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**INTERNATIONAL SCIENTIFIC
AND PRACTICAL CONFERENCE
"TECHNOLOGIES IN EDUCATION IN SCHOOLS AND
UNIVERSITIES"**

Athens, Greece

January 23 - 26, 2024

ISBN 979-8-89292-754-3

DOI 10.46299/ISG.2024.1.3

TECHNOLOGIES IN EDUCATION IN SCHOOLS AND UNIVERSITIES

Proceedings of the III International Scientific and Practical Conference

Athens, Greece
January 23 - 26, 2024

UDC 01.1

The 3rd International scientific and practical conference “Technologies in education in schools and universities” (January 23 - 26, 2024) Athens, Greece. International Science Group. 2024. 363 p.

ISBN – 979-8-89292-754-3

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IMPROVING THE TECHNOLOGICAL PROCESS OF COOKING STEAKS

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The fashion for different dishes and cuisines changes every year, but meat dishes do not lose their recognition among visitors to restaurants.

Meat is the main source of proteins, which are considered complete and well absorbed by the human body. The digestibility of meat ranges from 94 to 98%. It takes part in metabolism, muscle contraction and the growth process, and is a building material for cells, tissues and organs. With insufficient consumption of protein in a person's diet, the work of the brain is disturbed, the work of the central nervous system, internal secretion organs and the circulatory system deteriorate. Beef is quite popular, because it is indispensable for dietary nutrition and for diabetics.

To give the meat a delicate consistency, specific organoleptic and technological properties, it is pre-marinated. Therefore, recently, meat dishes using various pickling techniques, which add flavor and emphasize their natural flavor, are gaining popularity.

Pickling is one of the most common processes used to prepare, cook and store food. Most often, the marinade consists of spices, onions and salt. Marinades include spices, herbs, salt, flavorings, enzymes, wine, vinegar, fruit juices, mayonnaise, vegetable oil, etc. The quality of the finished product, the effect of using the marinade, depends primarily on the selection of ingredients.

One of the key stages in the development of innovations in the field of steak production are innovations in the technology of aging (ripening, fermentation) of meat semi-finished products, in particular dry-aging, wet aging in vacuum packaging, as well as innovations in the technology of preparing steaks - using contact grills, hoppers, sous vide, combi ovens, open fire, etc.

To improve the quality of steaks, ribeye steak was chosen as a control sample. Ribeye is one of the most ideal steaks, the main trump card of which is not only ease of preparation, but also marbling, that is, thin layers of fat that melt during frying and give it softness and juiciness. It is obtained from wet-fermented semi-finished beef meat (from a beef cut, a thick edge from 5 to 12 ribs). The company receives such semi-finished products in vacuum packaging at a temperature of 2-6 °C.

To improve the technological process and increase the nutritional value of ribeye steak, the marinating technique was chosen. Analyzing the scientific and technical literature, the main indicators that affect the effectiveness of the marinating process were identified, namely: the age and sex of the animal, the breed and conformation of the animal, the growing conditions, the chemical composition and which part of the carcass is used to prepare the steak. Considering the indicators of the marinade itself, the following can be distinguished: duration of marinating, temperature of the marinade itself and its recipe composition.

The correct combination of these indicators leads to a reduction in the time of heat treatment, an increase in the output of the finished dish, and the acquisition of new consumer characteristics.

Based on the analytical review of the literature, berry juices and oil raw materials will be used in further research to break down proteins and fats, improve the technological ability of the product, form consistency, aroma and taste; wild ingredients to obtain new pleasant taste properties.

We plan to use berry juices as an alternative substitute for vinegar, because they contain a whole complex of organic acids, in particular, they contain malic, citric, succinic, ascorbic acids, as well as aldehydes, pectins, esters and other organic compounds, which positively will affect the taste properties of beef meat. On the basis of an analytical review of the literature, a marinade for beef dishes was developed, which will contain thyme, cranberry juice and hemp oil.

Thyme is widely used as a spicy and aromatic additive for restaurant meat dishes, as well as in folk and traditional medicine. Preparations made with the addition of thyme have an expectorant, antibacterial, antispasmodic and analgesic effect, have a calming effect on the central nervous system, and stimulate the secretion of gastric juice.

Due to the high content of vitamin C, cranberry is an excellent preventive agent that strengthens immunity and increases the body's protective functions. The presence of potassium and magnesium has a positive effect on the work of the cardiovascular system. Cranberries contain vitamins E, PP, K, B1, B2, B5, B6, B9.

When making marinades for beef dishes, onions were completely replaced with berry juices, vinegar with oily raw materials and wild ingredients.

According to organoleptic indicators, "Ribay" steaks marinated in a marinade of berry juices, wild plant ingredients and oily raw materials must meet the requirements specified in Table 1.

Table 1

Organoleptic evaluation of the Ribeye steak marinated in a marinade made from berry juices, wild plant ingredients and oil raw materials

Quality indicator	Ribeye steak	
	Traditional marinade	Marinade with thyme, cranberry juice and hemp oil
Appearance	The shape of the meat is the same, there are no burnt spots	
Color	The fried meat has an appropriate color, the berry juices did not affect the color	

Scent	The smell is characteristic of fried meat	The smell is characteristic of fried meat and products according to the recipe
Taste	The taste is characteristic of fried meat	The taste is inherent in fried meat and products according to the recipe
Consistence	Springy, dry meat	Elastic, soft and juicy

Based on the results of the conducted research, a technology for preparing Ribeye steak was developed, which includes such operations as preparation of raw materials, marinating for 30-45 minutes, heat treatment and holding for 5-10 minutes to redistribute juice in meat tissues

From the table 1, we can see that when marinating the ribeye steak in a marinade made from berry juices, wild plant ingredients and oily raw materials, the consistency became softer and juicier, and the taste and smell acquired new qualities.

When calculating the nutritional value of improved meat dishes per 100 g of product, it was found that the content of fats increased, including Omega-3 - from 0.54% to 4.04% and Omega-6 - from 1.09% to 4.14%, minerals such as calcium - from 10.89% to 14.89%, potassium - from 268.2% to 277%, magnesium - from 29.53% to 32.63%. The vitamin composition has also improved significantly: the amount of vitamin B6 has increased - from 0.34% to 0.48%, vitamin B9 - from 9.12% to 27.79%, vitamin C - from 10.68% to 20.18% and vitamin A - from 10.66% to 38.66%.

The obtained data confirm the expediency of using marinades from berry juices, wild plant ingredients, and oily raw materials in meat processing establishments to improve the quality of the meat dishes obtained.

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