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Review on Panchagavya: A boon to the societal need (Agriculture and medicinal industries)

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Abstract
Most or traditional medicines, procedures are playing a very important function in the social requirements in the developing field of study. Panchagavya, or the mix of kinds produced by cows, plays an important role in our everyday lives, such as milk, which is high in calcium, curd, which is high in bacteria, and ghee, which is high in good fat. In the realm of study, the cow's combined product (Panchagavya) has a lot more advantages. Panchagavya can be utilised as a fantastic growth enhancer, obesity resistant, best as insecticides and plant manure, and plays an important part in the growing antibiotic area, among other things. This review article focuses on the panchagavya's different projects and reports in many fields and methodologies.

Keywords: panchagavya, cowpathy, chikitsa, natur l chemical, growth enhancer

Introduction
Panchagavya is a natural chemical that has the ability to boost plant growth and immunity. Cow dung, cow urine, milk, curd, jaggery, ghee, banana, tender coconut, and water are among the nine ingredients that make up Panchagavya. These have remarkable powers when properly combined and used. In comparison to the higher and lower concentrations tested, a 3% solution was found to be the most effective. All crops benefit from three litres of Panchagavya per 100 litres of water. Panchagavya has been shown to be beneficial to human health. The constituents and properties of the Panchagavya like cow milk, cow pee, cow fertilizer, cow curd and cow ghee empower any of the combinations to give these medical advantages somehow or another. Likewise, there are no known symptoms of Panchagavya to date. Likewise it is Anti-infective, Rich in Antioxidants, Helps in improving absorption, Improves skin, Strengthens invulnerability, Full of nutrients, Good for the heart and sensory system, Antiseptic. As indicated by Ayurveda, the dose is constantly set according to the patient's condition. For instance, in serious heaps, buttermilk ought to be given 3-4 times each day. Panchagavya can be inexactly interpreted as 'Five results of cow'. As the name proposes it utilizes five items from cow and a couple of more normal elements for the aging interaction. Here is the thing that you need to set up this enchantment elixir. Note that all the cow items should be from desi cow assortment. New Cow Dung – 5 kg, Cow Urine (need not be new) – 3 liter, Cow Milk bubbled and cooled (not refrigerated) – 2 liter, Fresh Cow Curd – 2 liter, Cow Ghee – 500 gms, Well aged Bananas – 12, Black natural jaggery broke down in 3 liters of water (Alternatively use sugarcane juice of a similar volume) – 500 gms, Fresh Tender coconut water – 3 liters, Fresh Grape Juice – 2 liter. The fixations and measure of planning may be founded on their specific need.

Background Information
Panchgavya Therapy/Chikitsa (Cowpathy) has been proposed as a substitute prophylactic and helpful methodology for sound animals and poultry wellbeing alongside protecting human wellbeing. Its antimicrobial properties have acquired the consideration of the clinical and veterinary experts. Copper is fit for annihilating illnesses and extensively go about as an antitoxin; assumes part in resistant upgrade; fit for eliminating every one of the evil impacts and uneven characters in the body and requires unique notice in the therapy of diabetes and malignant growth; in the event of (AIDS) and as an antifungal specialist.

Cow pee invention (CUC) ishaving anticonvulsant and hypoglycemic impacts; and helpful against liver issues and fever; irritations and paleness. Cow milk is considered as a good food and is discovered to be powerful in relieving fever and agony; tumors; diabetes; kidney issues and shortcomings and critically go about as a medium to manage medication. Milk has likewise got fungicidal properties; when utilized with leaves of therapeutic spices have sexual enhancer property and milk fat has anticancer exercises. Milk items *viz*. conditioned and skimmed milk; lassi, yogurt, curds and khoa have fundamental therapeutic properties. Curd (dahi) is a blood purifier, and discovered helpful in blood related issues; heaps and gastro-intestinal issues. Cow ghee has Immunostimulatory properties. The use of cow excrement to execute the germs of intestinal sickness and tuberculosis alongside its antifungal properties require unique notice. This survey manages every one of these adaptable characteristics of the segments of panchgavya for shielding strength of creatures and people. Pee overall has got antimicrobial property. Antifungal exercises have been recorded against numerous parasitic specialists *viz*., *Fusarium oxysporum*, *Claviceps purpurea*, *Rhizopus oligosporus*, *Aspergilus oryzae*, *Curvularia spp*, *Alternaria helianthi* and *Cladosporium spp*. (Ravikumar, 2007). Cow milk is a quality food on account of low calorie, low cholesterol and high miniature supplements, protein, calcium, and nutrients, and assumes a significant part in gathering prerequisites of numerous fundamental supplements. It contains carotenes, nutrients A, B complex gathering and C. It has rejuvenatory wellbeing ensuring properties and is probably the best vitalizer. It has bio-defensive part in human wellbeing and is effectively absorbable (Dhama *et al*., 2005a) [24]. It is discovered to be powerful in relieving fever and torment; tumors; diabetes and shortcomings and significantly go about as a medium to manage medication. It postpone the cycles engaged with maturing (Sworirajan, 2006). Milk has likewise got fungicidal properties. While testing milk of cow against fine buildup (*Sphaerotheca fuliginea*) it has been demonstrated that at high fixation it acts in a preferable manner over the traditional fungicides. Likewise milk can likewise be utilized as a fungicidal to ensure creature and human wellbeing (Bettiol *et al*., 1999; Francis and Smith, 2007) [9, 27]. Cow milk is best for baby taking care of after mother's milk and a decent valuable nourishment for grown-ups. It is a fine mix of the multitude of supplements important for development and improvement of youthful once. Cow's milk is a superior wellspring of nutrient K which forestalls hemorrhagic illness of infant, folic corrosive forestalls paleness (Daly *et al*., 1996; Meisl, 2005) [7]. Cow milk fat part is a potential enemy of malignancy specialist, which help in lessening odds of colon, bosom and skin disease (Dhama *et al*., 2005b). Formed linoleic corrosive (CLA) in cow milk forestalls the uncontrolled spread of disease influenced cells (Lock and Garnsworthy, 2003). Cow milk is being utilized in numerous cycles of restorative and profound purposes from an early timeframe. It is being utilized as fundamental piece of "Panchamrit", which is appropriated, as prasad after pooja (Dhama *et al*., 2005a; Rastogi and Kaphle, 2011) [24]. Curd from cow milk is considered "Vatanashak", blood purifier, "Tridoshnashak" and found helpful in "Pitta", blood related issues, heaps and gastrointestinal issues. Cow curd is a proficient probiotic, there is a desire to control contaminations in a nondrug way. Cow curd (Dahi) or Matha (whey or spread milk) is considered as stomach related, nutritive and valuable in gastrointestinal infirmities by checking or controlling the development of hurtful creature, lactic corrosive delivering microbes are available in curd and buttermilk that produces antifungal metabolites *viz*. cyclic dipeptides, phenyllactic corrosive just as proteinaceous mixtures and 3-hydroxylated unsaturated fat (Dhama *et al*., 2005a; Schnürer and Magnusson, 2005) [24]. Cow ghee is generally accepted to improve memory, voice, vision, knowledge and body's protection from contaminations. Immunostimulant capability of cow ghee in panchgavya details has been shown by expansion in neutrophil attachment, haemagglutination (HA) titre and postponed type extreme touchiness (DTH) reactions in rodents (Fulzele *et al*., 2001). Cow ghee when joined to certain chose herbals can fix skin sicknesses and can work with mending of wounds when blended in with nectar (Kaur *et al*., 2001; Simon *et al*., 2008). Panchagavya Ayurvedic definition containing E. officinalis, *G. glabra*, and cow's ghee is soothing in nature. Panchagavya ghrita additionally shows hepatoprotective action in rodent liver against carbon tetra chloride harming (Achliya *et al*., 2003) [1]. Cow manure is germ-free and has prophylactic (illness preventive) properties (Dhama *et al*., 2005a) [24]. It obliterates microorganisms that reason sickness, maturation and rottenness. Cow compost has antifungal substance which hinders development of even coprophilous organisms and their movement is expanded when joined with cow pee. New cow waste is unadulterated yet whenever it has been laid on the 175 ground for a little while, it begins to change (Kulkarni, 2009). Cow fertilizer is clear sign of thriving as apparent from Gobar-dhan Puja, following day of Deepawali (http://www.science-nature-religion.com). *Eupenicillium bovifimosum* present in cow waste produces Patulodin-like mixtures *viz*. CK2108A and CK2801B that have antifungal action at a more prominent rate (Dorothy and Frisvad, 2002). To contemplate the destiny of medications, cow excrement can be considered as a pertinent model biological system. Segregation of two basidiomycetes *viz*., strain NRRL6464 and *Cyathus stercoreus* has led to the way that they can corrupt lignocellulose and moreover *C. stercoreus* can debase drug like enrofloxacin (Wicklow, 1992). In such manner the utilization of cow fertilizer for bioremediation of different pesticides is discovered to be compelling a direct result of the presence of higher grouping of supplements and bigger microbial populace (Geetha and Fulekar, 2008; Singh and Fulekar, 2010).

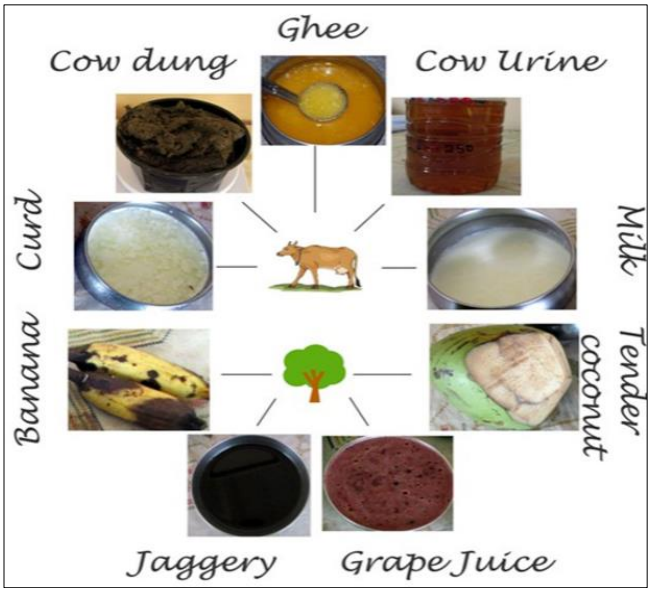

Fig 1: Picture curtesy (Organic terrace) Internet colour image

The treatment for human infections by utilizing Panchagavya is prevalently known as Cowpathy or Panchagavya chikitsa or treatment. Panchagavya treatment has been proposed as another option and valuable prophylactic and remedial methodology for domesticated animals, poultry and human wellbeing (Dhama *et al*., 2012; Mathivanan *et al*., 2008; Dhama *et al*., 2005a) [24]. Panchagavya comprises five substances got from cow *viz*. pee, milk, ghee, curd and excrement. Every one of these items have restorative properties and are utilized independently or joined with different spices for helpful purposes. Panchagavya components have high dietary benefit, for example, cow milk, curd and ghee, cow pee and fertilizer can go about as a substitute and less expensive wellspring of energy, biogas, fuel and power (Chauhan, 2004; Dhama *et al*., 2005; Alves, 2008; Dhama *et al*., 2013) [19, 2]. Panchagavya figured from local types of cows which is valuable for human employments. The five items in Panchagavya are cow pee, cow waste, cow milk, cow curd and cow ghee. In the writing of Ayurveda, plan of Panchagavya in the proportion of 2:1:6:12:2 (pee, fertilizer, curd, milk and ghee). Panchagavya items are wealthy in nitrogen, sulfur, phosphate, sodium, manganese, chloride, magnesium and calcium salts, acids like carbolic, succinic and citrus, nutrients like A, B, C, D and E, minerals and chemicals. These items are known to fix a few human infirmities and improve resistance by inciting invulnerable tweak through upgrade of both cell and humoral insusceptible reactions, up - controlling the lymphocyte expansion action, lessening apoptosis in lymphocytes. They go about as against maturing specialists by forestalling the free revolutionaries development and productively fixing the harmed DNA (Dhama *et al*., 2012 and 2005a) [24].

Gajbhiye *et al*., (2014) contemplated the Immunostimulant action of a clinical arrangement of Panchagavya and concentrated by utilizing consolidated spices like pomegranate (*Pumica granata*), and took care of to mice orally. The oral take-up of Panchagavya with the pomegranate extricate animating the resistance of mice was recorded in their investigation. Gajbhiye *et al*., (2014) contemplated the Immunostimulant movement of a clinical planning of Panchagavya and concentrated by utilizing joined spices like pomegranate (*Pumica granata*), and took care of to mice orally. The oral take-up of Panchagavya with the pomegranate separate animating the resistance of mice was recorded in their examination.

Edwin *et al*., (2008) examined the antimicrobial and cell reinforcement exercises of cow pee (CU) and cow pee distillate (CUD). In this relative investigation newly gathered cow pee showed preferred outcomes over distillated cow pee. Sathasivam *et al*., (2010) thought about the action of cow pee in contrast to Aspergillus flavus. *In–vitro* investigations of antifungal movement of cow pee contrasted and two parasitic types of Aspergillus. In their relative investigation, greatest development concealment was seen in Aspergillus niger than Aspergillus flavus. Athavale *et al*., (2012) assessed the cell reinforcement movement of conventional ayurvedic planning of Panchagavya and presumed that Panchagavya has high cancer prevention agent potential and showed that, this structures the premise of treating disease by utilizing Panchagavya. Raad *et al*., (2013) considered the antibacterial action of cow pee against some pathogenic and non – pathogenic microscopic organisms. Kumar *et al*., (2013) contemplated the cancer prevention agent exercises of cow milk caseinates hydrolyzed with various proteases. The scientific examination uncovered the most elevated cancer prevention agent exercises of a peptic hydrolysate of cow milk casein. Jirankalgikar concentrated about *In – Vitro* cell reinforcement movement and High – Performance Thin Layer Chromatography (HPTLC) profile of cow fertilizer, and uncovered the cow manure common cancer prevention agents by their examinations. Deepika *et al*., (2016) learned about the assurance of the antimicrobial action of Panchagavya against urinary parcel diseases. They considered characteristic items like Panchagavya (cow manure, milk, curd, ghee, and pee), buttermilk and nectar. Hoh and Dhanashree (2017) examined the impact of cow pee's antifungal movement on Candida species. They depicted that the distillated cow's pee went about as elective medication for antifungal sicknesses. Achalia *et al*., (2003) examined hepatoprotective exercises of panchagavya ghrita (PGG) against Carbontetrachloride (CCl4) incited hepatoxicity in rodents, PGG showed critical decrease in CCl4 actuated hepatoxicity in rodents by given oral course. Charde *et al*., (2006) [10] defined cow ghee with nectar similarly as Madhu ghrita and examined mitigating action by screening carrageenan – actuated rodent paw odema technique and furthermore contemplated wound mending capability of madhu ghrita and reasoned that ghrita is viable in injury recuperating. Nagpur and affirmed this achievement accomplishment. Studies feature the part of cow pee in restoring diseases and that cow pee improves the adequacy and strength of hostile to malignant growth drugs. They protected this work and conceded U.S. Patent (No. 6896907) in the field of therapy of malignancies. Praveesh *et al*., (2011) investigated the counter malignancy and furthermore examined the counter hypertensive impact of cow milk. They aged cow milk by two lactic corrosive microscopic organisms Lactobacillus plantarum and Lactobacillus casei. They reasoned that the peptides got and secluded from cow milk are utilized as drugs.

Conclusion

Based on numerous reviews of panchagavya's role, future study fields may be strangely focused on projects that primarily focus on societal problems such as early symptoms of ageing, infections, and so on. Our indigenous herbs and herbal remedies also play an important role in the treatment of many diseases and ailments Currently, panchagavya plays an important part in practically all sectors, and the future may reveal panchagavya's characteristics in domains such as neurology, toxicology, obesity, and other metabolic processes, among others.

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