

## 42. Plant-based meat alternatives for culinary products of restaurant consumption

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**Introduction.** Health and safety, wellness, and sustainable consumption are trends in restaurant and hotel business. A reduction in the consumption of red meat and processed meat products is associated with health benefits: lower the risk of cardiovascular diseases, cancer, obesity, obesity, and 2 type diabetes mellitus. Prospective direction of scientific research is development of meat alternatives out of plant proteins of high nutrition and biological value for culinary products of restaurant consumption.

**Materials and methods.** A review of plant-based meat substitutes for culinary products for restaurant consumption.

**Results.** There are two major varieties of meat substitutes: culture-based meats (cultivated meat, in-vitro meat) and plant-based meat. In addition, it can be fungi-based meat and insect-based meat. Plant-based meat substitutes are in the greatest demand among consumers. Also, meat alternatives manufacturing is more environmentally friendly than farming animals. The assortment of domestic plant-based meat alternatives are burgers, nuggets, steaks, medallions, schnitzel, soy goulash, kebab, sausages, vegetable fillet, structured soy-based analogues. Traditional consumers of these products are vegans, vegetarians, flexitarians, pescatarians, but interest is growing among meat lovers.

The components of meat alternatives recipes include legumes, beans, soy, cereals, mushrooms, protein isolates and concentrates, vegetables oils, binding agents, colouring agents, flavours, and other ingredients. Legumes (bean, pea, chickpea, lupine, lentil) are considered an excellent source of plant protein. Soybean is an applicable and widely used ingredient in meat alternatives global. It has been known as outstanding source of nutrient such as carbohydrates, dietary fiber, lipids, vitamins, minerals. Soybean is used in the forms of isolates, concentrates, and flour, non-textured and textured soy protein products. The textured soy protein products imitate the meat muscle fibers and give plant meat substitutes fibrous properties. The protein content of cereals is lower than that of legumes. The main source of crop culture proteins are wheat, rice, barley, and oats. The viscous and elastic properties of wheat gluten help wheat protein to imitate meat texture of plant-based alternatives. The hydrated gluten wheat gluten can be converted to textured meat analogues through the extrusion and texturizing technologies. Colouring agents are beet juice extract, lycopene, annatto extracts (for red meat analogues), titanium dioxide (chicken colour). Spices, herbs, yeast extracts are used for formulation of aromatic profile. Plant-based meat alternatives have lower energy value, content of total fat, saturated fat, and cholesterol. They are healthier protein sources for meat consumption replacement.

**Conclusions.** Development of plant-based meat alternatives can help satisfy the population's protein needs and reduce the risk of protein-energy malnutrition. Restaurant consumption of meat substitutes will lead to lower the intake of daily total energy calories, saturated fats, cholesterol and increase the intake of dietary fibre, polyunsaturated fatty acids, and other biological active substances of plant origin. Dietary habits (increased consumption of plants, reduced consumption of meat products) minimize the environmental footprint and thus save the ecosystem. Plant-based diet positively influences on human health and well-being.

### Literature

1. Plant-based meat analogs: A review with reference to formulation and gastrointestinal fate / Anum Ishaq, Shafeeqa Irfan, Arooba Sameen, and Nauman Khalid // *Curr Res Food Sci.* – 2022. – Volume 5. – P. 973–983.