## Contents

List of publications Abbreviations List of tables List of figures		3 5 7 9			
			1	Introduction	11
			2	Scientific background	15
				2.1 PPO-mediated apple tissue browning	15
	2.2 Changes in the texture of apple slices	18			
	2.3 Quality relevant apple constituents	20			
	2.4 Aroma volatiles (VOCs)	22			
	2.5 Respiration and ethylene biosynthesis	34			
	2.6 Microbial spoilage and control strategies	35			
3	Respiration and storage quality of fresh-cut apple slices immersed in sugar syrup and orange juice	39			
4	Effects of modified atmosphere and sugar immersion on physiology and quality of fresh-cut 'Braeburn' apples	59			
5	Effects of pre-processing short-term hot-water treatments on quality and shelf life of fresh-cut apple slices	81			
6	Effects of pre-processing hot-water treatment on aroma relevant VOCs of fresh-cut apple slices stored in sugar syrup	99			
7	General discussion	118			
	7.1 Impact of processing and storage on physiological parameters	118			
	7.2 Evaluation of preservation methods	122			
8	Conclusion	129			
References		131			
Danksagung		157			
Declaration – Eidesstattliche Erklärung		159			