

ÍNDICE

1. INTRODUCCIÓN	25
1.1. Citricultura	27
1.1.1. Importancia económica	27
1.1.2. Gestión integrada de plagas en cítricos	28
1.2. La araña roja, <i>Tetranychus urticae</i>	29
1.2.1. Clasificación Taxonómica	29
1.2.2. Biología y Ecología	30
1.2.3. Daños	31
1.2.4. Métodos de muestreos y umbrales de tratamientos	32
1.2.5. Métodos de control	34
1.3. Ácaros depredadores	38
1.3.1. Phytoseiidae	38
1.3.2. Phytoseiidae en cítricos	39
1.4. Objetivos	42
2. COMPATIBILITY OF <i>Phytoseiulus persimilis</i> AND <i>Neoseiulus californicus</i> (ACARI: PHYTOSEIIDAE) WITH IMIDACLOPRID TO MANAGE CLEMENTINE NURSERY PESTS	45
2.1. Abstract	47
2.2. Introduction	48
2.3. Materials and Methods	49
2.3.1. Laboratory assay	49
2.3.2. Field assay	53
2.3.3. Data analysis	54
2.4. Results	55
2.4.1. Laboratory assays	55
2.4.2. Field assay	57
2.5. Discussion	63
3. COMPARATIVE TOXICITY OF DIFFERENT PESTICIDES ON THREE DIFFERENT LIFE-STYLE PHYTOSEIID MITES OCURRING IN CITRUS: <i>Euseius stipulatus</i> , <i>Neoseiulus californicus</i> AND <i>Phytoseiulus persimilis</i>	67
3.1. Abstract	69
3.2. Introduction	70
3.3. Material and methods	71

3.3.1.	Mite cultures _____	71
3.3.2.	Pesticides _____	72
3.3.3.	Experimental unit (arena) _____	73
3.3.4.	Assays and evaluation _____	73
3.3.5.	Comparison of relative toxicity of pesticides _____	74
3.3.6.	Data analysis _____	74
3.4.	Results _____	75
3.4.1.	Fresh residue _____	75
3.4.2.	Aged- residues _____	75
3.4.3.	Comparison of relative toxicity of pesticides _____	75
3.5.	Discussion _____	79
4.	EFFECT OF POLLEN QUALITY ON THE EFFICACY OF TWO DIFFERENT LIFE-STYLE PREDATORY MITES AGAINST <i>Tetranychus urticae</i> IN CITRUS _____	81
4.1.	Abstract _____	83
4.2.	Introduction _____	84
4.3.	Material and Methods _____	86
4.3.1.	Stock colonies _____	86
4.3.2.	Experimental set-up _____	87
4.3.3.	Population dynamics _____	88
4.3.4.	Data analysis _____	88
4.4.	Results _____	89
4.4.1.	<i>Tetranychus urticae</i> dynamics and damage _____	89
4.4.2.	Phytoseiid dynamics _____	92
4.5.	Discussion _____	94
5.	SPATIAL DISTRIBUTION OF TWO PHYTOSEIID MITES <i>Phytoseiulus persimilis</i> AND <i>Neoseiulus californicus</i> IN CLEMENTINE YOUNG PLANTS _____	99
5.1.	Abstract _____	101
5.2.	Introduction _____	102
5.3.	Material and Methods _____	104
5.3.1.	Stock cultures _____	104
5.3.2.	Plant material _____	104
5.3.3.	Experimental procedure _____	104
5.3.4.	Molecular procedure _____	106
5.3.5.	DNA extraction and molecular identification _____	106

5.3.6. Data analysis	106
5.4. Results	107
5.4.1. <i>Tetranychus urticae</i> density	107
5.4.2. Spatial distribution	108
5.4.3. Prey detection	111
5.5. Discussion	113
6. CONCLUSIONES	117
7. REFERENCIAS BIBLIOGRÁFICAS	121