LECTURE 9
FRENCH BEAN
*Phaseolus vulgaris*

- *Rajmash*, kidney bean, common bean etc.,
- In India
  - the fresh pods for vegetable is called as *faras* and dried pulse as *rajmash*
  - More fleshy tender pods of round types with less string are for vegetables compared to flat pods
  - Dried seeds are highly nutritious

**Area**
- It is extensively cultivated in 5 major continents
- Brazil is the leading country
- In India it is only a minor pulse
  - Cultivated in hills during Kharif
  - Small areas in northern plain during rabi

**Origin**
- Highlands of middle America and Andes
- Cultivated over a period of 7000-8000 years
- Varieties in India are: PDR 14, HUR 15, VL 63
- Duration 110-120 days, seed weight around 400mg

**Soil**
- All types of soil
- Poor to fertile
- Well drained soil is more suitable since sensitive to salinity and alkalinity

**Field preparation**
- As for other pulses except rice-fallows
• Medium tillage is sufficient

• **Seed treatment**
  – For seed borne pests and diseases
  – Rhizobium for nodulation

• **Season**
  – NW Plains – end of October
  – NE Plains – Second fortnight of November
    - Soil moisture availability decides the time
    - Delay in sowing end with terminal drought

• **Seed rate**
  – Depends up on the size of the seeds & spacing
  – French bean : 120-140 kg (350-450mg)

• **Method of sowing**
  – Broadcasting and planking
  – Drilling manually
  – Seed drill sowing

• **Depth of sowing**
  – Since all cool season pulses are hypogeal can be planted deep depending on the moisture

• **Nutrient Management**

<table>
<thead>
<tr>
<th>Ecosystem</th>
<th>N</th>
<th>P₂O₅</th>
<th>K₂O</th>
<th>S</th>
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<tr>
<td>Irrigated</td>
<td>100</td>
<td>60</td>
<td>20</td>
<td>20</td>
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- One or two supplemental irrigation is needed

• **Weed management**
  - All methods to be employed
  - Herbicides can also be as per kharif pulses
• Cropping systems
  - Cereal – legume is always good
  - Cereals in Kharif
  - They also under mixed community with winter cereals like wheat & barley

• Harvest
  - Over ripening leads to great loss of yield in French bean
  - Staggered harvesting is one way
  - Cut entire plant and carry with moisture & then dry, thrash and clean
  - Store the seeds at 8 -10 % moisture

Multiple choice questions
1. Common name of French bean in Hindi _________
2. Protein content in dried French bean seeds ________
   a. 18%  b. 25%  c. 23%
3. French bean belongs to the family _______
   a. Tiliaceae   b. Leguminoceae   c. Papilionaceae
4. Recommended seed rate for French bean is _____kg/ha
   a. 120  b. 150  c. 60
5. Fertilizer recommendation for French bean is _____kg/ha NPK
   a. 100:60:20  b. 100:20:0  c. 150:50:50