

Contents:

ABSTRACT	4
RIASSUNTO	4
RESUMEN	5
RESUM	6
INTRODUCTION	7
Oxygen paradox	8
Free radicals and Oxidative stress	9
Antioxidants	12
<i>Capparis spinosa L.</i> : nutraceutical value in the Mediterranean diet.....	17
Technical applications for the agro-food characterization	23
Purpose of the study	29
CHAPTER 1	30
<i>Polyphenols content and antioxidant activity of hydrophilic extracts from Capparis spinosa L.</i>	
.....	30
1.1 Abstract	30
1.2 Introduction	31
1.3 Materials and Methods	32
1.4 Results and Discussion.....	36
1.5 Conclusions	42
CHAPTER 2	43
<i>Secondary metabolites characterization of hydrophilic extract from Pantelleria capers (Capparis spinosa L.) by HPLC-PDA-ESI-MSn</i>	
.....	43
2.1 Abstract	43
2.2 Introduction	43
2.3 Materials and methods	44
2.4 Results and discussion.....	47
2.5 Conclusions	56
CHAPTER 3	57
<i>Chemical characteristics and Flavor profile of capers (Capparis spinosa L.) by Electronic Nose, SPME/GC-MS, Electronic Tongue, techniques</i>	
.....	57
3.1 Abstract	57
3.2 Introducion	57
3.3 Materials and methods	59
3.4 Results and Discussion.....	61

3.5 Conclusions	70
CHAPTER 4	71
<i>AFLP markers for the assessment of genetic diversity in Capparis spinosa cultivated in Pantelleria Island.</i>	71
4.1 Abstract	71
4.2 Introduction	71
4.3 Materials and Methods	72
4.4 Results and Discussion	76
4.5 Conclusions	79
CONCLUSIONS.....	80
ACKNOWLEDGMENT.....	82
REFERENCES	83