it may be utilized in organic farming. It is also a rich supply of carbon, nitrogen, potassium, phosphorus, and several micronutrients. It also acts as a rich source of microorganisms that fix nitrogen and solubilize phosphorus. When it comes to preparation, jeevamrut is an affordable way to enrich soil with native microorganisms that are necessary for mineralization. It is made with jaggery, pulse flour (besan), cow urine, and dung. When jeevamrut is used, the pH level rises in acidic soil and falls in alkaline soil. It raises agricultural output in a sustainable way.

Inputs

- 10 kg of fresh cow dung
- 5-10 litre cow urine
- 50 gram lime
- 2 kg jaggery
- 2 kg pulses' flour
- 1 kg live soil
- 200 litres water

How to prepare jeevamrut?

In a different container, thoroughly mix together cow urine, cow manure, pulses floor, jaggery that has been dissolved in ten liters of water, and a pinch of dirt. Pour the prepared combination of cow dung, cow urine, pulse floor, jaggery, and dirt into a 200-liter non-metallic barrel filled with water. Stir the contents in the barrel both clockwise and counterclockwise using a wooden stick. For seven days, keep doing this twice a day, that is, once in the morning and once in the evening. The healthy organic manure will be ready for usage after seven days. This liquid manure may be sprayed on your plants for application.

Preparation of ghana-jeevamrut

You may create this solid organic manure in two different ways. The first technique, which calls for Farm Yard Manure (FYM) and liquid jeevamrut, is fairly simple.

Method 1

Take 20 litres of jeevamrut and 100 kilograms of farm yard manure. Combine all of the ingredients, let it dry in the shade, and then cover it with a gunny bag. To produce powder, beat this mixture with your hands once it has completely dried.

Method 2

Gather a handful of dirt, 5 to 10 litres of cow urine, 2 kg of jaggery, 2 kg of powdered pulses, and 10 kg of cow dung. Combine all of these ingredients and stir thoroughly. After drying it in the shade, cover it with a gunny bag. After the mixture has dried, powder it. This organic manure keeps for six to eight months in storage.

Table 1: Nutrient composition of jeevamrut

Nutrient	Concentration
Nitrogen	1.970%
Phosphorus	0.172%
Potassium	0.290%
Manganese	47 ppm
Copper	50 ppm
Acidic character	4.93

Application of jeevamrut

Applying this combination once every two weeks is recommended. It needs to be included into irrigation water or sprayed straight onto the crops. It should be used on individual plants when it comes to fruit plants. You can keep the combination in storage for up to 15 days.

Application of jeevamrut through drip irrigation

Problem

Gomutra and cow dung are well-known fertilizers that our ancestors have long employed. This fertilizer's effects don't require validation. Jeevamrut makes use of these two beneficial substances to improve the soil in which crops are planted as well as their production. Jeevamrut's benefits and goodness are widely recognized. The issue up until this point has been that monitoring daily quantities of sufficient Jeevamrut to the crops has proven to be quite labor- and time-intensive. The issue up until this point has been that monitoring daily quantities of sufficient Jeevamrut to the crops has proven to be quite labor- and time-intensive. Moreover, the tiniest particle in the liquid causes it to clog the sprayers' micropores and leak.

The solution

- Jeevamrut/Slurry by drip irrigation has been made feasible by the application of filters. The filter offers the following benefits.
- Preparation, storage for fermentation, and delivery by drip
- Perfect for subsurface watering as liquid manure reaches the roots immediately
- Electricity is not needed.
- With the aid of the slurry filter, up to 25 acres may be fertilized with just one person.
- After its installation, soil richness may be recovered in a matter of weeks. The number of earthworms has been shown to have multiplied, increasing the soil's porosity.

How does it work

The filter tank is divided into many sections by different types of filters. Fill the main tank with the Jeevamrut materials (Cow Dung, Gomutra, Water, Gram Flour or Besan, and Jaggery) and let it ferment for two to three days. 1600 liters of crystal-clear Jeevamrut are produced as a result.

Benefits of using jeevamrut

Potassium, phosphorus, and nitrogen are abundant in jeevamrut. All other micronutrients necessary for plant growth and development are also present in it.It is totally organic, gives plants all the nutrients they need to flourish, and shields them from pests and illnesses. In a week, you may prepare jeevamrut, in contrast to other organic manure that requires months to create.In addition to being useful for all plants, it increases beneficial bacteria, enhances aeration, and helps to regulate the pH of the soil.

Most farms and rural regions have access to the basic ingredients needed to manufacture this curative medicine that can save lives. A significant profit has been made by the several farmers who have already begun employing this organic traditional manure.

Beneficial effects of jeevamrut on crops

- Enhanced growth of plants
- A higher level of palatability
- Enhanced profitability and production of sustainable crops
- enhances the crop's absorption and content of nutrients

- improved production quality
- Enhanced water productivity, energy efficiency, nutrient efficiency, and resource efficiency

Beneficial effects of jeevamrut on soil health

Jeevamrut has a diverse range of microorganisms. The microbial population peaked between the 8th and 13th day following preparation. Additionally, Jeevamrut promotes the development of bacteria that fix nitrogen in readily available substrates like compost, farm yard waste, biogas slurry, etc. Numerous researchers discovered that an increase in the number of nitrogen-fixing bacteria on day eleven further led to a reduction from day twelve to day twenty. The breeds of cows used to produce the milk, pulses, and urine are the primary determinants of the quality of jeevamrut. When banana peels were added, the nutritional content of jeevamrut increased, which in turn helped to boost the colony count of several beneficial microorganisms, including bacteria that fix nitrogen and dissolve phosphate. notable increase in live microorganisms in a seven-month-old the relevance of employing it as a consortium of microorganisms would be demonstrated by Jeevamrut, who also reported on the incalculable rate of Bacillus species. Because the liquid formulation had a higher microbial population, it was a powerful tool for preserving soil fertility and increasing nutrient availability through the quicker breakdown of large organic manures. High titre value bacteria that solubilize phosphate were discovered in the laboratory investigations.

They have been identified as Bacillus species by gram staining. Organic farming frequently uses indigenous formulations based on the fermentation of cow dung, and the outcomes of these biodynamic preparations serve as a foundation for comprehending the advantageous effects of biodynamic preparation.

Durability of jeevamrut

- Jeevamrut has to be covered and maintained in the shade. It is important to make sure that no insects land in the mixture or lay their eggs there. The container should always have a plastic cover or wire mesh covering on it to avoid this.
- If kept in the shade and stirred twice a day, it may be preserved for 60 to 75 days without losing any of its quality. Over time, the solution thickens, therefore the right amount of water must be supplied.

Advantage of jeevamrut

- serves as a catalyst for the soil's microbial population and beneficial bacteria to grow
- Raises the soil's pH
- It may be prepared in 4-5 days, making it a useful and regular tool
- Enhances crop output and is appropriate for all crops
- Brings down the price of chemical fertilizers
- Fertigation using irrigation water is a simple application

Disadvantage of jeevamrut

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

Conclusion

Jeevamrut is an inexpensive liquid organic manure that is a great source of organic carbon, as well as macro and micronutrients that are effectively utilized between the eighth and twelfth days of preparation. It also contains helpful microorganisms including bacteria that fix nitrogen and phosphate.

In order to boost soil fertility and raise sustainable crop yield, quality, and profitability as well as nutrient and resource usage efficiency, Jeevamrut is therefore the best organic substitute for chemical fertilizer and a superior bio enhancer.

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