

Panchagavya's Promise in Sustainable Agriculture



marcatus

in
collaboration with



Kodakana International School

**Center for
Environment
and Humanity**

Introduction:

Panchagavya is a traditional organic mixture made from five cow-derived ingredients: dung, urine, milk, curd, and ghee, along with jaggery, tender coconut, and native banana to enhance fermentation. When properly mixed and applied, this mixture provides numerous benefits to farmers and gardeners, such as boosting plant immunity, promoting growth and yield, and improving soil health. This formula originates from traditional Indian knowledge.

How to make Panchagavya

Ingredients to make 30 liters

- Cow dung - 7 kg
- Cow ghee - 1 kg
- Cow urine - 10 liters
- Water - 10 liters
- Cow milk - 3 liters
- Cow curd - 2 liters
- Tender coconut water - 3 liters
- Jaggery - 500g dissolved in 3 liters of water
- Well ripened native banana – 12 nos.

Procedure:

1. **Prepare the Container:** Use a 50-liter container, such as a barrel, concrete tank, or mud pot.
2. **Mix Cow Dung and Ghee:** Combine cow dung and cow ghee, mixing thoroughly twice a day (morning and evening) for 3 days.
3. **Add Cow Urine and Water:** After 3 days, add cow urine and water, and continue mixing twice a day for 15 days.
4. **Add Remaining Ingredients:** After 15 days, add milk, curd, tender coconut water, jaggery, and native banana to the mixture.
5. **Storage and Fermentation:** Store the container in a shaded area for 45 days. Cover it with a mosquito net to prevent maggot formation.
6. **Transfer for Storage:** After 45 days, transfer the concentrated Panchagavya to storage bottles. Dilute it as needed before use as a farming input.

How to Use Panchagavya:

Foliar Spray:

- Dilute Panchagavya (3 ml) with water (100 ml) and spray it on plant leaves for direct nutrient absorption and healthier leaf development.
- For power sprayers with a 10-liter capacity, use 300 ml of Panchagavya per tank. Filter out any sediments before filling the sprayer to prevent clogging.
- For hand-operated sprayers, use a nozzle with a larger pore size to facilitate spraying.

Soil Drench:

- Mix Panchagavya with water in a 1:10 ratio and apply it to the soil around the base of plants.
- Alternatively, mix Panchagavya with irrigation water at 50 liters per hectare. This can be applied via drip or flow irrigation systems, with filtering to prevent nozzle clogging. This method enriches soil microbes and improves nutrient availability and root development.

Seed Treatment:

- Soak seeds in a diluted solution of Panchagavya (3 ml to 100 ml of water) for 20 minutes before sowing to boost germination and establish strong, healthy plants.
- For banana suckers and other plant cuttings, soak in the solution for 30 minutes before planting.



A farmer in Pallangi (Kodaikanal) applying a foliar spray of Panchagavya, provided by KIS CEH.

When to apply Panchagavya

- **Pre flowering phase** : Once in 15 days - two sprays
- **Flowering and pod setting stage**: Once in 10 days - two sprays
- **Fruit/Pod maturation stage**: During pod maturation - one spray

S.No.	Crop	Application Schedule
1	Cauliflower	10,15,30 and 50th days after transplanting
2	Carrot	30,45 and 60 days after sowing
3	Cowpea	15, 25 and 40 days after sowing
4	Beans and Red beans	15, 25, 30, 40 and 50 days after sowing
5	Peas	30 and 45 days after sowing
6	Spinach and other leafy vegetables	15 and 20 days after sowing
7	Beetroot	30, 45, 60 and 75 days after sowing
8	Cabbage	In nursery and at 40 & 60 days after transplanting
9	Coriander and Radishes	15 and 20 days after sowing
10	Flower crops (Rose, Gerbera, Gladiolus, Marigold, Hibiscus, etc.,)	At the time of pruning and budding
11	Fodder grass	45 days after planting and once in 20 days after each harvest
12	Blueberries, Raspberries, and Blackberries	Once in 60 days
13	Orchards (Plum, Peach, Avocado, Pear, Apple, Orange, lime and other fruit trees)	Before flowering and during fruit formation

Benefits of Panchagavya

- **Leaf Development:** Plants treated with a Panchagavya foliar spray tend to produce larger leaves and develop a denser canopy. For optimal results, it is recommended to apply Panchagavya at a 3% concentration (30 ml per liter of water) on all crops.
- **Stem Growth:** Panchagavya application encourages greater branching, leading to the development of a robust trunk with more side shoots.
- **Root Growth:** Panchagavya promotes deeper and more widespread root systems, allowing plants to access more nutrients and water from the soil's lower layers.
- **Yield Improvement:** Panchagavya is particularly beneficial during the transition from inorganic to organic farming, a period often associated with yield reduction. Its rich nutrient content and microbial activity help restore crop yields within the first year of conversion.
- **Drought Hardiness:** After Panchagavya is applied, it forms a thin oily film on leaves and stems, reducing water loss through evaporation. Additionally, the extensive root system developed improves the plant's ability to endure dry periods, reducing irrigation needs and enhancing drought resilience.

