7.4 Modeling the impact of RNAi treatments on the spread of HLB among asymptomatic trees

- Recent experiments show that the time to infectiousness in flush shoots is as short as 22 days
- We incorporate this in a mathematical model that predicts the rapid asymptomatic spread of HLB through a grove
- We use this model to analyze the effectiveness of potential psyllid control strategies, most notably, a new biological control in the form of RNAi constructs.
Cumulative # of infected flush shoots:

- Healthy
- Low
- Med
- High

0 1-10 11-100 101-200 201-400 401-600 >600

Movie ending at 1 year and 4 months

No control

Weak RNAi constructs:
- 40% nymphs that normally live will die
- 33% of adults die over a 15 day period

Strong RNAi constructs:
- 80% nymphs that normally live will die
- 66% of adults die over a 15 day period