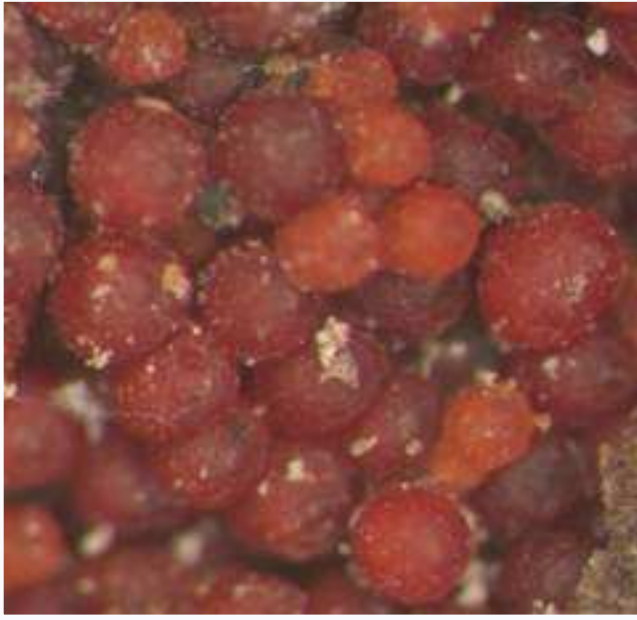


ensis

Tod Ramsfield  
Matt Power



Ensis Forest Biosecurity and Protection

The effect of pruning on  
the presence of *Nectria  
fuckeliana*



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# Hypothesis

Pruning wounds provide infection courts for *Nectria fuckeliana*, leading to initiation of the flute canker disease.

Test: Use pathogen DNA to compare the presence of *Nectria* in pruned and unpruned trees.

# Trial design

- Pruned and unpruned trees were sampled.
- Four different stands.
- Three forests.
- 180 trees total, 90 pruned, 90 unpruned

# Stand Histories

- Stand one: Planted 2002, first pruned October 2005.
- Stand two: Planted 2000, first pruned September 2005.
- Stand three: Planted 1998, first pruned August 2004.
- Stand four: Planted 1997, first pruned January 2004, second pruning March 2005.

# Stand one



Planted 2002, first pruned October 2005



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# Taking cores



# DNA Results 2006

Pruning Status	Nectria present	Nectria absent
Pruned	19	68
Un-Pruned	22	64

Chi-square results: 0.327 – no significant difference

# 2007 Update

- All trees have been resampled (19 – 26 Feb).
- Samples removed from all increment cores and surface sterilised and plated.
- DNA is currently being extracted from all samples.



- All trees were visually inspected.
- Perithecia observed on one dead tree.
- Pictures that follow are all of trees that tested DNA positive in 2006.

- Tree 116
- Pruned
- Fluted
- Nectria  
Culture  
positive





- Tree 131
- Not pruned
- Fluted
- Nectria Culture positive



# 2007 Culture results

- As of 16 March 2007, Nectria has been isolated from 11 trees – 6 pruned, 5 unpruned.
- Backs up DNA results from 2006, Nectria is in pruned and unpruned trees.

# To do

- DNA test will be conducted on all samples collected.
- DNA extraction 12 samples / day = 15 days to extract DNA.
- Trees have been retagged for future observation if required.



# Conclusions

- To date the experiment has probably raised more questions than it has answered, but that's science!



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