SUMMARY

of the doctoral thesis entitled:

RESEARCH REGARDING THE INFLUENCE OF TECHNOLOGY AND INGREDIENTS ON THE TOTAL QUALITY OF BAKERY PRODUCTS

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The bakery industry represents one of the oldest and most essential sectors of food production, having a profound influence on the economy and the health of the population. Bread and bakery products are not only staple foods, but also cultural and traditional symbols in many regions of the world. In this context, ensuring the total quality of bakery products becomes a major priority for researchers, producers and consumers.

The quality of bakery products is determined by a complex set of factors, which include the properties of the raw materials, the technologies used in the manufacturing process, as well as the added ingredients. Bakery technology has evolved considerably in recent decades, introducing innovative methods and advanced equipment that have the potential to improve both production efficiency and the organoleptic and nutritional characteristics of the final products.

This doctoral thesis is structured in two sections: Part I, which presents the current situation of the level of knowledge in the field, and Part II, which includes own research. The introduction precedes these two parts, and at the end of this doctoral thesis you will find the general conclusions, the original elements of the study carried out, as well as perspectives for further research following the same scientific line. The present work is organized in 10 chapters, contains 68 figures and 53 tables and totals 209 bibliographic references for the studied field. List of published scientific papers During the course of the doctoral studies, scientific papers were published on the topic of the thesis. Their list can also be found at the end of this paper.

This short presentation summarizes the content of the chapters in the original part of the paper, keeping the numbering similar to that used in the thesis for chapters, subchapters, figures, tables and bibliographic references.

The introduction that begins this paper briefly explains the framework in which the study was conceived and the benefits of fortifying bakery products with different nutrients.

The first part of the thesis consists of 4 chapters.

The first chapter entitled "GENERAL NOTIONS REGARDING THE BAKERY INDUSTRY. BREAD MANUFACTURING IN ROMANIA" explains the importance of bread in the daily diet and presents an important branch of the food industry, namely the bakery industry in Romania.

The second chapter entitled "BREAD-MAKING TECHNOLOGIES" is the description of the foundation of the bakery industry, the technology of bread production.

Chapter three, "THE INFLUENCE OF THE INGREDIENTS ON THE QUALITY OF THE BREAD", presents the basic raw materials used for the manufacture of bread as well as the chemical substances in the composition of these raw materials.

The last chapter of the first part, "THE RHEOLOGY OF DOUGHS", constitutes the documentary study of the parameters of the food material that determine the performance of the final product.

The second part of the thesis is organized in 6 chapters in which the confirmation of the theoretical study was sought through own research.

After defining the purpose and objectives of the research, the "CHARACTERIZATION OF RAW MATERIALS" is presented, which is the fifth chapter, in which the materials and working methods for their characterization are presented and analyzed.

In chapter six, "RHEOLOGICAL STUDY OF BAKERY DOUGH WITH ADDITIONS OF VITAMINS AND MINERALS" we studied the rheological characteristics of bread doughs that had additions of premixes of minerals and vitamins. The breads obtained were characterized from a physico-chemical, microbiological and sensory point of view.

In the seventh chapter, "PILOT EXPERIMENTS", the results of all the other presented experiments are integrated and provide the best picture of the total quality of the raw materials and doughs.

Chapter eight, "CHARACTERIZATION OF FINISHED PRODUCTS", explores in detail the methodologies and criteria used in the characterization of bread, highlighting the importance of each aspect within the production chain and in the consumer experience.

Chapter nine, "STUDY ON THE MASS BALANCE OF NUTRIENTS ADDED THROUGH MINERAL-VITAMIN PREMIXTURES" theoretically establishes nutrient losses and recoveries in the baking process.

The last chapter reveals the conclusions of this doctoral thesis, the personal contribution and the perspectives necessary for the continuation of the research.