Panchagavya and Jeevamrutha: Organic Helpers

Savan M. Bedva, Harsh S. Hathi*, Shivam A. Purohit and Ankit B. Babariya

College of Horticulture, Sardarkrushinagar Dantiwada Agricultural University, Jagudan, Gujarat, India.

Corresponding Author
Harsh S. Hathi
E-mail: harsh.hathi9999@gmail.com

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ABSTRACT
Organic farming has been one of the most popular concepts for the past 30 years. Despite being a rapidly growing sector, certified organic agriculture occupies only less than 1 percent of lands and 1-2 percent of food sales in the world. Evaluating the development of organic farming movement from a historical perspective will be more explanatory to understand what organic farming is and which direction it is evolving. The history of organic farming can be investigated in three different stages. The beginning of organic movement traced back to the early settlement of farming era. Early attempts in this stage have been reviewed into two main activity lines as studies on soil fertility and activities as a reaction of industrial agriculture. The second stages have been coined as the institutionalization and commercialization period that includes the growth period of this movement in different lines. The last stage was named as the period of from commercialization to conventionalization-bifurcation, covering a period from growth stage to present. When evaluating all development in the agro-food chain related to strict safety control, a strong approachment tendency seems inevitable between farming alternatives, including organic farming.

INTRODUCTION
Modern agriculture has made an adverse impact on soil and plant health. This eventually, leads to high demand for organic farming to protect soil and plant health. Organic farming in recent years is gaining impetus due to realization of inherent advantages as it confers in sustaining crop production and also in
maintaining dynamic soil nutrient status and safe environment. In India, organic farming was well developed during the past such as ‘Vedas’ which has specified use of 'Panchagavya’ in agriculture. In Sanskrit, Panchagavya means the blend of five products obtained from cow namely dung, urine, milk, curd and ghee. Presence of naturally occurring, beneficial, effective microorganisms (EMO’s) in Panchagavya predominantly and lactic acid bacteria, yeast, actinomycetes photosynthetic bacteria and certain fungi besides beneficial and proven fertilizers such as Acetobacter, Azospirillum and Phosphobacterium were detected which have the beneficial effect especially in improving soil quality, growth and yield of crops. Panchagavya, an organic product is a potential source to play great role for promoting growth and providing immunity in plant system. Bio-chemical properties of Jeeva revealed that it possesses almost all the major nutrients like N, P, K and micro nutrients essential for plant and growth hormones like IAA and GA required for crop growth. The use of organic liquid such as Panchagavya and Jeevamrutha results in higher growth, yield, and quality of crops. Very little research work has been reported on combined effect of Panchagavya and Jeevamrutha on growth and yield of crops especially on groundnut under North Gujarat condition.

Liquid organic formulations that are used in organic agriculture like Panchagavya, Beejamrutha and Jeevamrutha are the fermented products which are used as plant growth enhancing substances prepared with material available with farmers. They are the rich sources of beneficial micro flora which support, stimulate the plant growth and help in getting better vegetative growth and also good quality of yield. Formulations prepared using agricultural by-products, viz., bran of grains, oil cakes, farmyard manure etc., which are found to support excellent growth carrier and storage media for beneficial microorganisms.

### Panchgavya

Panchgavya is a liquid organic fertilizer which is useful in organic farming and chemical farming. It helps in increasing plant growth and immunity. Panchgavya is prepared from five items like cow dung, cow urine, milk, curd and ghee. These five things give amazing results when mixed properly and used on plants. Panchgavya can be made in earthenware, cement or plastic tanks.

#### Ingredients:

- Cow milk - 2 litres, Cow curd - 2 litres, Cow urine - 3 litres, Cow ghee- ½ kg, Fresh cow dung - 5 kg, Sugarcane juice - 3kg (Substitute - 500 grams of jaggery in 3 litres of water), Tender coconut water - 3 litres, Banana ripe - 12 numbers

#### Method of preparation:

- Mix the indicated items in a clean bowl.
- Stir the mixture regularly in the morning and evening for three days.
- After three days, add 10 liters of cow urine and 10 liters of clean water to the prepared mixture.
- Fifteen days to the mixture thus prepared Stir regularly in the morning and evening.
- After 15 days, mix 2 liters of cow's milk, 2 liters of cow's buttermilk, 2 liters of coconut water, 2 kg of jaggery and 15 ripe bananas in the above mixture and prepare the mixture by shaking well.
Care to be Taken:

- Panchgavya: Open-mouthed earthenware or cement tank or can also be made in plastic barrels.
- Always keep the Panchagavya vessel in the shade.
- Stir the prepared mixture regularly in the morning and evening.
- Do not use buffalo dung or buffalo urine in the mixture.
- Cover the vessel with a cloth.

How to Apply:

The crop can be given to Panchgavya in different ways as per requirement.

1. 5% solution of Panchgavya can be sprayed in each crop by sprinkler system. 200 ml A solution of 5% can be made by mixing the solution of Panchgavya in 10 liters of water and shaking it well.

2. Relavine (through flow system): 50 liters of Panchagavya solution per hectare can be given by micro irrigation system or with Relavi irrigation water.

3. Treating seeds / seedlings: Before sowing seeds or seedlings, they can be planted by soaking in 5% solution of Panchagavya for 15-20 minutes. Soak the nodules of ginger, turmeric, tuber etc. and the eye piece of sugarcane for 30 minutes before soaking in Panchagavya solution. Farmer friends, you too see the benefits of natural farming by adopting Panchgavya in your farming.

Jeevamrutha

Jeevamrutha used in agricultural and horticultural crops which is beneficial to improve soil health & increase the yield & quality. Generally, Jeevamrutha is made through the enrichment of liquid Jeevamruthaa in FYM. Jeevamrutha develops tolerance to environmental stress, increase nutrient uptake from soil, enhance the antioxidant properties and enhance the yield & quality without adverse impact on soil health

How To Use Jeevamrutha for Plants?

Jeevamrutha can be applied in two forms i.e., solid and liquid. Solid form is generally called as “Ghan-Jeevamruthaam.”. Components of both the forms i.e., liquid and solid is nearly same. The only difference is in the amount of liquid.

In Liquid Form: You can apply 5 to 10% of Jeevamrutha in water in the form of a spray. For one acre of land 200 litres of Jeevamrutha is required. Spray in the interval of every 7 to 14 days for better results.

In Solid Form: You can apply Ghan-Jeevamruthaam directly in your farm. You can apply in the powder form in your field just like you apply vermicompost or Farm Yard Manure. It can be stored for 8 months.

Ingredients:

Water - 200 litres, Cow Dung - 10 Kilograms, Cow Urine - 10 litres, Pulse Flour - 2 Kilograms, Jaggery - 2 Kilograms, Soil - A handful.

Method of Preparation:

- Mix cow urine + cow dung + pulses floor + jaggery (dissolved in 10 litres water) + A handful of soil in a separate container and mix this mixture very well.

In a non-metallic barrel of 200 litres capacity, fill water and pour the prepared...
mixture of cow dung, cow urine, pulses floor, jaggery and soil in the barrel.

- With the help of wooden stick stir the mixture in the barrel clockwise and anticlockwise. Keep repeating this process two times in a day i.e., first stir in the morning and second in the evening for 7 days.

- After 7 days the beneficial organic manure will become ready to be used. You can apply this liquid manure in the form of spray on your plants.

How To Prepare Ghana-Jeevamruthaam?

This solid form of organic manure can be prepared by two methods. The first method is very easy and requires Liquid Jeevamrutha and Farm Yard Manure.

Method-1:

- Take 100 Kg of Farm Yard Manure and 20 Litres of Jeevamrutha.
- Mix these components thoroughly and dry it under shade and cover it with gunny bag.
- Once this mixture gets dry completely beat it with your hand to make powder.

Method-2:

- Take 10 Kg Cow dung, 5 to 10 litres cow urine, 2 Kg Jaggery, 2 Kg pulses powder, handful of soil.
- Mix all of these components together very well.
- Dry it under shade and cover it with gunny bag.
- Once dried make powder of this dried mixture.
- You can store this organic manure for 6 to 8 months.

How to apply?

1. For a spray of liquid Organic Fertilizer Jeevamrutha. Apply 5 – 10 % in water.
2. For soil, use 100-200 liters per acre during irrigation.
3. According to the growth of the crop use it once at an interval of 15-30 days.
4. Jeevamrutha Liquid Organic Fertilizer is for vegetable, indoor plants, and agriculture farms.

CONCLUSION:

Both techniques are cheap while chemical fertilizers are expensive. The materials used in Jeevamrutha and Panchagavya are eco-friendly and organic. Thus, these methods do not hurt the crops as well as the soil in any way. Both methods are used to increase the fertility of the soil by activating microorganisms in the soil. These methods can be used as a fertilizer as well as pesticide. These mixes can be used in a foliar spray, in irrigation water, seed or seedling treatment. Chemical fertilizers and pesticides kill microorganisms in the soil. In any case, Jeevamrutha and Panchagavya protect and help to grow these microorganisms. Both have high potential and up to 10 times they boost up the production. Farmers claim that the liquids not only increase the productivity of their crops but also prevents several bugs those attack the plants. Jeevamrutha is more effective when the plant is in its early stages of growth. But Panchagavya is effective after the early stages of growth.

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