

TABLE OF CONTENTS

I.	INTRODUCTION.....	1
I.1	Importance of consumption of fruits. The orange.....	3
I.1.1	General aspects of oranges.....	3
I.1.2	Production and consumption of oranges.....	5
I.1.3	Nutritional aspects and bioactive compounds of oranges.....	7
I.2	Food waste: fruit waste valorisation strategy.....	9
I.3	Consumer trend.....	10
I.4	Biopolymers used as carrier agents in drying of fruit products.....	12
I.5	Freezing-drying as a dehydration method yielding high-added value products	14
	References.....	17
II.	OBJECTIVES.....	25
III.	RESULTS.....	29
	Chapter 1: Influence of different biopolymers on the properties of a freeze-dried orange snack and the corresponding powder product.....	33
	Chapter 1.1. Use of different biopolymers as carriers for purposes of obtaining a freeze-dried orange snack.....	35
	Chapter 1.2. Protective capacity of gum Arabic, maltodextrin, different starches, and fibers on the bioactive compounds and antioxidant activity of an orange puree (<i>Citrus sinensis</i> (L.) Osbeck) against freeze-drying and in vitro digestion.....	53
	Chapter 1.3. Impact of maltodextrin, gum Arabic, different fibres, and starches on the properties of freeze-dried orange puree powder.....	73
	Chapter 2. Selection of freeze-drying conditions to obtain an orange snack.....	91
	Chapter 2.1. The impact of freeze-drying conditions on the physico-chemical properties and bioactive compounds of a freeze-dried orange puree.....	93
	Chapter 2.2. Impact of freeze-drying conditions on the sensory perception of a freeze- dried orange snack.....	117
	Chapter 2.3. Impact of the freeze-drying conditions applied to obtain an orange snack on energy consumption.....	131
	Chapter 3. Effect of conventional home storage on the physicochemical properties and bioactive compounds of an orange snack obtained by freeze-drying.....	143
IV.	GENERAL DISCUSSION.....	161
IV.1.	Influence of different biopolymers on the properties of a freeze-dried orange snack and the corresponding powdered product.....	163
IV.2.	Selection of freeze-drying conditions to obtain an orange snack.....	166

IV.3. Effect of conventional home storage on the physicochemical properties and bioactive compounds of an orange snack obtained by freeze-drying.....	169
References.....	170
V. CONCLUSIONS.....	173
VI. DISSEMINATION OF RESULTS AND PREDOCTORAL STAY.....	177
VI.1 Dissemination of results.....	179
VI.2 Predoctoral stay.....	180