

# Cowpathy for Plant Health

by CHITRA BALASUBRAMANIAM

I had heard of panchagavya on a number of occasions, and the usage varied – for auspicious occasions, purification, in temples and also for safeguarding plant, animal and human health. However, the effect of panchagavya on plants and its extensive use in agriculture was made clear to me when speaking to enthusiastic practitioners of organic farming.

The use of panchagavya seems to be more pronounced in the southern states of India as opposed to north India. I spoke with Dr. K. Natarajan, M.B.B.S., who has dedicated quite a bit of his life to the making of panchagavya, propagating its uses, spreading awareness and educating and training individuals.

"My knowledge has not been patented," said Natarajan. "I freely teach it to everyone and train people. I have organic farmers coming to me from India and all over the world like Cuba, Malaysia, the United States, South

Africa, etc. to learn how to make and use panchagavya."

The objective is to share the knowledge which is freely available in the *Vedas*. The *Vedas*, containing the tenets of Hinduism, are a large body of text in Sanskrit. It is the foundation of the religion and is divided into four parts – Rig Veda, Yajur Veda, Sama Veda and Atharva Veda.

The following is a short overview of panchagavya, and farmers will need to spend more time researching and understanding it to achieve maximum benefits.

## WHAT IS PANCHAGAVYA?

Panchagavya essentially means a combination of five elements from the cow. The word *panch* in Sanskrit means five and *gavya* means from the cow or cattle, although there are several other meanings for *gavya* in Sanskrit. The cow is considered sacred and worshipped in Hinduism. Therefore, panchagavya is a solution made from five substances derived

from the cow – cow dung, cow urine, milk, curd and ghee. Curd is similar to yogurt. It is obtained when milk is allowed to curdle or by using a souring agent like lemon, vinegar or old curd. Ghee is clarified butter – when it starts bubbling and giving off a nice smell, the boiling is stopped. Ghee is indigenous to India and has tremendous healing properties. It is also delicious when used in cooking.

## PREPARATION

Dr. Natarajan's initiation into the world of panchagavya for plants started at a temple. He speaks to me in Tamil and recounts a story, "I visited the temple of Lord Shiva in Kodumudi on Maha Shivaratri – a festival celebrated in honor of Shiva. I was given a small quantity of panchagavya by the priest as a Prasad. After eating it, I asked him what it was and its benefit. He scolded me, saying, 'you are a doctor but still do not know the benefits of panchagavya.' I then delved deep into the subject to come out with the present formulation of panchagavya."

The priest explained to him that panchagavya protects the body by increasing immunity, and reducing physical and other ailments. It is this protective shield of panchagavya, and its recuperative properties, which are also harnessed by plants.

Dr. Natarajan explains the classic Vedic proportions: four parts milk,



Panchagavya stored in a drum, before stirring.



PHOTOS COURTESY OF DR. K. NATARAJAN



Dr. K. Natarajan with a typical cow shelter at his home.

three parts curd, two parts ghee, one part cow urine and cow dung, about one thumb, mixed and added to water. The quantity of cow dung remains the same irrespective of the change in other proportions.

Shantha Ramaswamy, a self-taught organic farmer, gives the proportions as roughly 7 liters of milk, 3 liters of curd, 1 liter of ghee, 1 liter of cow urine and  $\frac{1}{2}$  kg of cow dung. This is mixed together and left for 20-30 days and is stirred 2-3 times daily. This material is then mixed with water and sprayed on plants.

Ramaswamy's 35-acre farm has coconut trees, mangoes and guava. She also rears cows and grows their fodder apart from vegetables.

She adds, "In temples, Gods are bathed with milk, ghee, curd ... called abhishekham. All of this is collected and used for making panchagavya. I also add all agriculture waste from the farm, basically whatever is available, together with cow urine and cow dung." There is a huge bathtub at the farm where all of this is combined and stirred.

#### DR. NATARAJAN'S PANCHAGAVYA

Dr. Natarajan has worked continuously experimenting with panchaga-

vy. It was after three years of continuous evolution and experiments that he formulated the version he is currently using. In his book, *Panchagavya, A Manual*, published by Organic Farming Association of India and distributed by Other India Press, Dr. Natarajan says, "This ignited a chain of experiments conducted over three years, to standardize the present form of panchagavya, the single organic input which can act as a growth-promoter and immunity booster." Dr. Natarajan adds, "Panchagavya can be used as a pesticide not only on organic farms but also on farms doing farming the conventional way using chemical inputs ..."

It is after much tweaking and using combinations with several ingredients that the final list of ingredients was selected. This formula produces 20 liters:

- fresh cow dung, 5 kg,
- cow urine, 3 liters,
- cow milk, 2 liters,
- cow ghee,  $\frac{1}{2}$  kg,
- cow curds, 2 liters,
- sugarcane juice, 3 liters,
- tender coconut water, 3 liters,
- bananas, ripe, (12) and
- toddy or grape juice, 2 liters.

The cost of production is very low and if the farmer has his own cows and produces all the inputs for panchagavya, the cost goes down further.

The procedure is as prescribed in the book, "To make the panchagavya one needs a mud pot or a concrete tank or plastic can. Metal containers are usually avoided. First fresh cow dung and cow ghee are put into the container. This is mixed together twice every day and allowed to stand for three days. On the fourth day, the rest of the ingredients are added. The mixture is stirred twice every day for 15 days. The pot has to be kept covered by a mesh to avoid infestation by flies."

Ramaswamy explains, "If the solution is not stirred it is liable to develop worms. The milk floats above and worms set in. Stirring it a couple of times every day keeps all of this at bay." Stirring it every day, the solution lasts without spoiling for more than 6 months. This mix has been researched and tests conducted to find

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out the chemical composition and biological properties in it.

For use on agriculture land, the panchagavya is applied at a 3 percent rate — 3 liters of panchagavya are mixed with 100 liters of water and the mixture is sprayed on crops. After dilution, the mixture has to be filtered before it can be used for spraying.

Another method suggested by Dr. Natarajan is the flow system by which panchagavya solution can be mixed with irrigation water at 20 liters of panchagavya per acre of farmland. This can be fed into the crops by drip irrigation or flow irrigation. It can be used on seedlings and plants.

When the panchagavya mixture is sprayed on acid lime there is continuous flowering throughout the year, the fruits are juicy with good aroma and the shelf life is extended more than 10 days. Farmers also see similar results for mango including dense flowering and extended shelf life of the fruits with the fruit retaining its flavor and aroma longer.

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