



Update of CTVvv RNAi Research

Planting and Tree Defenders

- Tree Defenders
 - 6 months
 - Give time for CTVvv RNAi to express
 - Control other insects



Hurricane Irma

- Pre Storm
 - Removed Tree Defenders
 - Sprayed with copper
 - Canker
- Post Storm
 - No tree loss
 - Minimum branch loss
 - Some wind/sand burn
 - Second copper spray post storm
 - Nutrition
 - Overcome sand and wind injury
 - New growth

RNAi MOA

Tag	Line	Function
R1	Osiris	to disrupt maturation and development of <i>D. citri</i> ; also known as Tpl (triplo-lethal haploinsufficient locus); exact function is unknown
R2	JHE (juvenile hormone esterase)	to disrupt the production of JHE within <i>D. citri</i> and therefore disrupt the maturation and development of <i>D. citri</i>
R3	Rieske	to disrupt electron transport processes and therefore ATP production; Rieske in an iron-sulfur protein, a subunit in the cytochrome C oxidase complex
R4	CaBP (calcium binding protein)	to have adverse effects on crucial sensory and nervous functions and therefore disrupt the maturation and development of <i>D. citri</i> ;
R5	JHAMAT (juvenile hormone acid methyl transferase)	to disrupt the production of JHE within <i>D. citri</i> and therefore disrupt the maturation and development of <i>D. citri</i>
R6	PDS (phytoene desaturase)	visual indicator of RNAi
R7	Cathepsin	to disrupt digestive processes within <i>D. citri</i> and therefore the maturation and development of <i>D. citri</i>
R9	Control	

Treatments that are Red Bolded indicate constructs that were not planted due to instability of the insert.

Treatments and Stability

Treatments	Samples	RT-PCR CTV+	Insert	Stable
R 1	48	26	21	20
R 2	46	38	35	35
R 3	35	33	0	0
R 4	46	18	6	6
R 5	49	18	0	0
R 7	38	11	6	5
Tag	Line	Trees Budded	# + Trees	Reps x # trees
R1	OSIRIS	50	20	4 x 5
R2	JHE	50	35	4 X 6
R4	CAPB	50	6	3 X 2
R7	Cathepin	50	5	3 x 2
R8	TMT1	50	20	4 X 6
R9	Control	NA	20	4 X 6

Plot Map

x		x		x		x		x		x	
7	0	4	13	1	6	R6	2	2	1	R6	*
7	0	4	21	1	11	2	39	9	Fill	8	21
7	0	4	40	1	30	2	37	9	Fill	8	15
7	0	4	24	1	38	2	26	9	Fill	8	17
7	3	4	4	1	31	2	29	9	Fill	8	1
7	15	4	44	1	23	2	18	9	Fill	8	2
R6		R6	12	7	0	R6	5	R6	3	1	4
9	Fill	8	14	7	0	4	34	2	17	1	47
9	Fill	8	7	7	0	4	25	2	23	1	6
9	Fill	8	4	7	0	4	20	2	28	1	46
9	Fill	8	20	7	25	4	42	2	13	1	42
9	Fill	8	11	7	8	4	43	2	38	1	24
7	0	1	43	R6		2	16	R6	7	4	10
7	0	1	25	9	Fill	2	21	R6	4	4	2
7	0	1	14	9	Fill	2	5	8	10	4	22
7	50	1	5	9	Fill	2	32	8	13	4	8
7	1	1	36	9	Fill	2	12	8	8	4	19
7	35	1	17	9	Fill	2	34	8	12	4	37
R6	16	R6	14	1	2	R6		7	0	2	11
8	16	4	35	1	3	9	Fill	7	0	2	7
8	18	4	29	1	10	9	Fill	7	0	2	3
8	9	4	32	1	1	9	Fill	7	0	2	4
8	6	4	27	1	12	9	Fill	7	5	2	27
8	14	4	5	1	15	9	Fill	7	2	2	15

Ongoing

- Practice
 - Collecting ACP from insect gages at insectary
 - Placing on leaves
 - Placing of sleeves
 - Observe
- ACP placement on treatments
 - Assured Admire is gone
 - January or February of 2017
 - Flush dependent
- IP
 - Research Licensee Agreement