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Nutritive Values and Health Benefits of Goat Milk

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Introduction

Goat farming is the backbone of small, marginal and landless farmers economy in India. Goat are usually raised for milk, meat and leather. Because of their enormous economic contribution to the poor man, goats have been referred to as “Poor man’s cow”. According to 20th Livestock census, India has 147.77 million goats, an increase of 10.1% from the previous census. Goat are multipurpose animals especially their milk has very nutritious and has higher medicinal value. Fresh goat milk is white coloured, opaque, alkaline in nature and having a slightly sweet taste. Goat milk having better digestibility, alkanity and buffering capacity. It also, fantastic source of vitamins. In 2019, the total goat milk production in India was recorded at around 5.4 million tons. India is the leading country in goat milk in world. The country alone accounts for approximately ¼ of the global production. Mahatma Gandhi also, preferred goat milk because it is rich of nutrient and good for health, including prevention of heart diseases. Goat milk is a good for the preparation of infant formulae.

❖ Nutritive value of Goat milk

Goat milk is said to be “functional and nutraceutical drink” as composed of bioactive molecules, superior medicinal properties and lower allergenic. Freshly milked goat milk is whitish, opaque, a slightly sweet in taste and alkaline in nature. Smaller fat globules with short and medium chain fatty acids make it almost naturally homogenized. As compared cow milk it has slightly less lactose content. Moreover, it has loaded with mineral viz. iron,

potassium, calcium, phosphorous and magnesium. Iron and copper can help in improving metabolism rate.

Table 1. Composition of Milk

Composition	Percentage
Water	86.66
Protein	3.5
Fat	4.25
Lactose	4.6
Minerals	0.96

Health Benefits of Goat milk

Easy to digest

Goat milk contains smaller size fat globules and more evenly distributed, which can easily pass through the intestine and easier to digest. Moreover, its milk forms a soft and loose curd which eases the digestion process.

Boosting immunity

Goat milk contain more amount of selenium than cow milk that is important nutrient involved in functioning of the immune system. Therefore, goat milk may act as an immunity booster and might help in protecting a person from diseases.

Goat Milk used as a prebiotic

As like human milk goat milk are known to contains higher level of oligosaccharides. Typically, goat milk contains 4-5 times higher than cow milk and 10 times higher than sheep milk. It acts as natural prebiotic which are beneficial for growth of desired gut microflora and enhance the function of digestive tract.

Good for Lactose intolerance

Casein is natural protein only found in milk. Consuming milk and milk products for many can result in digestive disorders or allergic because presence of Alpha S1 casein in cow milk. But lower concentration of lactose (milk sugar) which makes goat milk relatively viable for those suffering from Lactose intolerance. It doesn't cause acidity or other stomach problem and gets digested easily.

✚ Potential uses of goat milk for heart

Goat milk might contain antioxidants that may inhibit low-density lipoprotein (LDL) which is bad cholesterol for body. Medium chain triglycerides (MCT), monosaturated fatty acids (MUFA) and polysaturated fatty acids (PUFA) are present in goat milk which might be beneficial for heart-related diseases. As compared to cow milk it contains low level of cholesterol and a balanced fatty acid profile. Also, good amount of potassium present in goat milk which helps in reducing the blood pressure.

✚ Improved skin health

Lactic acid and alpha hydroxy acid found in goat milk act as a natural exfoliator. Lactic acid can help to remove dead skin cells and reveal the fresh, new skin underneath. Goat milk is best moisturization for the skin and improve its overall appearance.

✚ Raw goat milk for disease

Consumption of raw goat milk assist in healing a lot of diseases. It is used to improve platelet count in the blood during dengue and other viral diseases. It has antibodies and considered as a natural cure for jaundice as well.

✚ Keeps bone strong

Goat milk good source of calcium along with tryptophan, which keeps our bones and teeth stronger. Calcium helps to build and maintain bone density. Hence, lesser chance of osteoporosis and other health conditions.

❖ Goat milk products

Milk and milk products are sufficient nutritional and functional source of food to human. Goat milk is suitable for preparing various milk products. It is believed that many people can prefer dairy products for consumption prepared from goat milk. A wide range of dairy products such as Khoa, Paneer, Ghee, Cheese, Ice-cream, yoghurt, Channa, Shrikhand etc. are manufactured from goat milk.

Liquid Milk –Traditionally, goat milk is produced in small farms only for family. But now fresh goat milk is sold as pasteurized milk and in variety of packaging in super market chains and health food shops. The nutrient present in goat milk also help in improving metabolism.

Special beverage - The goat milk standardized to 2% fat and 10.5% SNF was fortified with vitamin A and D to label it as protein fortified low fat goat milk.

Khoa– The goat milk is sticky, no release of fat occurs during preparation, yellowish coloured with moist surface, hard body and smooth texture.

Paneer - Good quality paneer free from goaty odour and flavour can be prepared.

Ghee – Goat milk, due to its relatively small fat globules pose a problem during separation and its typical flavour, for ghee manufacture. In addition, ghee from goat milk is greasy. Therefore, blending of goat milk with buffalo milk in 1:1 ratio yields good quality ghee.

Channa – Good quality Channa has been prepared from goat milk which has been used for preparing Sandesh and Rasgolla.

Yoghurt – Now a days, yoghurt a fermented milk product, is growing in popularity throughout the world, as people are now become aware of health benefits of probiotics in yoghurt. Goat milk yoghurt is an excellent source of fatty acids, protein and minerals.

Ice-cream – Ice-cream is most popular value-added dairy product among the people. This is made up by freezing pasteurized mix with agitation to incorporate air and get uniform consistency (Pal, 2014). A premium quality ice-cream can be prepared using goat milk.

Cheese – Fermented dairy products, which has hundreds of varieties. We can made soft and semi hard varieties of cheeses from goat milk. In India, goat milk has been used for making hard cheese. Renneting time for goat milk is shorter than cow milk and the weak consistency of the gel is beneficial for human digestion (Pacinovski *et al.*, 2015).





Other goat milk products

With numerous applications for goat milk to be utilized in manufacturing different products.



Other goat milk products include

milk powder, tablets (chewable), whey protein concentrate and athletic supplements. Due to small size of fat globules goat milk used in manufacturing of many cosmetic products. It includes products like body soap, moisturizer, shampoo and hand lotion.



Conclusion

It can be concluded that goat milk is nature's greatest foods. It is easy to digest, low allergenicity, highly alkaline and naturally homogenized. Goat milk possess antioxidant, anti-inflammatory, anti-mucosal, anti-microbial properties. This, nutritional and additional health benefits of goat milk encourage the farmer for production of goat milk and processing and manufacturing of variety of goat milk products. Production and supplying goat milk and milk products has play a significant role in farmer economy.

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