

Midterm Review Session

Midterm format

- 25 multiple choice questions
 - Some answers include things like:

“both a/ and c/”

“none of the above”

“all of the above”

- Choose **BEST** answer
- No overly specific numbers (should know approximate)

Example: if the correct answer is 19.2 the answers might be:

a/ 2

b/ 19

c/ 40

What is included?

- All lectures through Oct 19 except:

Lecture 2 Sustainability in an unstable system

Lecture 8 Finding your way around Forestry

Lecture 14 Writing essays

Lecture 16 Using libraries and researching papers

- Nothing specific from video “Green Fire”, but it reinforced things be discussed in Lecture 17
- Nothing specific from blog

How to study

- Use study questions to guide you through all the PowerPoint presentations
- Think about what each question means
- Study with friends

Directions

- Wait outside room until called in
- There will be multiple versions of the exam
 - Different colours
 - Pass them down the row alternating colours by SEAT not person
- Circle answers in the booklet
- No one can leave for 20 minutes
- When finished bring booklet to front of room
- Everybody must finish by 2:45

How to study

- Use study questions as your guide
 - Study questions are not multiple choice

What do we mean we refer to the “natural climax vegetation”

Forestry is Important

- **Forests are the natural climax vegetation on more than half of the world's land surface.**
- **The world's forest area is about 3.8 billion ha.**
 - **About one third of world's land area which is not covered with ice.**
- **Canada: 7% of world's forest land area.**
- **BC: 1.7% of the world's forest land area.**

What is a forest?

What is a Forest?



A forest is a vegetative community dominated by trees and other woody perennials.



Images courtesy of Bart van der Kamp

Approximately how much of the world's forests are plantations?

Ten Countries with the Largest Area of Productive Forest Plantations



Prepared by Philippe Rekacewicz assisted by Cecile Marin, Agnes Sciense, Giulio Prigioni, Riccardo Pravettoni, Laura Marguerite and Marion Lecoqsiere.

The World's Major Forest Biomes

Temperate forests account for 44 percent of the world's forest area and tropical and subtropical forests 56%.

Plantations – both temperate and tropical – comprise about 7 percent of all forests
-produce about 35% of world roundwood

Are forest floor decomposition rates fast or slow in the boreal? Why?

Boreal Forest Biome

- **Breakdown of organic matter and nutrient release is slow and the forest floor is covered by deep organic litter.**
 - **Over 80% of above ground nitrogen is found in forest floor forest floor litter.**

Which biome has the newest soils? The oldest?

Tropical Rain Forest

Soils:

- **generally infertile**
- **deeply weathered and heavily leached**
- **often bright red in colour due to concentrations of iron and aluminum oxides**
- **little accumulation of organic matter due to rapid bacterial breakdown (7-8 months)**

What are factors leading to deforestation in the Amazon?

Tropical Rain Forest

- clearing the forest, particularly in the Amazon, for large scale grazing, mining exploration and infrastructural development.



commercialpressuresonland.org

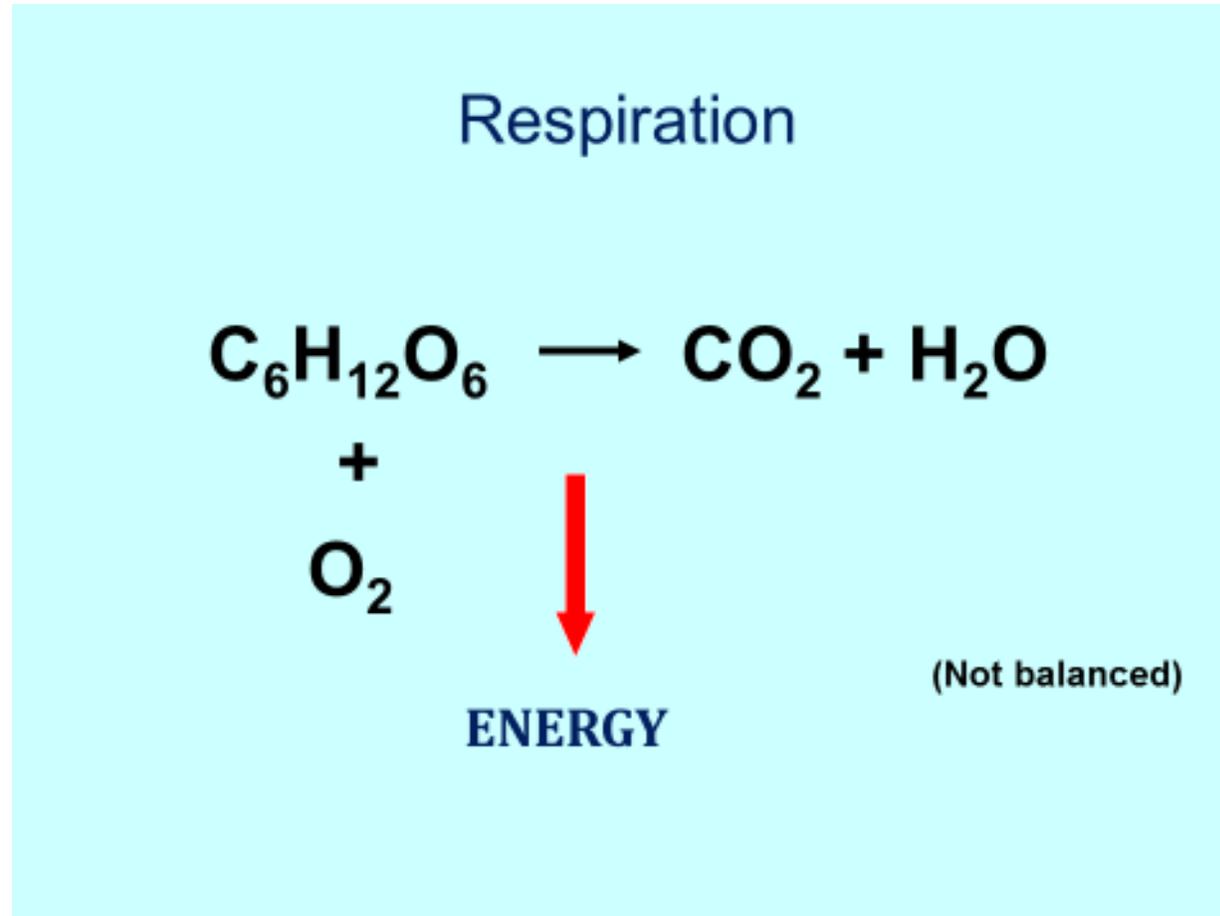
What is the name of the chemical process that green plants (like trees) use to capture energy from the sun?

Photosynthesis



SUNLIGHT

What is the name of the chemical process that releases stored energy in plants trees?



What is secondary growth?

Respiration

- **Release energy**
- **Priorities for energy**
 - Respiration
 - Photosynthetic mechanism
 - (reproduction)
 - Primary growth
 - Secondary growth and compounds

What is the goal of Silviculture?

Goal of Silviculture

To produce the goods and services that the landowner and society in general desire

What are some of the ways that Silviculture can improve on nature?

Improving on Nature

- **Control of stand structure and process**
- **Control of composition**
- **Control of stand density**
- **Restocking of unproductive areas**
- **Protection and reduction of losses**
- **Control of rotation length**
- **Facilitating harvest**
- **Conservation of site productivity**

Why do we plant trees (instead of using natural regeneration)?

Planting

- **Species control**
- **Genetic control**
- **Acceleration**

Pinchot and Leopold

Valuing Nature

Two schools of thought:

Biocentric

- Nature has intrinsic value (value unto itself).

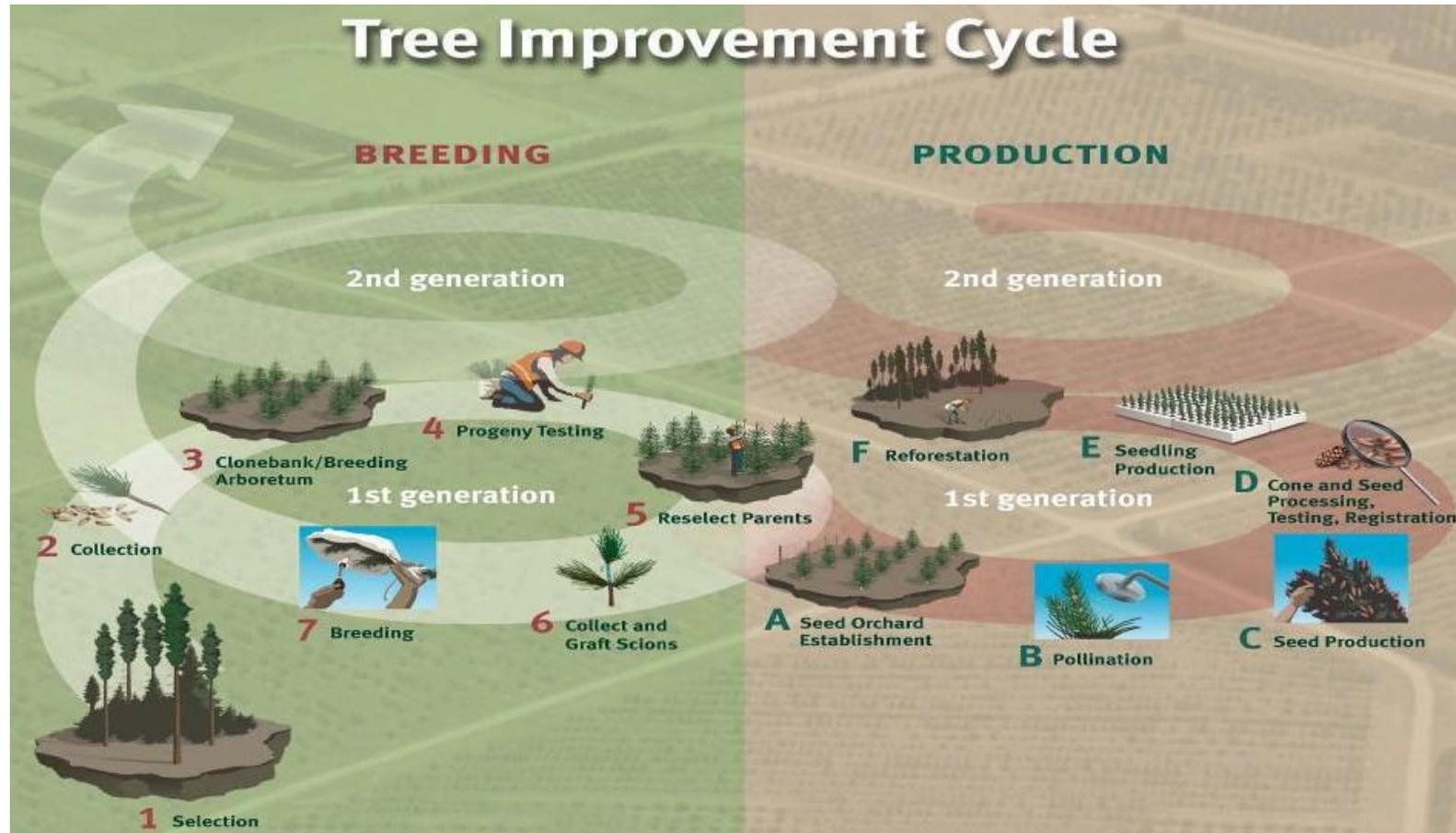
Anthropocentric

- Nature only has the value(s) that humans assign to it.

What did Pinchot consider the first duty of the present generation?

Conservation does mean provision for the future, but it means also and first of all the recognition of the right of the present generation to the fullest necessary use of all the resources

What are the 2 main components of the tree improvement cycle?



What are the five steps in adaptive management?

Adaptive management

- **Hypothesis**
- **Implement**
- **Assess**
- **Revise hypothesis**
- **Implement**

Should science alone direct a decision?

Science information is recognized as important but only as one of the pieces of information considered in a decision

- **Science information is just that, “information”.**
- **It alone does not direct a decision**
- **Scientists should not advocate a particular solution to the policy or management issue**

What does it mean to be sustainable?

?