



PRODUCTION OF SAFE FISH PRODUCTS

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Abstract

Fish products in Kyrgyzstan are becoming increasingly popular, they acquire them because of their usefulness and good digestibility by the body. Recently, high requirements for food safety, for the production of products that provide proper nutrition, increase immunity, and reduce premature aging have become more and more clearly promoting excretion from the body toxic and dangerous chemicals, that have got into food due to environmental disasters. Preference is given to natural products or chemical preservatives of natural origin.

Aim

To determine the stability of fish preserves, excluding the use of sodium benzoate, due to its negative effect on the human body.

Tasks

To analyze various food additives in which the salt content does not exceed 4.5-5%, provided the storage temperature is 0;+5°C

Materials and methods

Organoleptic method of research of preserves prepared using a new technology with complex food additives, sodium lactate - a natural preservative and pre-maturation of raw materials during defrosting at +3°C.

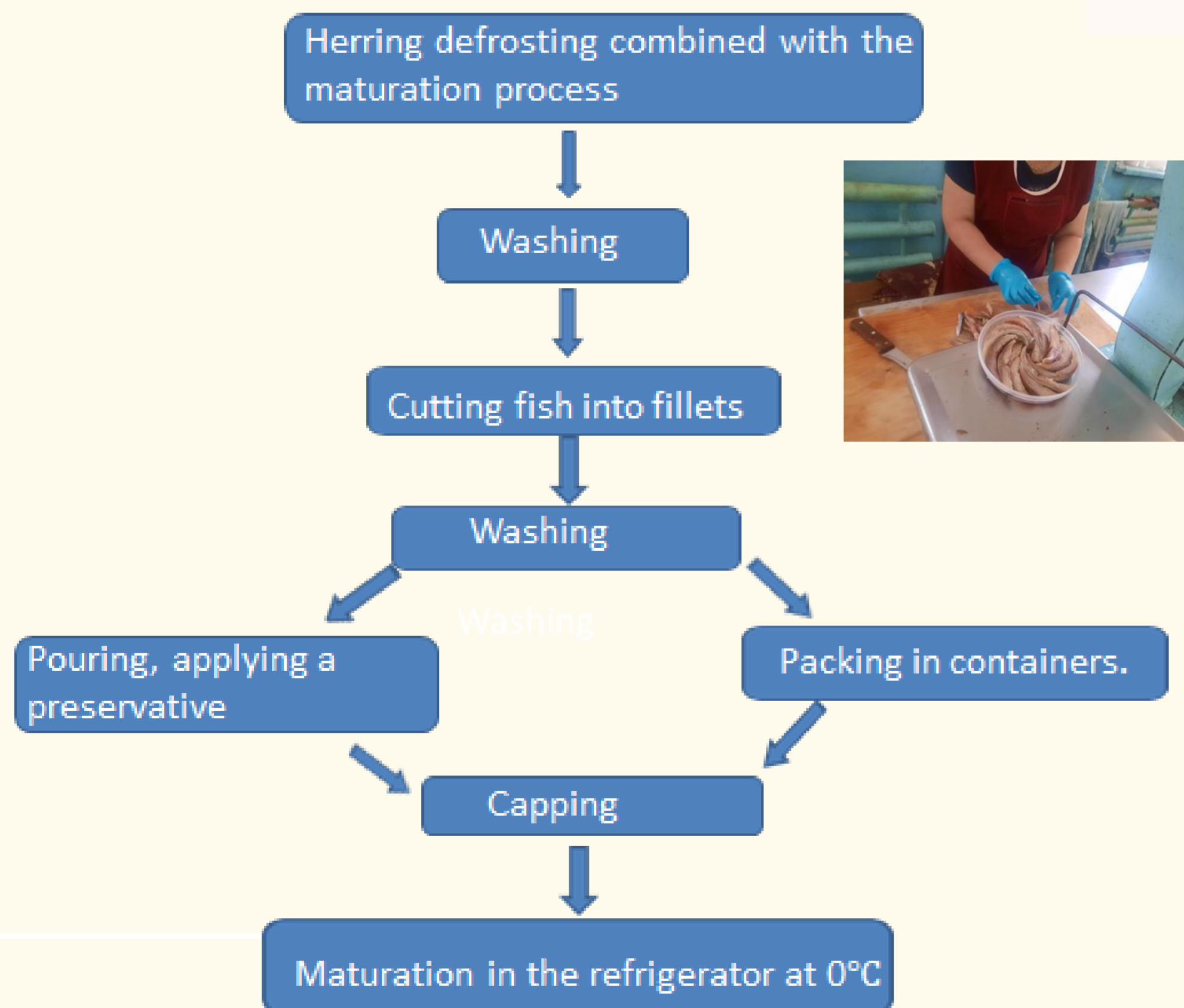
Physico-chemical method of research was used to determine the amount of food additives.

Results

The following technologies were used in the experiments:

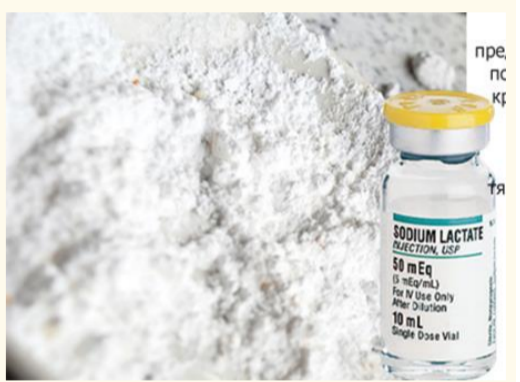
- 1 prototype: preserves are purchased in the store as a control sample that uses sodium benzoate.
- 2 prototype: the fillet was pre-salted and then Introduced Sodium lactate
- 3 prototype: fillet pieces + salt + sodium lactate
- 4 prototype: fillet - pieces + salt + acetic acid + lactate Sodium.

Technological scheme for the production of preserves in fillings using sodium lactate as a preservative



Information about the preservative

Sodium lactate is chosen as a preservative instead of sodium benzoate, because it is a natural component obtained by fermentation of sugar beet or corn, subsequently carried out neutralization of the formed lactic acid. Having a delicate salty taste and strong preservative properties, sodium lactate is able to create a weak salinity for fish pieces and give high resistance to microbial spoilage.



Organoleptic and physico-chemical parameters of experimental samples

Name of indicators	Sample prototypes			
	1	2	3	4
Appearance	5,0	5,0	5,0	5,0
Smell	4,5	4,5	5,0	4,8
Taste	4,8	4,8	5,0	4,9
Fill indicators	4,9	5,0	5,0	5,0
Total number of points of organoleptic evaluation	19,2	19,3	20	19,7
Salt content, %	9	8	4	5

Organoleptic indices evaluate five-point scale

Based on the tasting assessment of the quality of the finished preserves, the results were as follows: the appearance of all samples meets the requirements: the pieces are smooth, dense.

1 prototype: the smell of 4.5 points - there is an excessive shade of the smell of vinegar, the aroma of spices is poorly felt; the taste is excessive salinity, which clearly interrupts the taste and aroma of spices; the filling has a cloudiness from the presence of nested flavor ingredients: bay leaf, black pepper.

2 prototype: the smell is unnecessarily felt fishy; the taste is excessive salinity, which does not correspond to lightly salted fish.

3 prototype: all indicators are excellent.

4 prototype: smell - smell and taste of vinegar.

Conclusions

1. Currently, all manufacturers strive to produce products with a low salt content, but in the production of preserves, the main issue and problem is that the finished products must be stored only at negative temperatures.
2. This technology using sodium lactate achieves safety indicators even at positive temperatures.

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