



Bovine Colostrum Powder – a Perfect Functional Food

Bovine colostrum is defined as the milk given by cow just after calving. It is rich in nutrients containing dry matter about twice and proteins about five times more than normal milk. Protein and dry matter concentration is elevated due to immunoglobulins mainly: content of these in colostrum ranges from 5 to 10% (in normal milk 0.06%). Immunoglobulins or antibodies (IgA, IgG1, IgG2, IgM) of colostrum are protecting the new-born against bacteria and viruses causing infectious diseases. Death rate of calves who haven't got colostrum is very high.

Bovine colostrum antibodies act against harmful bacteria and viruses of humans and other mammals also. Before the antibiotics were invented, colostrum was widely used to fight different infections and prevent the diseases. Appearance of microbes, resistant to antibiotics has made colostrum as health supporting stuff worldwide popular again. Besides antibodies, there are many other bioactive ingredients in colostrum. It is rich in lactoferrin (supports immune system), growth factors (IGF-I, IGF-II, TGF- β , EGF, which enhance wound healing, bone repair, muscle growth, development of gut epithelium), etc.

Use of natural bovine colostrum is restricted by complicated delivery and short preservation time. To overcome these shortcomings *Teadus ja Tegu OÜ* started production of powder which is made of Estonian healthy cows' colostrum by freeze drying. Due to low drying temperature, the antibodies of colostrum will remain biologically active in powder too. Dry matter content in powder is about four times higher of that in colostrum but the proportion of ingredients remains the same. In airtight package, this powder could be preserved at dry and cool place up to two years.

Usage

First, colostrum powder could be used as a natural bioactive protective measure against bacterial and viral infections. For prophylaxis, it is enough to take 2–3 grams (couple of tee spoonful) per day orally. In case of infection when throat is prickling, the dosage can be increased without threat of over dosage. Powder intake is good in case of gum problems or dental caries. It is suggested to hold powder in mouth for a while to get it in touch with the problematic places.

Another possibility is to recover powder into colostrum for usage in liquid form. Powder should be dissolved in warm drinking water (better in milk) in proportion: one part of powder and 3–4 parts of water (or milk). Solubility of powder is somehow reduced due to high fat content. It can be enhanced by intensive stirring or by making paste-like stuff with a little water (milk) first into which additional water or milk will be added later. The use of hot water should be avoided because immunoglobulins are sensitive to higher temperatures, and may lose bioactivity. If sweet cheese (a traditional farm dish) is made of it in oven then higher temperatures may to be used, for recovery of colostrum.

Colostrum powder can be implemented successfully for flavouring different foods. By adding it (also as blend with spices) to the dishes will help to obtain additional functionality. Colostrum powder will remain bioactive by blending it into cold foods (for example in ice cream) too.

Colostrum powder can be utilised as a healthy addition to **pets'** (dogs, cats etc.) food. It may be mixed with basic food or scattered over it.



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