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"Наукові здобутки молоді – вирішенню проблем харчування людства у XXI столітті"

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The publication contains materials of 91th International scientific conference of young scientists and students "Youth scientific achievements to the 21st century Nutrition problem solution".

It was considered the problems of improving existing and creating new energy and resource saving technologies for food production based on modern physical and chemical methods, the use of unconventional raw materials, modern technological and energy saving equipment, improve of efficiency of the enterprises, and also the students research work results for improve quality training of future professionals of the food industry.

The publication is intended for young scientists and researchers who are engaged in definite problems in the food science and industry.

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Матеріали 91-ї Міжнародної наукової конференції молодих учених, аспірантів і студентів "Наукові здобутки молоді – вирішенню проблем харчування людства у XXI столітті", 7–11 квітня 2025 р. – Київ: НУХТ, 2025. – Ч.1. – 347 с.

Видання містить матеріали 91-ї Міжнародної наукової конференції молодих учених, аспірантів і студентів "Наукові здобутки молоді – вирішенню проблем харчування людства у XXI столітті".

Розглянуто проблеми удосконалення існуючих та створення нових енерго- та ресурсоощадних технологій для виробництва харчових продуктів на основі сучасних фізико-хімічних методів, використання нетрадиційної сировини, новітнього технологічного та енергозберігаючого обладнання, підвищення ефективності діяльності підприємств, а також результати науково-дослідних робіт студентів з метою підвищення якості підготовки майбутніх фахівців харчової промисловості.

Розраховано на молодих науковців і дослідників, які займаються означеними проблемами у харчовій науці та промисловості.

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8. Using apple juice in marinade technology for poultry meat

Igor Strashynskyi, Andrew Marynin, Volodymyr Yatskov, Maria Strashynska
National University of Food Technologies, Kyiv, Ukraine

Introduction Marinating is a traditional method of preparing meat for further processing or direct consumption, used in households, gastronomy, and the meat industry. The marinating process allows the emphasising and highlighting of sensory features of poultry meat, such as taste, odour, colour and tenderness, it affects the technological features and effectiveness of the product and its safety, and extends the shelf life by limiting bacterial growth.

Materials and methods. Poultry meat is becoming increasingly popular, including broiler chicken breast fillets, which are used most frequently to make marinated products that meet the convenience criteria 'ready for thermal treatment food'.

Results. The convenience food of poultry origin is becoming more competitive than traditionally eaten meat and its products. In addition, consumers are looking for meat products that meet the criteria for both convenience and functional food. The growth of poultry convenience food is causedby its expedient use, desirable sensory characteristics, and extended shelf life combined with high nutritional value. However, interest in health-promoting food is related to the change in nutritional habits of consumers resulting from health care, which induces the search for inexpensive enriched meat products. That is why both consumers and producers are increasingly leaning towards natural food additives which, in addition to flavour values, have a health-promoting effect. The use of natural marinades or natural marinade additives have a decisive impact on the originality of a dish, and also on the taste and odour profile, as well as on its health-promoting effect [1, 2].

However, the most frequently used marinating additives in the food industry are sodium chloride and phosphates, which increase pH, water absorption, and tenderness of the marinated product. The latest studies report an alternative natural marinating of meat using fruit juices as a process of sour marinating instead of synthetic ingredients. Moreover, marinating in fruit juices may increase the diversity and range of value-added products in the poultryindustry. This has gained the interest of consumers as the operation is easy andnon-time consuming while maintaining desirable food sensory properties. Apples are one of the most often produced and consumed fruits in the world. Despiteits availability, low price, and health-promoting properties, apple juice is not a very popularmaterial for marinades. Apple juice (100%) has a very good flavour, low calorificvalue, is composed of 12–14% carbohydrates, 0.1–0.3% protein, less than 0.1% lipids, and 0.3–1% organic acids (mainly α-malic acid, citric acid) [3]. It has a high content of biologicallyactive substances, including vitamins (L-ascorbic acid 3–35 mg/100 g) and polyphenols.

Conclusions. In apple juice, anthocyanidin, flavanol (also named flavan-3-ols), flavonols (mainly quercetinglycosides), and dihydrochalcones are a major subgroup of flavonoids.

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