

SEWAGE SICKNESS:

When sewage is applied continuously, once the Piece of land, the soil pores or void may get filled up and clogged with sewage matter retained in them. The time taken for such a clogging will, of course depend upon the type and the load present in sewage. But when once these voids are clogged, free circulation for air will be prevented and anaerobic conditions will develop on the pores. Due to this the aerobic decomposition of organic matter will stop, and anaerobic decomposition will start. The organic matter will there, of course, be minor load but with the evolution of foul gases like H₂S, CO₂, CH₄. This phenomenon of soil getting clogged is known as sewage sickness of land

Preventive measure in adopted for sewage sickness

1. Primary treatment of sewage
2. Choice of land
3. Under-drainage of soil.
4. Giving rest to the land.
5. Rotation of crops
6. Applying shallow depths.

SEWAGE FARMING:

When sewage is applied on agricultural land for the growth of crops, then it is termed as sewage farming. The sewage contains much fertilizing elements such as nitrates, sulphates and phosphates. These elements are extracted from the soil by the roots of the plants.

Conditions of sewage farming:

The following conditions should be remembered while providing the method of sewage farming

- a. The farm should be located far away from the locality, because it may create bad smell and insanitary condition.
- b. The raw sewage should never be supplied to the farm.
- c. It is better to apply the sewage after primary treatment.
- d. Precautions should be taken to avoid sewage sickness.

Sewage is discharged on vacant land which is provided underneath with a system of properly laid under drains. These under drains basically consist of 15 to 20 cm river process tile pipes, laid open founded at a spacing of 12 to 30 m. The effluent collected in these drains after getting filtered through the pores is a generally small (as a large quantity gets evaporated) and well stabilized, and can be early disposal into some natural water courses, without any further treatment.

In case of sewage farming, however the trees are load upon the use of sewage efficient for irrigation crops and increasing the fertility of the soil. The pre-treatment of sewage in removing the ingredients which may prove harmful and toxic to the plant is therefore, necessary in this case.

Application of sewage:

The sewage may be applied on the land by the following methods

1. Surface irrigation system
2. Sub-surface irrigation system
3. Sprinkler irrigation system

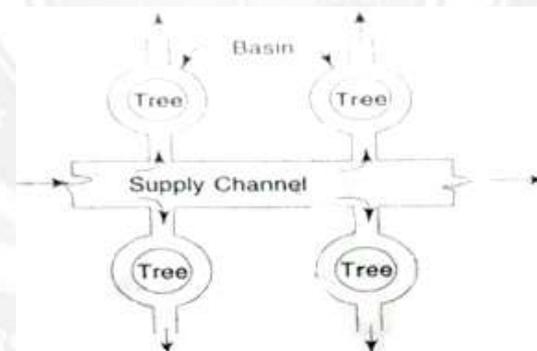
1. Surface irrigation system

This system may be of following types

- a) Basin method
- b) Furrow method
- c) Flooding method

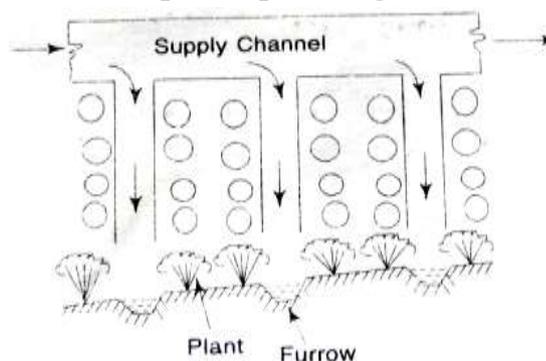
a) Basin method

In this method, each tree or group of trees are enclosed by circular channel through which sewage flows. This circular channel is known as basin. The basins are connected to the supply channel. When the basins are filled up, the supply is cut-off.



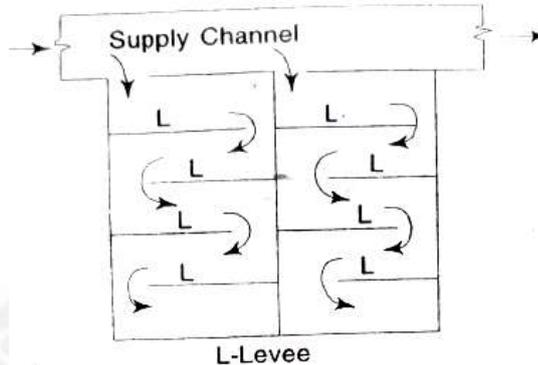
b) Furrow method

In this method, the sewage is supplied to the land through narrow channels, which are known as furrows. This method is suitable for the crops which are sown in rows. The crops are potato, ground nut, sugar cane, etc.



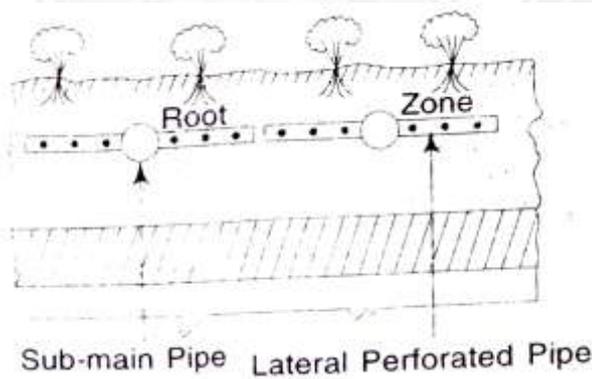
c) Flooding method

In this method, agricultural land is divided into small plots by levees (i.e. low bunds). The sewage is supplied to the plots through the supply channel. The sewage covers the entire area by flowing in Zigzag way.



2. Sub-surface irrigation system

In this method, sewage is applied to root zone of crops by underground network of pipes. It consists of lateral perforated pipes which are connected to sub-main pipe line. The perforated pipe allows the sewage to drip out slowly and the soil below the root zone absorbs the sewage continuously.



3. Sprinkler irrigation system

In this method, sewage is applied to the land in the form of spray. The system is achieved by the network of main pipes and lateral pipes are perforated through which the sewage comes out.

