

**Outline for Health Management Plan: American Chestnut**

Readings:

Edmonds et al. p. 344-345

Smith, David M. 2000. American Chestnut: Ill-fated monarch of the eastern hardwood forest. J. Forestry 98(2):12-15.

Youngs, R.L. "A right smart little jolt": Loss of the chestnut and a way of life. J. Forestry 98(2):17-21.

Griffin, G.J. 2000. Blight control and restoration of the American chestnut. J. Forestry 98(2):22-27.

Anagnostakis, S.L. 2000. Revitalization of the Majestic Chestnut: Chestnut Blight disease. APSnet Feature Story. <http://www.apsnet.org/online/feature/chestnut/top.html>  
[http://www.forestpathology.org/dis\\_chestnut.html](http://www.forestpathology.org/dis_chestnut.html)

Use the following outline as a guide for developing Health Management Plans for a tree species..

- I. Consider forest management objectives:
  
  
  
  
  
  
  
  
  
  
- II. Understand biology for tree species (how adapted):  
**American chestnut (*Castanea dentata*).**
  - A. *Range:*
  
  
  
  
  
  
  
  - B. *Sites:*
  
  
  
  
  
  
  
  - C. *Competitors:*
  
  
  
  
  
  
  
  - D. *Growth.*

III. Understand important disease complexes for species (complete for each complex).

A. *Name of Disease Complex:* **Chestnut blight**

B. *Components.*

1. Diseased tree, plant(s):

a) Susceptible species:

(i) **American chestnut (*Castanea dentata*).**

b) Symptom(s):

c) Diseased function(s):

(i) Tissue functions initially affected:

Potential impact on whole Tree functioning:

(ii) Potential impact on forest functioning:

d) Alternate hosts:

2. Primary stress(es) [pathogen(s)]:

a) Abiotic factor(s) &/or Latin name(s): ***Cryphonectria parasitica***

b) Signs:

3. Environment:

C. *Development - Interaction of disease triangle over time.*

1. Predisposing factors:

a) Degree of tree adaptations to stress and environment.

b) Degree of stress

(i) Life cycle:

(ii) Mechanism of how primary stress agent disrupts tree function:

2. Inciting conditions for disease:

3. Contributing factors: Factors detrimentally affecting the tree only after it has become diseased.



3. How often should surveys be done?
4. What time of year should the observations be made?
5. Do insect populations need to be monitored?

C. Reactive:

1. What can increase tree resistance:
2. What else can decrease stress(es) (pathogen(s)):

D. Feasibility of option(s):

1. Economic: cost vs. value.
2. Ecological: Influence on other species in forest.
3. Political: Laws and regulations.