Sustained yield

The material that a forest can yield annually or periodically in perpetuity.

• Principle

- Annual or periodic felling do not exceed the annual or periodic growth

• Concept

- Future generation derives as mush as the present generation

Terminology

- Working Circle
- Felling series
- Coupe
- Cutting section
- Periodic Block

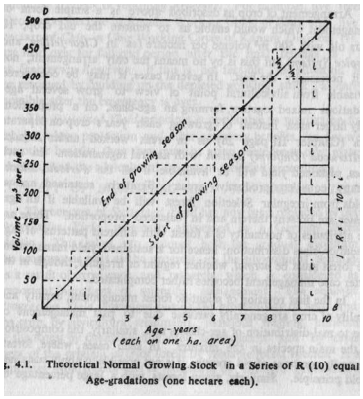
Terminology

- Composition
  - Pure
  - Mixed
- Constitution
  - Even aged/ Regular/ Uniform/ Even heighted
  - All aged/ Uneven aged/ Irregular/ Uneven heighted

Terminology

- Rotation
- Felling Cycle
- Thinning
- Growing stock
- Increment
- Yield

Concept 1: Clear felling



Theoretical Normal Growing Stock in a Series of R (10) equal Age-gradations (one hectare each).

Series of crops of all ages, on equal areas, from seedling to maturity

Annually an equal area will be available at maturity for removal

Accumulated production of 'n' yrs is removed annually

But, an equal area doesn't also mean equi-productive area

Working circle & Coupes

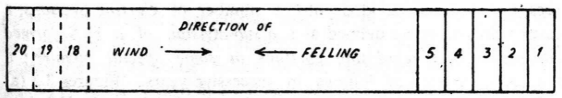


Fig. 3·1(a) Plan of an undivided Working Circle with twenty coupes

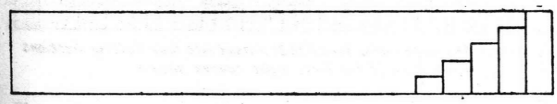


Fig. 3.1(b) Profile of regeneration after felling of the above five annual coupes

Working Circle & Felling Series

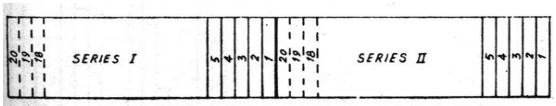


Fig 3·2 (a) Plan of the same Working Circle divided into two equal Felling Series, with twenty coupes in each

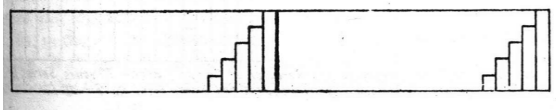


Fig. 3·2(b) Profile of regeneration after felling of five annual coupes in each Felling Series.

Felling Series & Cutting Sections

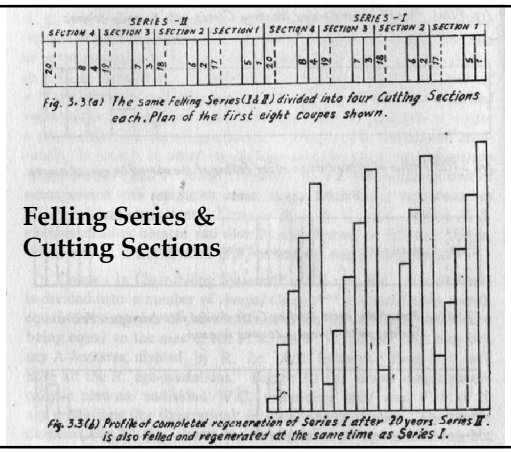


Fig. 3.3(a) The same Felling Series (I & II) divided into four Cutting Sections each. Plan of the first eight coupes shown.

Fig. 3.3(b) Profile of completed regeneration of Series I after 20 years. Series II is also felled and regenerated at the same time as Series I.

Concept 2: Uniform sys./ Selection sys.

In stead of growing each years' crop on a separate area, it's necessary to grow them mixed together on a proportionately larger area

Periodic Blocks in Uniform system

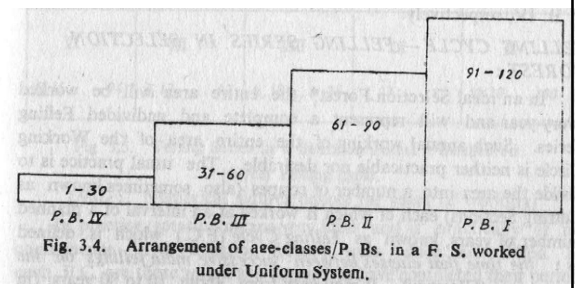


Fig. 3.4. Arrangement of age-classes/P. Bs. in a F. S. worked under Uniform System.

Felling Series in Selection System

I	II	III	IV	V
1, 11.....91	2, 12.....92	3, 13.....93	4, 14.....94	5, 15.....95
VI	VII	VIII	IX	X
6, 16.....96	7, 17.....97	8, 18.....98	9, 19.....99	10, 20.....100

Fig 3.5. Felling Series in a Selection Forest : Worked on 10-year Felling Cycle.

Felling Series in Coppice with Standards sys.

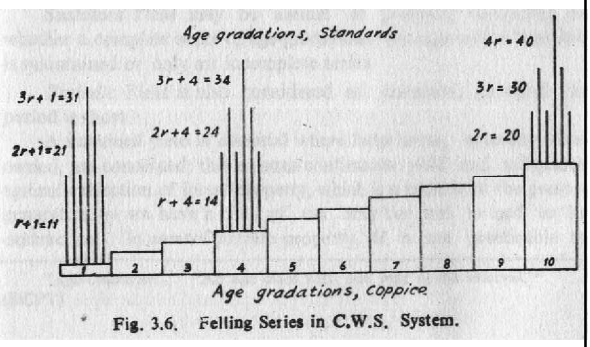


Fig. 3.6. Felling Series in C.W.S. System.

… only interest has to be removed without encroaching upon the capital …

Advantages:

1. Regular supply and so ensures a steady income to the state
2. Affords scope for systematic work & equal employment continuously
3. Results in regular demand & a fair competition among the purchasers

Criticism against Sustained Yield Principle

1. Rigid; Fixed supply
2. Static; not progressive
3. Not adaptive to change in demand

What is expected?

Progressive yield

Increasing productivity of soil and crop by improved silvicultural treatments, judicious tending, enrichment by changing composition etc

1. Dynamic principle
2. Supports scientific forest mgnt.
   a. Improved Silvi. Technique
   b. Forestry research

Pre requisite

Normal Forest

What is Normal Forest?