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Review paper

# Cow Urine Uses as Multifunctional in Crop and Soil

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**KEYWORDS**

- Cow urine
- Multifunctional
- Agriculture
- Soil

**ABSTRACT**

In India cow called '*Gomata*', mother of all, gift of God to people, the present review focus on how cow urine act as multifunctional properties and uses in different agriculture aspect, crop management, crop protection, crop improvement, pest control and disease control. Cow urine also provides NPK, some micronutrients, and vitamins. Some enzymes of cow urine act as plant growth promoter and enhancer. Due to tremendous use of chemical pesticides, effects of fertilizers on soil, atmosphere, and human beings increases day by day. Cow urine is a best solution for sustainable and integrated agriculture system which increases soil fertility and becomes safer for the humans.

## 1. Introduction

Cow urine and cow dung are very important for soil restoration, soil fertility, and environment. Indian traditional practices of organic farming like bijamrit, jeevamrut, panchgavya, nemmastra are beneficial in natural farming or natural agriculture.

Multifunctional Uses of Cow Urine in Natural Farming and Integrated Farming

1) Cow urine contain nitrogen which act as biofertilizer and also useful in uptake of nitrogen in various crop , increases growth and yield of crop .also by using nitrogen as source with chemical fertilizer with balance dose national quality in crop also increases .
2) Neem, Pongamia Tulsi like Leaf medicinal plant or Dashparni with fermented cow urine for pest control, pest repellent and insecticidal properties, and some plant have antimicrobial, antifungal with cow urine.
3) Cow urine also some potent to antifungal, antibacterial properties, phytopathogenic fungi, and bacteria
4) Cow urine as natural growth media for beneficial microbes, *Psudomonas* spp. *Bacillus subtilis*
5) Cow urine application as spray reported improve soil texture and properties increases soil carbon 0.58%and maintain pH of soil.
6) Cow urine increases soil microflora, cow dung +cow urine +water increases respiratory activity C-$Co_2$ evaluate and soil enzymatic activity of soil.
7) Cow urine different conc. spray increases crop growth, crop yield reported.

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8) *Panchgavya chakitsa* (copathy) useful in agriculture International Federation of Agriculture Movement (IFOAM) organic production method are those where at least 95%ingrdient uses for agriculture purpose are organic in nature. Beejamrut Jeevamrut, Amritjal uses in organic farming, this formulation have *Rhizobium*, *Azotabcter*, *Pseudomonas*, *Azosprillium*, *Phosphobacteria*, *Trichoderma* spp.
9) Cow urine also increases immune response in plant to various pest and diseases.
10) Cow urine mediated synthesis of nanomaterial uses in biotechnology, agribusiness, solar cell, silver nano particle synthesis and conjugated with pesticide/fungicide which reduce environment Impact. Example - AgNp

## 2. Field demonstration

Carried out on plant 1) Wheat; 2) Chickpea; 3) Soya bean; 4) Chickpea; 5) Cotton; and 6) Citrus
With bioinsecticide, biofertilizer, biofungicide with low concentration of cow urine 2% to 5% give better result with less integrated chemical fertilizer and chemical pesticide.

## 3. Conclusion

cow urine have great potential value in pest and disease control in crop ,and for increasing soil fertility and sustainability .there is urgent need for validated data on cow urine for better environment uses in agriculture, future study is needed in future for specific combination and synergist as cow urine uses in agriculture.

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