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## AN ALTERNATIVE TECHNOLOGY OF ORGANIC FARMING PANCHAGAVYA

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### Introduction

Organic farming in recent years is gaining impetus due to realization of inherent advantages it confers in sustaining crop production and also in maintaining dynamic soil nutrient status and safe environment (Lokanath and Parameshwarappa, 2006). Farmyard manure, compost, vermicompost, green manuring, agro-wastes and plant wastes from sources imply both for sustainability of soil organic carbon (Tolanur and Badanur, 2003) and supply of plant nutrients in traditional organic farming. In the existing technology of organic farming where FYM and compost are used as sources of nutrient supply, productivity of soil depletes during the transitory period (until fertility, structure and microbial activity of soil have been restored) leading to low yield levels in initial years of cultivation (Natarajan, 2002). Besides, in the light textured soils of arid and semi-arid regions bulky organic materials remain in undecomposed state for years due to inherent deficiency of soil organic carbon and microbial biomass responsible for decomposition of these materials. Hence it is imperative to evolve an alternative technology of organic farming that provides reasonable yields while restoring the fertility of soil during transitory period. The use of fermented, liquid organic fertilizers, effective microorganisms (EM) as foliar fertilizers have been introduced to modern agriculture in recent years to produce food with good quality and safety (Galindo *et al.*, 2007). Use of fermented curd, rich in beneficial microorganisms, is also practiced elsewhere both to augment plant growth and suppress pest loads on crop plants. The benefits of EM in increasing crop yields, improving crop quality and protecting plant from pests and disease have been demonstrated for a wide range of crops and soil conditions. The use of fermented cow dung, urine, milk fat, curd and milk with the name of Panchagavya is getting adaptive popularity in Indian agriculture largely through the efforts of small groups of farmers. Role of foliar applied Panchagavya in production of many plantation crops had been well documented in India (Selvaraj, 2003). The present investigation was hypothesized to examine the effect of foliar application of 3 per cent Panchagavya on different physiological parameters.

**Panchagavya:** 'Panchagavya' is one such organic product for plants. It is an Organic Plant Liquid Fertilizer. It is a Organic growth Stimulant for all types of plants, Milch Animals, Goat, Poultry, Fish, Pet Animals *etc.*, Panchagavya is also a traditional method, used to safeguard plants and soil micro-organisms and to increase plant production. Panchagavya application is found to be more profitable than recommended fertilizer application and chemical spray. The modified versions used for organic farming have been standardized by experimental trials.

**Uses:-** Increases immunity of plants and other living organisms to fight diseases; cures already infested plants and other living organisms

- Stimulates growth of plants with more branches;
- Sustains drought Conditions;
- Increases yield.

**How to Make:** - In Sanskrit, Panchagavya means the blend of five products obtained from cow. (All these five products are individually called 'Gavya' and collectively termed as 'Panchagavya') It contains ghee, milk, curd, cow dung and cow's urine. Panchagavya had reverence in the scripts of Vedas (Divine scripts of Indian wisdom) and Vrksayurveda (Vrksha means plants and ayurveda means health system). The texts on Vrksayurveda are systematizations of the practices the farmers followed at field level, placed in a theoretical framework and it defined certain plant growth stimulants; among them Panchagavya was an important one that enhanced the biological efficiency of crop plants and the quality of fruits and vegetables (Natarajan, 2002).

Making approx. 20 litres of panchagavya you need the following:

Contents	Volume
Fresh cow dung	5kg
Fresh cow's urine	3 liters
Cow's milk	2 liters
Cow's curd	2 liters
Cow's ghee	500 gm
toddy	500 gm
Water or sugarcane juice	3 liters
Ripe banana fruit	1 bunch (12 nos.)
Tender coconut water	3 liters
Jaggery	2 liters

(If toddy is not available, you can ferment 3 liters of tender coconut water by keeping it in a pot for 1 week. That will become toddy. )

**Method of preparation:**

- ✓ Take 5 kg of fresh cow dung and mix it thoroughly with 500 gm of cow's ghee and keep it in a plastic drum or a mud pot. It should not be kept in a metal container because it will corrode and react with the metal. Keep the ghee and the cow dung mixture for 4 days, mixing it twice a day.
- ✓ On the 5<sup>th</sup> day add cow's urine, cow's milk (cow's milk can be boiled, cooled and then added) and cow's curd, then jaggery with water or sugarcane juice and banana fruit (which has to be mashed and mixed thoroughly.) Then tender coconut water has to be added.
- ✓ Wait for another 15 days, stirring twice daily. Stirring the contents for about 20 minutes each time facilitates aerobic microbial activity.
- ✓ On the 19<sup>th</sup> day the panchagavya solution will be ready. This solution must be kept under a net, i.e. it must be covered with a muslin or fine cloth so that the common fly cannot sit on it and lay eggs. For use after 19<sup>th</sup> day, stir the mixture at least once a day to aerate it.

**Application:-** 200 ml of this solution can be diluted with 10 liters of water with proper stirring for Spraying on plants. For soil application, dilute 1000 ml in 10 liters of water.

**Periodicity of use-** Once in 15 days, it can be used for all crops. In winter crops, 1.5-2% usage is sufficient but for all other crops 3% should be used.

### **Role of Panchagavya in crop production**

Many farmers from their experience revealed the growth promoting effect of panchagavya, especially in the cultivation of rice, mango etc. Moreover, it helps to preserve the quality of crops, soil and environment. It contains several micro and macro nutrients, beneficial microorganisms like bacteria and fungi which promote plant growth.

Panchagavya also acts as an effective pest repellent. Spraying panchagavya is highly effective in controlling the fruit fly menace in mango trees. Moreover, panchagavya along with Vermicompost has been observed to enhance the quantity and quality of fruits in mango. Vermicompost @10 kg and one liter panchagavya diluted in 30 liters of water must be sprayed over the crown (foliage) and at the base of trees of bearing age. Panchagavya alone may be sprayed at the crown and base before the flowering for enhancing the blooming process. The spraying must be repeated at 15-20 days interval till the flowers turn into small fruits. Then the spraying must be repeated at monthly interval. This treatment is highly effective for improving the size, number and color of fruits. Moreover, this organic treatment of Vermicompost and panchagavya help the trees to be large leaves forming a profuse canopy and dense rooting system. The taste and shelf life also could be improved by this practice.

Studies conducted at Agricultural Universities of India, revealed the efficiency of panchagavya to improve yield attributes, grain yield and economics of cultivation. Moreover, parameters like grain size, 1000 grain weight and milling quality and cooking qualities like cooking time, volume expansion ratio and water absorption ratio. Also, higher sensory scores were obtained as compared to the recommended NPK through chemical fertilizers.

Panchagavya enhances growth and induces quick flowering, besides imparting resistance to pests and diseases. It also helps to advance this maturity of crops. In commercial flowers crops like jasmine, it ensures continuous flowering. Spraying two rounds of panchagavya one before the flower initiation and another during pod / fruit setting phase is providing quick flowering and thereby increases the productivity. In jasmine it ensures continuous flowering. In moringa with synchronized flowering and doubled the yield of Moringa pods. It can be used for groundnut, turmeric and many other crops. Seed materials also can be treated by soaking them in panchagavya for about 2 hours. Seedlings can be dipped in this for few minutes to wet their root zone before planting.

The uniqueness of panchagavya is that it provides growth promoting hormones and immunity boosters for plants. This can be used for seed/sapling treatments and also to control the spread of seed borne diseases. Panchagavya may be applied for any crop and the application period is very important and hence it must be carefully planned. Adding panchagavya during the composting process helps to improve the quality of compost. Using panchagavya also helps to increase the yield and quality of the products. Compared to chemical fertilizers, this is less expensive and more eco-friendly with no side effects.

### **References**

- Lokanath, H.M. and Parameshwarappa, K.G. (2006).**Effect of organics on the productivity of Spanish bunch groundnut under rainfed farming situations. In: Proceedings of 18th *World Congress of Soil Science*. pp. 62-63. Philadelphia, Pennsylvania, USA
- Tolanur, S.I. and Badanur, U.P. (2003).** Effect of integrated use of organic manures, green manure and fertilizer nitrogen on sustaining productivity of rabi sorghum-chickpea system and fertility of a vertisol. *The journal of the Indian society of Soil Science* **51**: 41-44.
- Natarajan, K. (2002).** Panchagavya- a manual. pp. 13-27. Other India Press, Mapusa, Goa, India.
- Galindo, A., Jeronimo, C., Spaans, E., and Weil, M. (2007).** An introduction to modern agriculture. *Tierra Tropical* **3**(1): 91-96.
- Selvaraj, N. (2003).** Report on Organic Farming at Horticulture Research Station, Tamil Nadu Agricultural University, Ooty, 2003-04. pp. 2-5.
- Dr. Sindhu. (2007).** Panchagavya a wonderful plant growth enhancer, *The Health Rebel*