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**ROOT DISTURBANCE AND WASHING EFFECTS ON SHOOT AND
ROOT GROWTH IN FOUR PLANT SPECIES**

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Abstract

Bare-rooting techniques have been widely used in New Zealand nursery production for the preparation of live plants for export to overseas or domestic markets. Bare-root transplants can fail quality requirements due to death or deterioration of regrowth following repotting. The potential for improving bare-root nursery stock quality has prompted study of the morphological effects of removed medium treatment on plants. Two experiments were conducted to explore the effects of physical root disturbance by shaking and washing on the growth and development of camellia (*Camellia* × *saluenensis* cv. 'Donation'), pittosporum (*Pittosporum tenuifolium* cv. 'Kohuhu'), pumpkin (*Cucurbita pepo* cv. 'Crown Hybrid'), and coleus (*Coleus blumei*). The shaken plants in both dry and wet conditions suffered a reduction in the growth rate of their leaves compared to the unshaken controls. Root washing influenced the vegetative growth of four species and reproductive growth of pumpkin. The two woody species were more sensitive to treatment stress. Very short time of washing (three seconds) affected camellia bud break and new shoot growth, and inhibited pittosporum root and shoot growth. Similar effects were not observed in coleus and pumpkin.

DEDICATION

THIS THESIS IS DEDICATED TO MY DEAREST
FATHER, POSTHUMOUSLY,

THE LATE

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Table of contents

Abstract.....	i
Dedication.....	ii
Acknowledgements	iii
Table of contents	iv
List of tables.....	vii
List of figures	viii
List of plates.....	x
Chapter one: Introduction.....	1
Chapter two: Literature review	3
2.1 Shoot-root growth relationships	3
2.2 Plant growth under physical disturbance	5
2.2.1 Noninjurious mechanically stress.....	5
2.2.1.1 Species and cultivar response	6
2.2.1.2 Physiological response.....	7
2.2.1.3 Growth equilibrium between shoot and root	8
2.2.2 Injurious mechanically stress	8

2.3 Root modification	9
2.3.1. Interactions of environmental factors on plant roots	9
2.3.2 Noninjurious root restriction (container design or container effects)	11
2.3.3 Injurious restriction (Root pruning)	13
Chapter three: Materials and methods	15
3.1 Experimental site	15
3.2 Plant Materials and Production Conditions	15
3.3 Experimental	16
3.3.1 Experimental treatments	16
3.3.1.1 Root shaking	16
3.3.1.2 Root washing	17
3.3.2 Experimental design	17
3.4 Data collected	18
3.4.1 Medium removed	18
3.4.2 Root loss measurement	18
3.4.3 Vegetative growth	18
3.4.3.1 Non-destructive measurement	19
3.4.3.2 Destructive harvest	19
3.4.4 Reproductive growth	20
3.5 Statistical analysis	20
Chapter four: Results	22
4.1 Root shaking	22

4.1.1 The effectiveness of medium removal.....	22
4.1.2 Plant response to treatment.....	23
4.2 Root washing.....	27
4.2.1 Root cleanness.....	27
4.2.2 Root loss	30
4.2.3 Plant survival.....	31
4.2.4 Shoot and root growth.....	36
4.2.4.1 Camellia.....	36
4.2.4.2 Pittosporum	39
4.2.4.3 Pumpkin.....	49
4.2.4.4 Coleus.....	53
Chapter five: Discussion	56
5.1 Mechanical disturbance	56
5.1.1 The effectiveness of root cleaning	56
5.1.2 Plants response to mechanical stress.....	57
5.2 Root washing.....	58
5.2.1 Root cleanness.....	58
5.2.2 Plant response.....	59
5.2.3 Shoot and root regrowth (vegetative growth)	62
5.2.4 Reproductive growth.....	65
Chapter six: Conclusions	67
References.....	69

List of tables

Table 3.1 The degree of plant under treatment stress.....	19
Table 4.1 Influence of root shaking treatments on percentage of medium removed (PMR%) from the plants of coleus and pumpkin.	26
Table 4.2 Influence of root mechanical root shaking treatments on pumpkin leaf area (cm ²).	27
Table 4.3 Effect of root washing on the percentage of growing medium removal.	35
Table 4.4 Effect of root washing on root loss from plants (unit: m).	35
Table 4.5 Effect of root washing on bud break and number of new shoots growing (NSG) in camellia.	38
Table 4.6 Effects of root washing on the length and percentage of new shoots growing (NSG), and the flower bud number per plant in camellia.	38
Table 4.7 Influence of root washing on the change of shoot height (cm) in pittosporum.	41
Table 4.8 The effects of root washing on the growth of pittosporum components.	48
Table 4.9 Influence of root washing on pumpkin leaf number.	50
Table 4.10 Effects of root washing on the growth of pumpkin components 40 days after washing and replanting.	52
Table 4.11 Effects of root washing on coleus shoot height (cm).	53
Table 4.12 Effects of root washing on the growth of coleus components 40 days after root washing and replanting.	55

List of figures

Fig. 4.1	The medium removal between species under dry and wet shaking conditions (vertical bars indicate s.e.m.)	24
Fig. 4.2	The effect of frequency on the medium removal from plants under dry and wet shaking conditions (vertical bars indicate s.e.m.).....	25
Fig. 4.3	PMR% from coleus in dry and wet shaking conditions at different levels of frequency (vertical bars indicate s.e.m.).....	25
Fig. 4.4	Effect of root washing on the percentage of growing medium removal (vertical bars indicate s.e.m.).....	32
Fig. 4.5	Effect of root washing on root loss from plants (RM: removed medium; vertical bars indicate s.e.m.).....	32
Fig. 4.6	Root loss from various species plants at longest root washing duration (300 s): (a) length, and (b) the percentage.....	33
Fig. 4.7	Root loss and survival of pittosporum with increasing root washing.....	34
Fig. 4.8	The relationship between pittosporum root loss and survival rate.....	34
Fig. 4.9	Effect of root washing on camellia shoot growth after 8 weeks (vertical bars indicate s.e.m.).....	37
Fig. 4.10	Effect of root washing on growth and development of pittosporum shoots (vertical bars indicate s.e.m.).....	41
Fig. 4.11	Leaf area of pittosporum plants two months after root washing and replanting (vertical bars indicate s.e.m.).....	42
Fig. 4.12	Root length of pittosporum plants two months after root washing and replanting (vertical bars indicate s.e.m.).....	42
Fig. 4.13	Effect of root washing on the growth of pittosporum components: (a) stem length and number of node. (b) leaf, stem and root dry weight (vertical bars indicate s.e.m.).....	43

Fig. 4.14 Relationship between plant height and total leaf area for pittosporum plants. (a) at the shortest duration (b) at highest duration (c) the mean of six durations (horizontal and vertical bars indicate s.e.m.).....	45
Fig. 4.15 Relationship between root loss length from removed medium and total leaf area for pittosporum plant (horizontal and vertical bars indicate s.e.m.).....	46
Fig. 4.16 Relationship between total root length and total leaf area of pittosporum plants 50 days after washing and replanting (horizontal and vertical bars indicate s.e.m.).....	46
Fig. 4.17 Relationship between total root length and plant height of pittosporum plants 50 days after washing and replanting (horizontal and vertical bars indicate s.e.m.).....	47
Fig. 4.18 Relationship between shoot dry weight and root dry weight of pittosporum plants 50 days after washing and replant (horizontal and vertical bars indicate s.e.m.).	47
Fig. 4.19 Effects of root washing on pumpkin leaf number (vertical bars indicate s.e.m.).....	50
Fig. 4.20 The leaf and stem biomass of pumpkin plants 40 days after root washing and replanting (vertical bars indicate s.e.m.).	51
Fig. 4.21 Pumpkin performance 40 days after root washing and replanting (vertical bars indicate s.e.m.).	51
Fig. 4.22 Effect of root washing on coleus shoot growth and development (unit: second; vertical bars indicate s.e.m.).....	54
Fig. 4.23 Coleus height 40 days after root washing and replanting (vertical bars indicate s.e.m.).....	54

List of plates

Plate 3.1	Root washing by hand as used in root washing experiment.	21
Plate 3.2	A view of the plants in the root washing experiment.	21
Plate 4.1	Root cleanness of camellia in six durations of root washing.	29
Plate 4.2	Root cleanness of pittosporum in six durations of root washing.	29
Plate 4.3	Root cleanness of coleus (top) and pumpkin (bottom) in six durations of root washing.	30
Plate 4.4	Comparison of pittosporum shoot growth in six durations of root washing.	44
Plate 4.5	Comparison of pittosporum root growth in six durations of root washing.	44