

## Age Gradation & Age Class

### Age Gradation:

An age class with *one year as the interval*.

### Age Class:

One of the intervals into which the *range of age of trees falling into such an interval*.

Eg., 1-10, 11-20, etc.

## Age Gradation & Age Class

- Distribution in even aged forests
- Distribution in uneven aged forests

## Need for Normal AG/ AC

### Sustained yield

- Complete series of **age gradation** (from seedling to rotation age) **in proper proportion** in regular forests.
- Complete series of **size/ age classes in proper proportion** that will permit equal volume in annual or periodic felling at a given rotation **in irregular forests**.

## Normal Forest Even aged vs Uneven aged

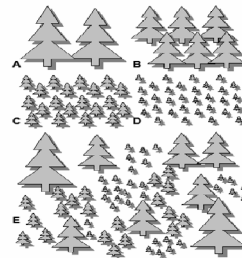
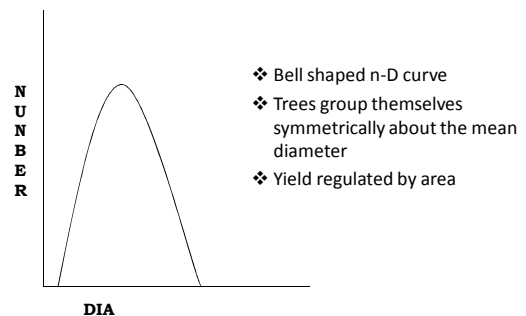


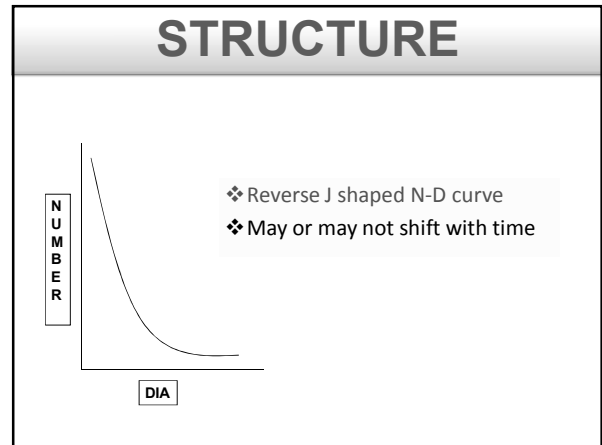
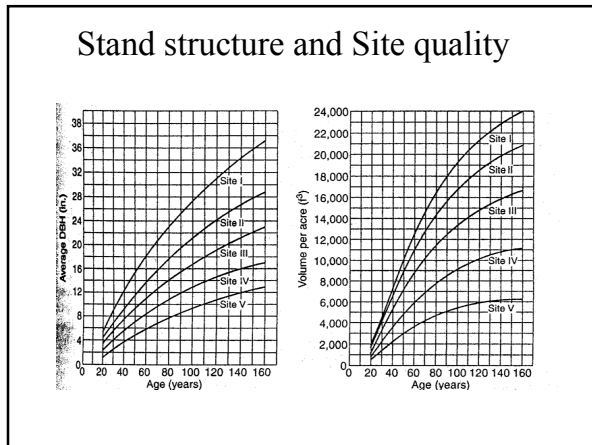
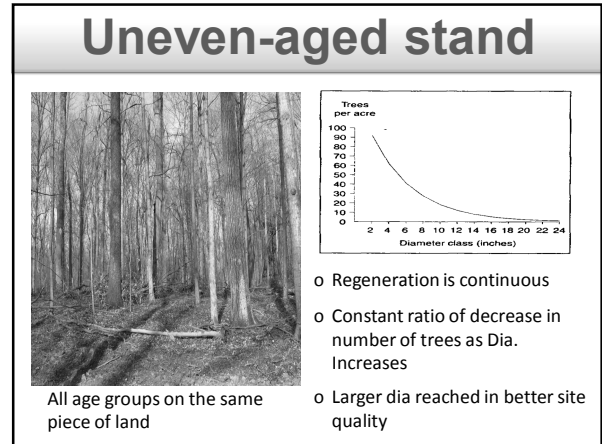
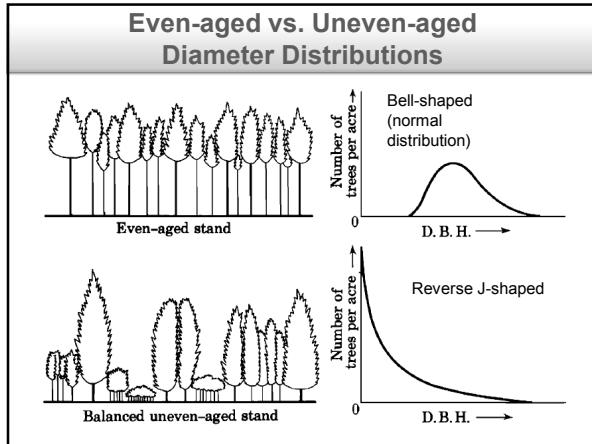
Figure 1. Size distribution for even aged (A, D) and uneven aged (E) stands. Stand E contains the identical diameter distribution as stands A-D combined. A,  $TPA = 200$ ,  $Dq = 15.4$  in,  $SDI = 400$ .

## Even-aged stand

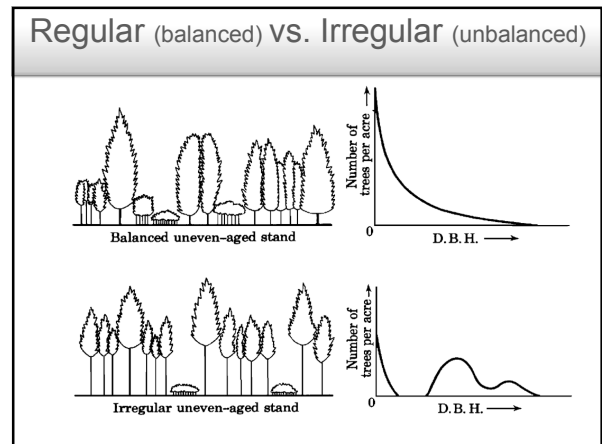


## STRUCTURE





- ### Normal Age Gradation in Irregular Forests
- Presence of normal age gradation though dispersed in the entire area in appropriate proportion is assumed to be present in a felling series (FS) in selection forests
  - Regeneration is taking place all over the area
  - Entire FS need to be worked annually. Not practical, 10-20 year felling cycle (FC) is prescribed.
  - Yield regulated by volume and not area
  - Unit of selection individual tree



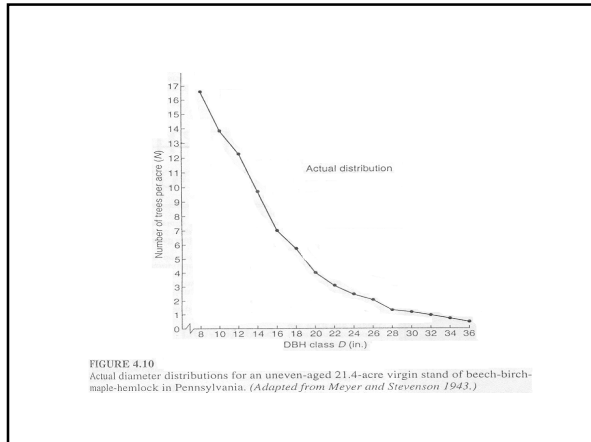


FIGURE 4.10 Actual diameter distributions for an uneven-aged 21.4-acre virgin stand of beech-birch-maple-hemlock in Pennsylvania. (Adapted from Meyer and Stevenson 1943.)

### Uneven Aged Stand -Structure

#### ➤ De Liocourt's Law

- In a fully stocked selection forest, the number of stems falls from one Dia. class to the next in a geometrical progression.
- % reduction in the stem no. from one Dia. class to next is constant

