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Popular Article

## Role of Rabbit Meat as Functional Food

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### *Abstract*

Now a day, Rabbit meat is highly preferred by people due to its functional properties. Many researches have concluded that rabbit meat contains many nutrients that are highly beneficial for the health. Being rich in protein and poor in fat, rabbit meat is highly liked by health-conscious people. Dietary fortification of rabbit meat also supplements it with superior nutritional properties like fortification with vitamin E, selenium etc. It is also easily digestible, delicious, and white in colour that attracts people. It also contains many other macro and micro nutrients in balanced proportion. It is less in cholesterol, therefore, can be a choice of people who have some cardiac diseases. So, in simple words it can be said that rabbit meat has many beneficial properties that make it a functional food.

### **Introduction**

Domestication of rabbit was first begun in Africa. Man used them as food in Asia 3000 years ago. About 99% of the rabbits can be used for meat, fur, in labs etc. The meat of rabbit is white and easily digestible. Rabbits have great potential to convert the absolute feed into quality products which is beneficial for the human beings. The efficiency to convert forage into meat is more in rabbits as compared to ruminants such as cattle and sheep. From a given amount of alfalfa, rabbit can produce about 5 times as much meat as beef cattle. Rabbit meat is used as a functional food. However, role



of rabbit meat as functional food is subjected to many factors like proper housing, sanitation, breeding, nutrition, disease control and management. Temperature above 20°C in rabbit house may diminish its feed intake hence its nutrient value. Light of 16 hours in a day is necessary in rabbit house. The age of first service in case of rabbit is about 5-6 months. The gestation period is about 30-32 days and the age of weaning is 4<sup>th</sup> and 6<sup>th</sup> week. The building should be well ventilated, proper lighted, ammonia should be less in it, humidity is about 75%. Disinfection should be done at regular intervals in them with 1% Formalin etc. (Sastry and Thomas, 2015).

### Nutritive value of rabbit meat

Rabbit meat is richer in protein (about 21%) and vitamin but has less fat (8%). Many breeds of rabbits are reared for meat purpose like Flemish giant, White giant, Californian etc. Rabbit meat is used as functional food.

**Table 1. Composition of Rabbit meat**

Sr. No.	Parameter	Values
1	Protein	20.8%
2	Fat	10.2%
3	Moisture	27.9%
4	Calories	795/400 g
5	Cholesterol	50 mg/ kg

### What is functional food?

A food containing health- giving additives. They may have a positive effect on health beyond basic nutrition. These foods can support optimal health and may help lower the risk of disease.

### Rabbit meat as functional food

Rabbit meat are excellent sources of protein. Proteins also keep us healthy by building and repairing our muscles, skin and blood. Rabbit meat is also an excellent source of iron. Iron helps make healthy blood that flows through our bodies, giving us energy to be active and to grow strong. It has low amount of cholesterol and fat.

In recent years, the dietary fortification of rabbits with bioactive compounds has been an increasing trend, and rabbit meat becoming a functional food with its superior nutritional properties, for example dietary fortification with vitamin E or natural products such as organo essential oil,



spirulina etc. seen promising in improving the oxidative stability of rabbit meat while also adding functional ingredients (Dalle Zotte and Szendro, 2011). Given the recommended daily intake (RDI) of selenium, 140 g of meat from selenium- fed rabbits would cover the RDI for adults. The results show that selenium- fortified rabbit meat could contribute significantly to human selenium intake, thus making it a food with functional properties. Rabbit meat is easily digested. Worldwide, rabbit meat is valued for its high nutritional properties, with a lower- fat content, less saturated fatty acids and lower cholesterol contents than other meats. It was found that rabbit meat was richer in calcium (21.4 mg/100 g) and phosphorus (347 mg/100 g) and lower in fat (9.2 g/100 g) and cholesterol (56.4 mg/100 g) (Petrescu and Petrescu-MAG, 2018). Practical worth in enhancement of rabbit meat is possible by the following approaches: - 1. With the addition of functional compounds, for example, CLA, vitamin, omega- 3 essential fatty acids, as well as selenium into animal diet programmes. 2. Through the addition of practical ingredients, for example vegetable protein, herbal treatments, fibres, herbs, spices, and lactic acid germs as well as probiotics into meat throughout the handling out.

High level of essential amino acids (EAA) are present in the meat of rabbits compared to other meat, it is actually richer within lysine (2.12 g/100 g), sulphur- containing proteins (1.10 g/100 g), threonine (2.01 g/100 g), valine (1.19 g/100 g), isoleucine (1.15 g/100 g), leucine (1.73 g/100 g) as well as phenylalanine (1.04 g/100 g). These prominent as well as balanced essential amino acids content provides rabbit meat proteins higher biological worth due to simple digestibility. The use of linseed in animal feeding has been suggested by many authors as an alternative vegetable source to fish meal or fish oil, to enhance the concentration of n-3 polyunsaturated fatty acids and mainly alpha- linolenic acid (C18:3 n-3) in rabbit meat (Tariq Rizwan, 2015). This helps to avoid certain diseases such as hypercholesterolemia related heart strokes and attacks in human beings. Meat of rabbit is exclusively suggested for the elderly whose digestive system has slow down and ingestion is negotiated, for superior diets such as for heart patients, due to life stage or illness. Rabbit meat is lower in fat, higher in protein and has fewer calories than other meats. Meat of rabbit is nearly free cholesteric and lower in sodium contents and consequently precise for heart patients. The phosphorus and calcium content of rabbit meat are greater than any other type of meat (Hernandez, 2008). Calcium aids in bone well being along with phosphorus and also supports in fluid regulation. Rabbit meats contains most of the other minerals and vitamins including zinc, copper, and iron etc. Rabbit



also holds selenium that acts as an antioxidant that eliminates those unbounded radicals which can do impairment with body. Selenium can battle with some types of cancer, as well as the aging consequences. Potassium is also present in rabbit meat that benefits with the regulation of body fluids and aids in excluding salts from the human body. Riboflavin or vitamin B2 is an additional nutrient that is present in meat of the rabbit which is vital to retain healthy digestive tract. Proper function of the nervous system is maintained by vitamin B12 is also present in the rabbit meat.

### **Conclusions and Recommendations**

Linseed and oats are good source of dietary feed ingredient in feed of rabbit in order to enhance the quality of healthier meat production. Poly unsaturated fatty acid ratio is higher over unsaturated fatty acid as compared to oat supplemented group of rabbits. Low fat and PUFA enriched rabbit meat was made for hypercholesterolemic person by rearing rabbits on different levels of oats and linseed. Most research conducted in recent years on rabbit meat quality has focused on incorporating bioactive compounds in meat for the benefit of human health. Moreover, rabbit meat consumption could become a good way to provide these bioactive compounds to human consumers, since manipulation of rabbit's diet is very effective in increasing the levels of omega- 3 PUFA Or vitamin E. In addition, both selenium and iron are also responsive to dietary supplementation.

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