



ROHINI COLLEGE OF ENGINEERING AND TECHNOLOGY

AUTONOMOUS INSTITUTION

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Unit 3

Sowing and fertilizing equipment

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Crop planting methods

Sowing is an art of placing seeds in the soil to have good germination in the field.

A perfect sowing gives

- a. Correct amount of seed per unit area.
- b. Correct depth of sowing
- c. Correct spacing between row-to-row and plant to plant.
- d. Correct seed rate

SOWING METHODS

- (i) Broadcasting (ii) Dibbling (iii) Drilling (iv) Seed dropping behind the plough
(v) Transplanting (vi) Hill dropping (vii) Check row planting.

(i) Broadcasting

Broadcasting is the method of random scattering of seeds on the surface of seedbed. It can be done manually or mechanically. When broadcasting is done manually, uniformity of seed placement depends upon the skill of the man scattering the seeds. Soon after broadcasting the seeds are covered by planking or some other devices. Usually higher seed rate is obtained in this system. Mechanical broadcasters are used for large-scale sowing. The device scatters the seeds on the surface of the seedbed at controlled rates.

(ii) Dibbling

Dibbling is the process of placing seeds in holes made in the seedbed and closing the seed with soil. In this method, seeds are placed in holes made at definite depth at fixed spacing. The equipment used for dibbling is called dibbler. It is a conical shape instrument used to make proper holes in the field. Small hand dibblers are made with several conical projections made in a frame. This is very time consuming process, so it is not suitable for small seeds. Mostly vegetables are sown in this way.



(iii) Seed dropping behind the plough

It is a very common method of sowing followed by farmers in villages. This method is used for seeds like maize, gram, peas, wheat and barley. A woman/ man walk behind a plough ploughing the land and drop the seeds in the furrows made by the plough. Sowing behind the plough can be done by a device known as malobansa . It consists of a bamboo tube provided with a funnel shaped mouth. It is fitted to the handle of the plough. One man drops the seeds through the funnel and other man handles the plough and the bullocks. This method is a slow and laborious method.

(iv) Drilling

Drilling consists of dropping the seeds in furrow lines in a continuous stream and covering them with soil. The spacing between the seeds is not uniform. Seed metering may be done either manually or mechanically. The number of rows planted may be one or more. This method is very helpful in achieving proper depth of sowing, proper spacing between seeds and proper seed rate. Drilling can be done by using seed drills of tractor drawn and animal drawn types

(v) Transplanting

Transplanting consists of rising the seedlings in a nursery bed and then planting the seedlings in another field (main field). It is commonly done for paddy, vegetable and flowers. It is a time consuming operation. Equipment used for planting the seedlings in the main field is called transplanter.

(vi) Hill dropping

In this method, few seeds are dropped as a hill at a fixed place and not in a continuous stream. The spacing between hill to hill in a row is constant. The equipments are called planters.

(vii) Check row planting

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.

Crop planting system

- Adaptable to a variety of crops by merely changing seed plates.
- Requires precise row spacing and even spacing of plants within the row
- Planted in rows far enough apart to permit operations of machinery such as cultivators and harvesters

Planting may be done on the flat surface of a field in furrows, or on beds. Furrow planting(or lister planting) is widely practiced under semiarid conditions for row crops such as corn, cotton, and grain sorghum because this system places the seed down into moist soil and protects the young plants from wind and blowing soil. Bed planting is often practiced in high-rainfall areas to improve surface drainage. Flat planting generally predominates where natural moisture conditions are favourable.