

## LECTURE 14

## LINSEED

*Linum usitatissimum L.*

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- **Origin** – South western Asia
    - ✓ In India, it is grown in M.P., U.P., Maharashtra, Bihar, Rajasthan, Karnataka and West Bengal
    - ✓ Grown for fibre and oil extraction
  - **Climate**
    - Needs cooler climate
    - Temperature - 25 to 30° C during germination
    - 15 to 20° C during seed formation, but fibre requires still lower temperature
    - As a rainfed crop, grown in areas receiving 450-750mm of rainfall
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    - Higher temp at this stage induces early flowering
    - Pearlmillet does not resist drought but cut shorts its life cycle and comes flowering early under adverse conditions
    - Rainfall during flowering & grain formation- poor grain setting
    - Rain at grain maturity - ergot disease due to high humidity & low temp.
    - Hence optimum time of sowing is very vital for this crop
  - **Soil**
    - Deep cotton soil of central India, alluvial loam soil of North India, soil must be well drained
  - **Improved varieties**
    - Neelam , K2, Himilini, Jawahar 17,18, Mukta, Chambal
  - **Field preparation**
    - Fine and smooth seed bed free from clods
    - Free of termites and ants
  - **Sowing**
    - Mid September to Mid October – rainfed crop
    - Mid October - Mid November
    - In U.P. Linseed is sown in standing rice crop as relay crop during September – October. This system of sowing is also called as paira or Utera cropping

- **Seed rate**
  - 20-30 kg/ha for line sowing, 35-40 kg/ha for broad casting
  - Spacing – 20 to 30 cm of row spacing
- **Nutrient management**
  - Irrigated – 30 to 40kg of N & P
  - Rainfed – 20 to 30 kg/ha of N & P
  - Relay cropping – 10 to 15 kg/ha of N
- **Weed management**
  - Weed free condition upto 25 DAS
  - 2 hand weedings at 21 DAS and after 35 to 40 DAS
- **Retting**
  - It is a process of fibre extraction
  - Kinds of retting
    - Hot water, cold water, snow, dew retting
    - Temp decides duration of retting and quality
    - Standing warm water is more suitable than running cold water
    - Double retting is in practice in cold countries
    - Retting period is 4-6 days
  - After retting cleaned in running water, dried and ready for scutching
    - To separate the valuable fibers of (flax, for example) from the woody parts by beating
  - Rainfed areas in India water availability is problem hence they are not opting to fibre flax
- **Water management**
  - Light irrigations at 35 DAS and 65 DAS
- **Harvesting**
  - At red ripe stage for fibre crop
  - For grain and fibre at physiological maturity
  - Storage moisture – 10 to 12%
  - Oil content in seed – 36 to 42%
- **Grain yield**
  - Irrigated        1.0 to 1.2 t/ha

**Multiple choice questions**

1. 70% of the production of Linseed in India is in \_\_\_\_\_  
a. **M.P. & U.P**      b. Tamil Nadu      c. Karnataka
2. Soil type suitable for Linseed cultivation is \_\_\_\_\_  
a. **Clay loam soils**      b. Loam soils      c. Heavy soils
3. The centre of origin of linseed is \_\_\_\_\_  
a. S. Africa      b. America      **c. Mediterranean**
4. The inflorescence in linseed is \_\_\_\_\_  
a. Raceme      b. Ear      **c. Cymose**
5. Optimum temperature towards seed formation of linseed ranges between\_\_\_\_  
a. **15-20<sup>0</sup>c**      b. **20-22<sup>0</sup>c**      c. **25-30<sup>0</sup>c**
6. Optimum temperatures for proper germination of linseed is \_\_\_\_\_  
a. 20-22<sup>0</sup>c      **b. 25-30<sup>0</sup>c**      c. 15<sup>0</sup>c
7. The recommended seed rate for line sowing of linseed is\_\_\_\_\_kg/ha  
a. 20      **b. 10**      c. 40
8. The recommended seed rate for sowing of linseed by broadcasting is\_\_\_\_\_kg/ha  
a. 30-40      **b. 20-30**      c. 40-50
9. Linseed is commonly known as \_\_\_\_\_ in western countries  
a. Fiber      **b. Flax**      c. Coir
10. Linseed oil contains \_\_\_\_\_ % linolenic acid  
a. **50-60**      b. 20-30      c. 40-50
11. The linseed fruit is known as \_\_\_\_\_  
a. Caryopsis      b. Head      **c. Capsule**
12. The linseed crop besides oil is grown for centuries for extraction of \_\_\_\_\_  
a. **Fiber**      b. Dye      c. Resins
13. Linseed seed normally contains protein and oil percent \_\_\_\_\_ respectively  
a. 40 & 20      **b. 20 & 40**      c. 40 & 30