

Mint

Post Harvest Technology

Storage of Herbage

Some reduction in oil yield occurs if herbage is stored for a longer period of time. Storage of herbage for a period longer than a weeks is not recommended.

Distillation

To obtain the essential oil mint, the fresh or semi dries herbage places in a tank treated with passing steam under pressure. The steam that comes out of the tank is then passed through a condenser.

The condenser receiving the steam, carrying the oil extracted from the herbage in the tank is kept constantly cool by circulating cold water over/around it.

The condensed oil and water mixture is collected in a receiver. Since the water and oil have different densities, oil floats on the surface of the water in the receiver. The oil is skimmed off and collected.

The oil that is skimmed off must be cleaned of traces of water that it may carry. For this purpose, a separator funnel is used. Any remnant moisture in the oil is removed by treating with anhydrous sodium sulphate and decanting. The whole process is highly critical in the realisation of the potential yield of the crop.

Distillation of the oil is an energy experience process. Simple treatments of the herbage can reduce the total energy requirement for distilling the crop.

Mint herbage should be shade dried for about a day before it is distilled. Care should be taken so that decomposition of the herbage does not initiate during the drying process.

The distillation requires a source of steam. A high pressure boiler is used for generating the stream. The size of the boiler depends upon the size of the tank charged with herbage and the number of such tanks connected to the boiler.

The tank for the charging of the herb should have a detachable lid at the top. Such an arrangement permits form packing of the materials in the tank from the top. Mild steel is used to construct such tanks. The lid has to be air-tight.

A rubber gasket helps in making the contact between the lid and tank air-tight. Each tank has an inlet and outlet for the steam and also an outlet for draining out of any left over water in the tank. Condensers can be of several kinds. Tubular types of condensers prove efficient. The tubes in the condensers should be of stainless steel or aluminum. The receivers are so designed that water can be drawn off from the bottom by means of pipe.

The oil and water collected from receiver can be separated by use of the glass or the metallic separators. The distillation of herbage should be carried out for at least two hours although 80% of the oil is received in the receiver in about one hour's time. The oil that is received later is richer in menthol.

Directly-fired Distillation Tank

This equipment is suitable for small farmers.

The lower part of such tanks is filled with water. The water area is separated from the distillation area by a plate. The upper portion is filled with herbage. The tank is heated from the bottom. The steam produced from the water passes through the herbage and carries the oil and water vapour through the condenser to the receiver.