



Research of Useful Properties of Milk Whey and Volume of Whey Is Produced in the Republic of Uzbekistan

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Annotation: Many people don't know that serum is one of the most healing blessings. Its benefits for the body are no less than from cottage cheese, cheese, yogurt and yogurt. The healing properties of yogurt whey were first discovered by the famous Greek scientist Hippocrates. This article contains information aimed at revealing such healing properties of yogurt whey.

Key words: Statistical information, whey, cheese, cottage cheese, useful properties, production, raw materials.

Statistical data show that the production of cheese and cottage cheese in our Republic is increasing year by year. A total of 281.0 tons of cheese and cottage cheese were produced by large enterprises in the Republic of Uzbekistan in January-February 2023, and this production increased by 29.5% compared to the corresponding period of 2022. A total of 176.0 tons of cheese were produced by large enterprises in the Republic of Uzbekistan in January 2023, and 105 tons of curd products were produced, this production increased by 53.8% compared to the corresponding period of 2022. [1]. Correspondingly, the by-product of cheese and curd production process, i.e. separation of whey, is also increasing accordingly. Our research shows that the whey produced during the production of products such as cheese and cottage cheese in the enterprises of our Republic is not processed and is thrown away as waste..

During the study of enterprises in our republic, we got the following information:

5% Oily cottage cheese

Raw material	Quantity, kg	Amount lost, kg	Productivity of cottage cheese, kg
Skimmed milk	800	808	180
3,5% fat milk	200	202	
Calcium chloride 95%	0,126	0,126	
Total	1000, 126	1010,126	180



Fat-free cottage cheese

Raw material	Quantity, kg	Amount lost, kg	Productivity of cottage cheese, kg
Skimmed milk	1000	1010	170
Calcium chloride 95%	0,126	0,126	
Total	1000, 126	1010,126	170

Cheese

Raw material	Amount with losses, kg
The mixture normalized 3.2% fat	1010
- cow's milk 3.5% fat	924
- skim milk	86
Rennet extract	0,020
Total product yield	93

Account books show that during the production of cottage cheese and cheese in the Republic of Uzbekistan, we receive 30,964 kg of products, of which 250,036 kg of whey is discharged into the sewers. Very little whey is processed. But a very large amount of serum is being released, so the question arises: do we need the serum itself? why should we recycle it? We can find out the answer to this question through the following:

Useful properties of whey. Whey proteins and serum-related peptides represent an emerging class of biologics with as yet poorly understood potential benefits for human health. For decades, whey has been regarded as a fairly useless liquid product from cheese production. However, modern methods of serum fractionation make it possible to separate different substances with a very wide spectrum of biological activity [2]. Undenatured whey proteins have been shown to improve many metabolic abnormalities in experimental and clinical settings. Recently, whey protein has been reported to have significant beneficial effects on nonalcoholic fatty liver disease, plasma lipid profile, and suppressing oxidative stress in rats. [3-4]. Whey can provide a number of health benefits, including increasing iron absorption, protecting against harmful bacteria and infections, and protecting tooth enamel. [5]. Whey also contains 3 important branched chains called leucine, isoleucine, and valine. chain amino acids are present. They are used by muscles and play an important role in muscle growth and recovery. Whey therefore plays a role in increasing lean muscle mass and reducing fat mass, which is critical for cycling performance and body composition goals. [6]. In folk medicine, serum is used to treat many diseases (liver, kidney, asthma, hypertension, joint pain, etc.).



Therefore, one should not spill the blessing of such wealth.[7].



A very useful habit is to regularly drink whey. Thanks to the magnesium, calcium, lactose, B, A, C and E vitamins included in the serum, this valuable product, with regular use, increases immunity and has a natural laxative effect, facilitates the work of the gastrointestinal tract. As a result, hair, nails and new, healthy skin are strengthened. In addition, all this is the "tip of the iceberg". If you are sunburned, remember that the first tool that relieves pain and regenerates damaged cells is ordinary whey! [8]. The choline substance in whey increases brain power and enhances memory. One liter of whey provides an adult's daily need for calcium, and 40% of the need for potassium. Whey is also rich in rare mineral salts such as phosphorus and magnesium. This liquid contains 200 biologically active substances, which are all necessary in the body. has a positive effect on the functioning of the organs. Consumption of whey has a good effect on the digestive tract, cleans the stomach, normalizes its flora, expels toxins, improves liver and kidney function. It has a positive effect on the adrenal glands. Serum is very useful for gastrointestinal tract, stomach ulcer, constipation, pancreatitis, enterocolitis, dysbacteriosis, flatulence. It prevents atherosclerosis, is recommended for blood pressure, ischemic heart failure, and blood circulation in the brain. Serum is used in make-up, hair washed with it grows well and does not fall out. It helps heal wounds and heals sunburned skin. It is enough to drink 1 glass of serum a day to strengthen immunity. Whey helps to remove excess cholesterol and toxins from the body. He treated skin diseases, hepatitis and tuberculosis with Hippocrates serum. Modern scientists use it as an excellent tool in the prevention of cardiovascular diseases. It is recommended to drink 1 glass of whey during the day when stones are formed in the urinary tract. Whey facilitates the passage of sputum when suffering from bronchitis. [9]. Regular consumption of whey prevents the risk of developing diabetes and cardiovascular diseases. According to Professor Daniela Yakubovich, the effect of the serum has been equaled to the effect of the anti-diabetic drugs of today.[10].

Conclusion: Our grandfather Abu Ali Ibn Sina wrote that consumption of whey is a guarantee of long life, and Mechnikov proves the benefits of whey in practice. So, whey is a very useful product and we should not waste it.



References:

1. www.toshstat.uz
2. El-Sayed MMH, Chase HA. Zardob oqsili fraksiyasidagi tendentsiyalar. *Biotexnologiya maktublari* . 2011; 33 (8): 1501–1511. [PubMed] [Google Scholar]
3. Hamad EM, Taha SH, Abu Dawood AG, Sitohy MZ, Abdel-Hamid M. Zardob oqsillarini kalamushlarda alkogolsiz yog'li jigarga qarshi himoya ta'siri. *Salomatlik va kasalliklarda lipidlar* . 2011; 10 :p. 57. [PMC bepul maqola] [PubMed] [Google Scholar]
4. Oner OZ, Oğünç AV, Cingi A, Uyar SB, Yalchin AS, Aktan AÖ. Zardobni oziqlantirish eksperimental kuyish shikastlanishida oksidlovchi stressni o'lchashni bostiradi. *Bugun jarrohlik* . 2006; 36 (4): 376–381. [PubMed] [Google Scholar]
5. Sut mahsulotlari Avstraliya. (2014). Sut ozuqa moddalari. 30-sentabrda olindi, <http://www.legendairy.com.au/~media/Legendairy/Documents/Health/Fact%20sheets/Good%20Health%20Fact%20Sheet%20-%20%20Dairy%20Nutrients%0.20201.pdf>
6. Sport dietologlari Avstraliya. (2014). Keng omma uchun faktlar varaqlari. 30 sentyabr kuni <http://www.sportsdietitians.com.au/factsheets/> saytidan olindi.
7. <https://darakchi.uz/oz/29114>
8. <https://uz.healthy-food-near-me.com/milk-whey-benefits-and-doses-resipes-videos>
9. <http://ziyouz.uz/images/zardob.jpg>
10. <https://m.facebook.com>