Cornell Cooperative Extension

Eastern NY Commercial Horticulture Program

Economic Analysis of Fire Blight Management Practice Decisions

2016 Fireblight Outbreak Champlain Valley

Fireblight pressure had historically been low

“a few srikes here and there”

2016 Fireblight Outbreak Champlain Valley

Immediate Costs (Year of Event)

- **High tree mortality** – many growers lost 100% of new tree plantings totaling thousands of acres. Very high tree mortality in High Density blocks
- **High additional labor costs** ranging from $25,000-$75,000 for control during the season
- **High additional input costs** – some with limited effectiveness
- **Loss of bud wood (5% - 40%)** – potential reduced yields in future years

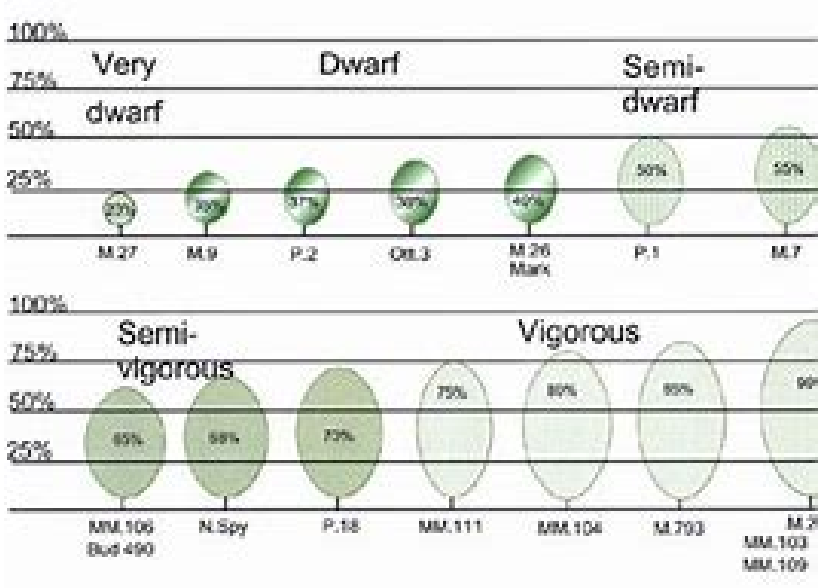
2016 Fireblight Outbreak Champlain Valley

Future costs

Build-up of fireblight pathogen – higher susceptibility, higher mgmt.

Continued mortality of infected trees

Economic impact of lost orchard productivity compounded by a lag in new tree availability (order now for 2021)



Fireblight Research Economic Impact Tool

Comparison of Management Decision over a 20 year period

Acumulated Net Present Value

- Reactive
- Standard Treatment Protocol (copper, antibiotic, apogee)
- Experiment 1: Copper with bark penetrants
- Experiment 2: Post infection sprays

Demonstration

Economic Analysis Assumptions

Year 1 – Fireblight event (HD 80% mature, 20% new)

- Decision at bloom
  - apply strep ($56/acre)
  - no strep

Economic Analysis Assumptions

Year 1 – Fireblight event (HD 80% mature, 20% new)

- Assume high levels of tree mortality in reactive block High cost of summer pruning and tree removal (post infection)
- Moderate cost of additional winter pruning (post infection)

Economic Analysis Assumptions

Year 2-4 – Reactive System Impacts

- Include lost trees year 1 and lag in productivity from new trees (trees planted 2 years later).
- Add TAP payment in Year 2 for lost trees
- Plant new trees in year 4

Economic Analysis Assumptions

Year 5-11

Continuing lower yields in reactive system.

Year 12-20

Systems are the same

Results

	reactive	recommends
0	$ 3,693	$ 2,969
1	$ 8,516	$ 6,973
2	**$ 12,882**	**$ 12,166**
3	$ 14,509	$ 17,471
4	$ 18,366	$ 22,750
5	$ 22,445	$ 28,212
6	$ 26,718	$ 33,620
7	$ 30,787	$ 38,967
8	$ 35,365	$ 44,247
9	$ 39,947	$ 49,276
10	**$ 44,524**	**$ 54,065**
11	$ 49,085	$ 58,626
12	$ 53,429	$ 62,970
13	$ 57,566	$ 67,107
14	$ 61,506	$ 71,047
15	$ 65,258	$ 74,799
16	$ 68,832	$ 78,373
17	$ 72,235	$ 81,776
18	$ 75,477	$ 85,017
19	**$ 78,564**	**$ 88,104**

$9,540 loss per acre for reactive decision.

2/3 of the loss is due to on-going productivity losses from tree deaths

1/3 due to costs of replanting in year 3