

List of Contents

List of Abbreviations	III
Zusammenfassung	VI
Abstract	X
1. Introduction.....	1
1.1. List of References	6
2. Transcription profiling of developing xylem of <i>Populus × canescens</i> and <i>Populus euphratica</i> under salt stress to study mechanisms of stress adaption and stress tolerance in wood.....	11
2.1. Introduction	11
2.2. Results.....	13
2.3. Discussion.....	43
2.4. Conclusions	52
2.5. Materials and methods	53
2.6. List of References	62
3. Transcription profiling of salt adapted <i>Populus euphratica</i> roots reveals regulation of SOS genes	70
3.1. Introduction	70
3.2. Results.....	72
3.3. Discussion.....	82
3.4. Conclusion	88
3.5. Material and methods.....	89
3.6. List of References	93
4. Comparison of the transcriptome and metabolome of a salt sensitive and a salt tolerant poplar species reveals insight into stress tolerance mechanisms	100
4.1. Introduction	100
4.2. Results.....	103

List of Contents

4.3. Discussion.....	126
4.4. Conclusion	134
4.5. Materials and methods	134
4.6. List of References	145
5. Overall conclusion	164