LIST OF TABLES

Table 1. Percentage of spores in 100gm soil in summer season

Table 2. Percentage of spores in 100gm soil in monsoon season

Table 3. Percentage of spores in 100gm soil in winter season

Table 4. Description of AM Fungi found in rhizosphere of citrus plants

Table 5. AMF and DSE associations of citrus plants

Table 6. Screening for resistance of mandarin (Citrus reticulata) against Fusarium solani and F. oxysporum

Table 7. Analysis of soil samples collected from mandarin orchards

Table 8. Morphology and microscopical characters of cultures isolated from mandarin rhizosphere

Table 9. Morphology and biochemical tests of bacterial isolates obtained from mandarin plant

Table 10. In vitro screening for phosphate solubilizing activities by fungal and bacterial isolates of mandarin rhizosphere.

Table 11. Evaluation of phosphorus solubilization by fungal isolates in liquid media amended with tricalcium phosphate (TCP) and rock phosphate (RP)

Table 12. In vitro antagonistic tests of PGPR isolates against fungal test pathogens

Table 13. In vitro antagonistic tests of PGPR isolates against fungal test pathogens

Table 14. Detection of cross reactive antigens among C. reticulata and F. solani and F. oxysporum using agar gel double diffusion

Table 15. PTA-ELISA values showing reaction of PAbs of Fusarium solani and F. oxysporum with antigens of healthy and inoculated mandarin roots

Table 16. Antigen – antibody Reaction through Dot-blot assay

Table 17. Analysis of the polymorphism obtained with RAPD markers in F. solani, F. graminearum and F. oxysporum

xiii
Table 18. Genbank Accession Numbers and Geographic locations of the Ex-Type strains of *F. oxysporum* that showed homology with the isolate

Table 19. Genbank Accession Numbers and Geographic locations of the Ex-Type strains of *F. solani* that showed homology with the isolate

Table 20. Genbank Accession Numbers and Geographic locations of the Ex-Type strains of *Hypocrea lixii* (RHS/M511) that showed homology with the isolate

Table 21. Genbank Accession Numbers and Geographic locations of the Ex-Type strains of *T. asperellum* (RHS/M512) that showed homology with the isolate

Table 22. Genbank Accession Numbers and Geographic locations of the Ex-Type strains of *P. poae* that showed homology with the isolate

Table 23. Ascorbate and carotenoid content during flooding and drought

Table 24. Protein content of leaf and root during flooding and drought

Table 25. Proline content of leaf and root during drought

Table 26. Disease index of root rot of mandarin seedlings following *Trichoderma* treatment and pathogen challenge

Table 27. Disease index of root rot of mandarin seedlings following AMF treatment and pathogen challenge

Table 28. Disease index of root rot of mandarin seedlings following AMF and *Trichoderma* treatment and pathogen challenge

Table 29. PAL and Peroxidase activities in AMF treated mandarin seedlings following inoculation with *F. solani*

Table 30. Chitinase and Glucanase activities in AMF treated mandarin seedlings following inoculation with *F. solani*

Table 31. Protein content in leaf and root after application of bacterial isolates

Table 32. Soil phosphate content in rhizosphere of mandarin plants after application of microorganisms

Table 33. Disease index of root rot of mandarin seedlings following AMF and PGPR treatment and pathogen challenge in nursery condition
Table 34. ELISA and Dot-Blot values of reactions between PAbs of defense enzymes and enzyme extracts of leaves from treated mandarin plants

Table 35. Morphology and biochemical tests of MHB obtained from mandarin plant

Table 36. Genbank Accession Numbers and Geographic locations of the Ex-Type strains of *B. mycoides* that showed homology with the isolate