

## Sowing and Its Methods

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Sowing is the process of planting seeds in soil or another growth medium with the intention of growing crops, plants, or flowers. It involves placing seeds at an appropriate depth and spacing to ensure proper germination and growth. Sowing is a fundamental step in agriculture and gardening, and it can be done manually or using specialized equipment.

### Broadcasting

- Broadcasting is called as random sowing. Literally means scattering the Seeds.
- Broadcasting is mostly followed for small to medium sized crops
- This is the largest method of sowing followed in India, since; it is the easiest and cheapest and requires minimum labour.
- To ensure a good and uniform population, it is better to broadcast in either direction. This is called Criss-cross sowing.
- For broadcasting sesame seeds are mixed with sand at 1:15 or 1:10 ratio and sown.

### Advantages

- ❖ Less time is required.
- ❖ Less expensive.
- ❖ Tillage implementation is not required.

### Disadvantages

- ❖ All the seeds broadcast do not have contact with the soil. 100% germination is not possible.
- ❖ Enhanced seed rate is required.
- ❖ Seeds cannot be placed in desired depth. Desired depth ensures perfect anchorage.
- ❖ Lodging is Common in broadcasting.

### Dibbling

This is actually line sowing.

- Inserting a seed through a hole at a desired depth and covering the hole .
- Dibbling is practiced on a plain surface and ridges and furrows or beds and channels.
- The seeds are dibbled at 2/3 rd from top or 1/3rd at bottom of the ridge.



Methods of sowing



- This is done for wider spaced crops and medium to large sized seeds.
- Ex. sorghum, maize, sunflower, cotton are dibbled on ridges and furrows. Both beds and channels, and ridges and furrows come under line sowing. While earthing up, the plant occupies the middle of the ridge.
- Earthing up is essential for proper anchorage of the root system.

#### Advantages

- ❖ Uniform population
- ❖ Better germination
- ❖ Reduced seed rate

#### Disadvantages

- ❖ Overall yield will be less
- ❖ Depth of sowing is hard to maintain.
- ❖ It is more laborious, time consuming and expensive.

### Sowing behind the plough

Sowing behind the plough is done by manual or mechanical means.

- Seeds are dropped in the furrow opened by the plough and the same is closed or covered when the next furrow is opened.
- The seeds are sown at uniform distance.
- Seeds like red gram, cowpea and groundnut are sown behind the country plough.
- Major sown crop is groundnut.
- Kera and Pora methods are related to Desi/ indigenous plough.
- Seeds are sown by mechanical means by 'Gorus'-seed drill. A seed drill has a plough share and hopper. Seeds are placed on hopper.



#### Advantages

- ❖ The seeds are placed at desired depth covered by iron planks.
- ❖ Except for very small, very large seeds most of the seeds can be sown, e.g. maize, sorghum, millets, sunflower, etc

#### Disadvantages

- ❖ This method requires two people, one to handle the plough and bullocks, and the other to drop the seeds.
- ❖ This method is slow and laborious.

### Drill sowing or Drilling

Drilling is the practice of dropping seeds in a definite depth covered with soil and compacted.

- In this method, sowing implements are used for placing the seeds into the soil.
- Seeds are drilled continuously or at regular intervals in Rows.
- Seeds are placed at uniform depth, covered and compacted.



#### Advantages

- ❖ The seeds are equally distributed.
- ❖ Fewer seeds are wasted.
- ❖ It consumes less Time compared TO the manual method.
- ❖ Ensures equal distance and proper depth.



### Disadvantages

- ❖ This method is extremely expensive and general statutes farmers can afford the machinery used for drilling.
- ❖ There is a need for skilled workers to maintain the machinery and carry on the procedure of drilling.
- ❖ It is really expensive.

### Transplanting

- It is the raising of seedlings in nursery beds and transplanting of seedlings in the laid out Field.
- This method of planting has two components:
  - a. Nursery
  - b. Transplanting
- This method is followed in crops like Paddy, fruit, vegetables, crops, tobacco, etc
- Age of seedlings is 1/4th of the total duration of the crop.
- **Thumb rule: 3 months** crop-nursery duration 3 weeks, 4 months-4 weeks minimum period.
- **Transplanting shock** is a period after transplanting the seedlings show no growth. It is for a period of 5-7 days depending upon season, crop, variety, etc
- **Nursery Transplanting:** Age-14th of the total duration is on the nursery beds.
- Area required for a nursery normally is 1/10th of the total area.



### Advantages

- ❖ Can ensure optimum plant population.
- ❖ Sowing of Mai. Field duration, i.e., management in the main field is reduced.
- ❖ Crop intensification is possible under transplanting.

### Disadvantages

- ❖ Nursery raising is expensive.
- ❖ Transplanting is another laborious and expensive method.

### Check Row Planting

It is the placing of vegetative part of crops which are vegetatively propagated in the laid out Field. It is a method of planting, in which row to row and plant to plant distance is uniform. In this method, seeds are planted precisely along straight parallel furrows. The Rows are always in two perpendicular directions. A machine used for check row planting is called check row planter.



E.g.: Tubers of potato, sets of ginger and turmeric, cutting of sweet potato and grapes, sets of sugarcane.

### Advantages

- ❖ Row planting as applied in conventional horizontal farming or.
- ❖ Crop sare planted in rows or straight lines, either singly or in.
- ❖ Uniform spacing is achieved.
- ❖ It gives optimum plant population.
- ❖ There is uniform depth of seed placement and hence good.
- ❖ It enables use of machinery even after planting.

**Disadvantages**

- ❖ Lower rate of crop competition with weeds.
- ❖ Decreased yield in some situations.

**Conclusion**

Sowing is a critical step in agriculture, as it lays the foundation for successful crop growth and yield. Proper sowing methods ensure that seeds are distributed evenly, planted at the right depth, and spaced appropriately, promoting optimal germination and plant development. Various methods, such as broadcasting, dibbling, drilling, transplanting, and modern mechanized techniques, cater to different crop and soil requirements. Modern methods, like seed drills, enhance precision and efficiency, while traditional methods are cost-effective and accessible. In conclusion, adopting suitable sowing techniques based on environmental conditions and crop needs is essential for maximizing agricultural productivity and ensuring sustainable farming practices.