



## Salmon caviar technologies

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*Salmon caviar is an affordable delicacy and the attribute of a true holiday. Demand for it is high all year round. To save the caviar harvested in summer fishing season from spoiling the feast for those who buy it a few months later, the caviar manufacturers require a complex assistance in preserving the high quality of caviar. So the complex food additives VAREX®-1 and VAREX®-2 are used by those who want to securely store the product until the next fishing season.*

## The advantages of VAREX-1 and VAREX-2

- Perform a complex effect: **effectively slow down the processes of spoilage** and the appearance of undesirable after-tastes (of oxidized fat, bitterness, etc.), ensure the microbiological safety of salmon caviar.
- **Preserve the natural flavour and inimitable bouquet of fresh salmon caviar** throughout the shelf life and make it possible to reduce salt content (sodium chloride mass fraction in the finished product ranges from 3.0%).
- **Safe for health**, because do not contain hazardous ingredients (urotropine, sodium benzoate (E211), parabens, antibiotics, etc.).
- **Provide the ability to store caviar at a positive temperature.** This fact plays an important role when retailers choose their suppliers, because not many refridge units are designed for a small negative temperature (from 0° to -6°C), and disturbance of temperature regime during storage and transportation significantly reduces the gustatory quality of salmon caviar. **VAREX provides the “safety margin”** at the temperature up to +4°C.
- **Easy-to-use** and do not require changing the traditional technological process of salmon caviar manufacturing.
- Salmon caviar with VAREX-1 and VAREX-2 **can be exported.**
- Salmon caviar with VAREX-2 is produced according to **Russian state standard (GOST).**
- The content of VAREX-1 and VAREX-2 **is regulated by sorbic acid only.** Residual content of sorbic acid in salmon caviar produced with our food additives is not more than 0.2%.

## GOST 31794-2012

According to Russian state standard **GOST 31794-2012 “Grained salmon caviar. Specifications”**, safe complex food additive VAREX-2 is used in caviar manufacturing process. The 3-th and 4-th grade of maturity skeins of Far Eastern salmon fish species are used as raw material. GOST 31794-2012 is put in force as a substitution for GOST R 52336-2005 effective from 2005.

These are **some important advantages of GOST 31794-2012** over GOST 18173-2004 and GOST 1629-97:

- Caviar with VAREX-2 is packed in various packaging: jars and tins, wooden barrels, **plastic containers** and buckets. **Repacking of caviar** from barrels, plastic containers and buckets into jars and tins **is permitted throughout the shelf life**.
- Caviar with VAREX-2 is stored **for 12 months at +2°..+4°C** in consumer package in retail chain; for 8 months (from the manufacture date) at -4°..-6°C in barrels, plastic containers, buckets and wooden barrels.
- **Salt content** in caviar with VAREX-2 **can be reduced**.

### Comparative description of GOST requirements for salmon caviar

		GOST 31794-2012	GOST 18173-2004 Amendments #1	GOST 1629-97 Amendments #1
Food additives / preservatives and their dosage		food additive VAREX-2 – 6 g/kg (which includes sorbic acid – 2 g/kg)	sorbic acid – 1 g/kg and sodium benzoate – 1 g/kg	sorbic acid – 1 g/kg and sodium benzoate – 1 g/kg
Other ingredients		vegetable oil (manufacturer's option)	vegetable oil and glycerine	vegetable oil and glycerine
Package		tins, jars, wooden barrels, <b>polymer</b> containers and buckets	tins and jars	wooden barrels
Repacking into consumer package		is permitted during <b>8 months</b>	is not permitted	is permitted during 1 month
Salt content, %		<b>3.0 - 5.0</b>	4.0 - 6.0 (1 grade) 4.0 - 7.0 (2 grade)	4.0 - 6.0 (1 grade) 4.0 - 7.0 (2 grade)
Storage temperature of caviar in different package	in barrels, containers, buckets	from -4° to -6°C	is not permitted	from -5° to -6°C
	in consumer package	<b>from +2° to +4°C</b> – in retail chain; from -4° to -6°C – at wholesale warehouses and depots (is permitted)	from -4° to -6°C	is not permitted

## Specifications (TU) "Grained salmon caviar"

Since fish processors use both **the 2-nd grade of maturity** skeins (underripe, so-called "fat" or "sea" roe) **and frozen skeins** extracted from Far East salmon for caviar production, we have also developed technologies designed for the use of these types of roe and combined them in the Specifications (TU) "Grained salmon caviar". These Specifications also apply to the roe of *Oncorhynchus*, *Salvelinus* and *Salmo* genera (in particular, trout), **including farmed salmon roe**.

The shelf life and storage temperature of finished product coincide with those in the GOST 31794-2012 "Salmon caviar. Specifications". As well as according to GOST, it is permitted to **repack caviar** from barrels, plastic containers and buckets into tins and jars **throughout the shelf life**. According to our Specifications, VAREX-1 is used for unripe roe processing, and VAREX-2 is used for frozen skeins of *Oncorhynchus*, *Salvelinus* and *Salmo* genera fish processing.

### Fish processor's note



The food additives VAREX-1 or VAREX-2 are introduced after salting, draining and grading of eggs, so the caviar technology remains virtually unchanged.

When bringing VAREX-1 or VAREX-2 in one can dispense with the use of glycerine and vegetable oil, as with due attention to technology and the use of fresh (not belated) raw fish eggs, finished product has a shine and dry short-eating body.

**With the ability to store product at positive temperature, extend its shelf life and maintain high quality, your salmon caviar becomes high-demanded by caviar retailers and consumers and can be delivered to new markets abroad.**

**Using our food additives, you ensure consistent quality of salmon caviar during shelf life, and also preserve the useful properties of the product that customers appreciate.**