Modern poultry production constantly strives to improve its processes with the aim of not only to increase performance but also to improve the conditions for poultry rearing. These issues have many aspects, but there are two key aspects for breeders: ensuring high productivity of animals and taking care of their health. Additionally, the growing awareness of poultry consumers about the importance of a properly balanced diet, especially the impact of consumed poultry meat on health, motivates producers to constantly improve the quality of their products. A challenge for the poultry sector was the ban on the use of antibiotic growth promoters introduced in the European Union on January 1, 2006. Previously, these substances were used to combat gastrointestinal pathogens and mitigate the impact of stress factors on intestinal functions. By influencing intestinal health, antibiotics contributed to overall improvement in animal health. They contributed to the reduction of disease and mortality rates, acceleration of growth rates, improvement of feed conversion, and improvement of meat quality by increasing protein content and reducing fat levels. The restrictions of the use of antibiotic growth promoters associated with the problems with increasing bacterial resistance and concerns about food safety have prompted poultry farmers and scientists to search for alternative solutions. Currently, there are ongoing attempts to develop more sustainable dietary methods for simultaneous improvement of the three key aspects of breeding: animal growth, animal health, and meat quality. Phytobiotics, also known as phytogenics, are bioactive compounds derived from herbs and medicinal plants valued for their beneficial biological properties, which contribute significantly to improvement of the health and nutritional potential of animal feed. These natural chemicals generated by plants as part of their metabolic processes, have pharmacological effects, e.g. antioxidant, antibacterial, antiviral, and immune system-regulating properties. Additionally, an important dietary determinant of proper development of birds is the optimal balance between protein and energy, including the appropriate amount of fat in feed. Therefore, the aim of the proposed research project is to determine the impact of a combination of herbs and selected niche oils in the nutrition of broiler chickens on breeding performance, carcass quality, and health and physiological parameters. With their high content of bioactive compounds, the herbs that will constitute the basis of the newly developed feed composition, i.e. nettle and sage, have a wide spectrum of health-promoting effects documented scientifically. The oils selected for the experiment - camelina oil, hemp seed oil, and raspberry seed oil - are rich in polyunsaturated fatty acids (PUFAs), including omega-6 and omega-3; hence, they can significantly support the immune system of poultry, improve the quality of meat, and contribute to more intensive bird growth. Their mixtures may be particularly effective in this respect. Nevertheless, their simultaneous use may either produce mutually reinforcing effects or have a negative impact on birds' organisms. To clarify this problem, various proportions and combinations of herbal-fat compositions will be used in the diet for broiler chickens. There are no reports in the available scientific literature on the effects of using different levels of mixtures of these herbs and oils in poultry feed. Therefore, in our project, we will pay special attention to such production parameters as mean body weight gain, daily feed intake, and the feed conversion rate (FCR). To assess the effect of the feed additive used on the health of birds, selected blood parameters, including hematological and biochemical indicators, and microbial populations in the small intestine will be analyzed. Additionally, the health quality of poultry meat will be assessed in terms of its nutritional composition and the content of fatty acids and minerals. The prospective results will enrich the current knowledge and help in further selection of feed components in order to design new herb-fat feed compositions supplementing nutrition and constituting a natural alternative to therapeutic agents used for poultry farming prophylaxis. The determination of the impact of various phytobiotic mixtures will be the basis for development of an innovative herb-fat combination for use in broiler nutrition in order to improve poultry health status, production performance, and stability of flock populations. In the future, the prospective results may be used to develop recommendations for the application of new nutritional solutions in poultry production.