

MANUFACTURING OF KAZAKH NATIONAL DAIRY PRODUCTS

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This work connected with research of Kazakh National Dairy Products (KNDP). Anciently kazakh people produce wide variable dairy products from cow, sheep, goat, mare and camel milk.

Functional milk products on KNDP basis fortified with vegetable, fruit, non-traditional vegetable additions, grain, leguminous and groats cultures, new bacterial compositions based on studying their functional features were created.

Status:

- **Selection of bacterial cultures and additives;**
- **Making tracks crops in model systems;**
- **Fermentation of multicomponent mixtures;**
- **Developing national dairy products.**

Investment attractiveness of projects:

- **Functional foods;**
- **Increase in food and biological value;**
- **Export orientation of new products;**
- **Increase yield by 15-25 %;**
- **Reducing the cost of finished products.**



Suzbe - paste like national product received by separate clot from whey. New technologies reduce use of raw milk, increase the yield of finished product. Under technological instruction suzbe makes as follows.

Technological scheme of suzbe

Milk mixture (cow's, goat's, sheep's milk)

Normalization of fat at 35-40 °C (the introduction of the DSM, skim milk, buttermilk) and DS (up to 13-15%)

Pasteurization of 92 ± 2 °C during 15-20 s

Fermentation 26-30 °C (summer), 30-32 °C (winter), the bacterial composition (2-5 %)

Coagulation - 40% solution of CaCl_2 (200-300 g per 1 t milk), 1% solution of rennet or pepsin (0,7-1 g per 1 t milk)

Separate clot from whey. Moisture of suzbe 79 % (fat) and 78 % (nonfat), the acidity of 60-70 °T

Prepare fillings

Mixing with the filler

Cooling to 4-6 °C, filling

Chemical compound, %	Suzbe with filler			Control
	With tomato-paste	Juice of beet	Pumpkin puree	Suzbe without filler
Water	76,81	77,49	77,16	77,7
Proteins	16,94	16,54	16,17	18,0
Fats	0,51	0,51	0,53	0,6
General carbohydrates	1,89	2,30	2,00	
Lactose	1,35	1,28	1,24	1,5
Organic acids	1,15	1,08	0,90	1,0
Ashes	1,35	0,80	2,00	1,2
Inorganic elements, mg of %				
Potassium	191,30	98,32	126,21	115,0
Calcium	166,21	150,48	140,00	176,0
Magnesium	24,60	20,52	25,00	24,00
Vitamins				
β-carotin	0,20	mark	1,00	mark
Ascorbic acid	4,95	0,86	0,80	0,50
Power value, kJ	364,20	343,61	320,00	360,00

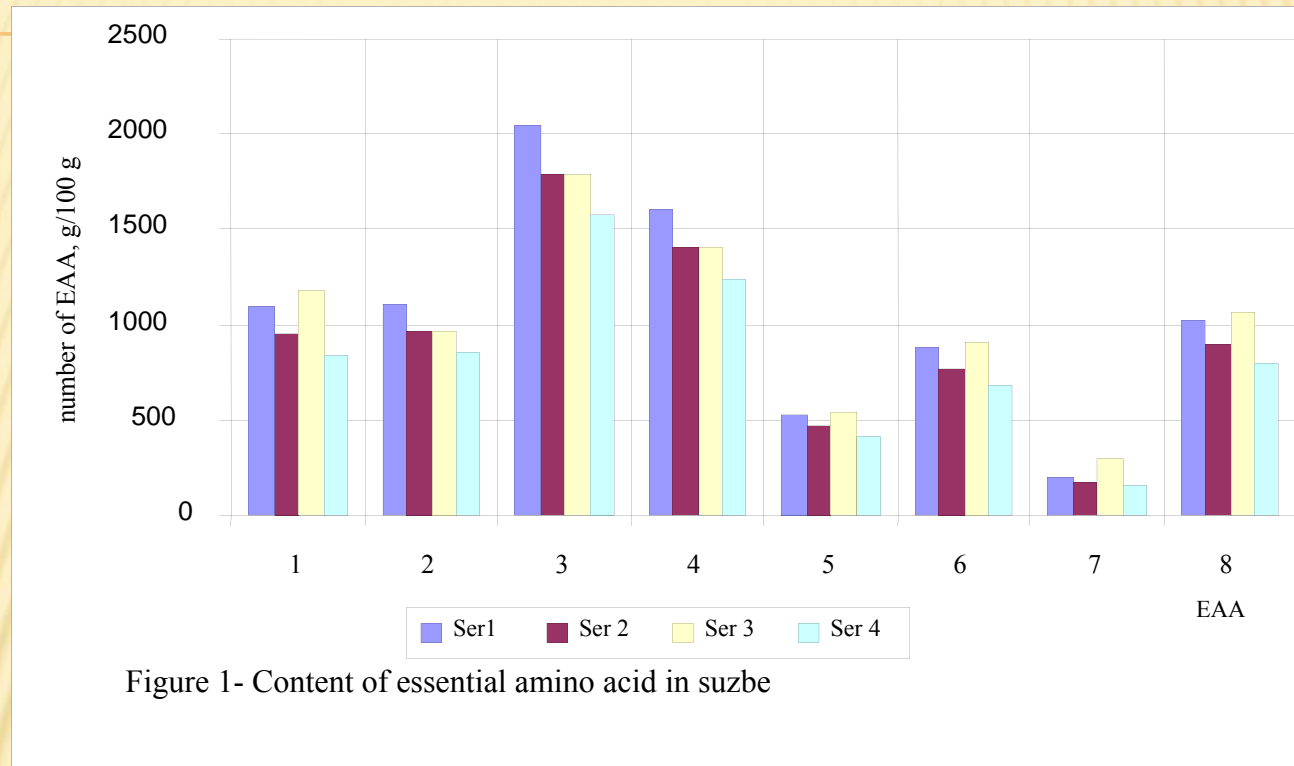


Figure 1- Content of essential amino acid in suzbe

Essential amino acids: 1–Valine; 2–Isoleucine; 3–Leucine; 4–Lysine;
 5–Methionine; 6–Threonine; 7–Tryptophan; 8–Phenylalanine.
 Series 1,2,3,4 – Variants 1,2,3,4



Kurt - Kazakh national product. Develop it from pasteurized cow, sheep, goat, skim milk and buttermilk. Kurt represents dried up product in the form of bars, cylinders, flat cakes in weight 40-60 g white or cream color. Contains high-grade proteins and fat, differs high caloric content and original pleasant taste. It is used in natural kind with tea, oil, well keeps nutritious and flavoring qualities long time. Kurt is developed as fat, low-fat, salty, unsalted.

Technological scheme of kurt

milk mixture (cow's, goat's, sheep's milk)

Compose PCDM: normalization of fat and DS (up to 13-15%) at 35-40 °C (the introduction of the DSM, skim milk, buttermilk, whey protein concentrate, preliminary condensation)

Pasteurization of 92 ± 2 °C during 15-20 s

Fermentation 28-30 °C (summer), 30-32 °C (winter), 5% of bacterial composition

Fermentation to titratable acidity 250 °T

Separate clot from whey, salting, molding

Drying to a moisture of 17%

Cooling, packaging

Table 3 – Change of biochemical parameters of kurt at development

Parameters	Clot	Clot separated from whey	Kurt before drying
Titratobic acidity, °T	220,0	248,0	320,0
pH	3,85	3,83	3,77
Maintenance of lactose, %	1,339	1,336	1,335
Humidity, %	76,0	64,0	36,0
Fat content, %	5,0		

Conclusion

Results of the scientific research were realized in approved standard of RK to suzbe, kurt and soon; they were inculcated on dairy plants of RK with a considerable economic effect. Scientific novelty is confirmed by author's sertificates and patents of RK.





Thank for your attention

*I am searching for partners to take part in
international projects in new technologies of
functional food products*

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