

Patchouli

Post Harvest Technology

Drying

The harvested material is spread out under shade in thin layers and is turned periodically to ensure proper drying. For higher recovery and good quality of oil, moisture content of herbage should be between 2.5 and 8.3%. Drying normally requires 3-6 days. It, however, depends much on available sunshine and atmospheric humidity. Properly dried leaves develop characteristic patchouli aroma, which is less noticeable in fresh leaves.

Distillation

Shade-dried leaves of patchouli are subjected to steam distillation for obtaining the oil of patchouli. The dried herb could be immediately distilled or could be stored for sometime according to convenience. Proper dried leaves produce good oil yield and better quality of oil.

The distillation equipment needed for distilling the oil consists of boiler, distillation still, condenser and receiver.

The distillation still is generally made up of mild steel. It has a perforated metal sheet at the bottom to support the herb, which is loaded into the still for distillation. Loading and unloading can be mechanised with the help of an over-head chain-pulley block. The lid of the still can be swung aside during loading and unloading. It is important that the herb should be evenly packed inside the still as otherwise steam channels may form during the distillation resulting in poor yield.

The condenser, which cools the hot vapours, received from the still consists of many tubes made up of copper or stainless steel and mounted inside a jacket. The condenser is provided with inlet and outlet for the circulation of cooling water. The hot vapours consisting of steam and essential oil vapours are cooled in the condenser tubes and the condensate then flows out into the receiver. The oil being lighter than water and insoluble floats on the receiver and only the water gets drained out. The oil can be drawn off separately at the end of the distillation.

The receiver is fabricated out of stainless steel and consists preferably of two compartments, so that the oil escaping from the first compartment can be retained in the adjoining compartment, which of course rarely happens.

The process of distillation consists of loading the dried leaves into the still, closing the lid securely, letting in steam (generated in a boiler) from the bottom of the still, condensing the vapours in the condenser and collecting the oil in the receiver. It has been noted that interchange of high and low pressures, i.e., 1.4 to 3.5 kg/sq. cm produces better yield as more cell walls rupture in this process. The duration of the distillation varies from 6-8 hours. Prolonged distillation gives higher yield and better quality of oil. But if it is distilled for too long, the oil will have disagreeable odour.

Patchouli resinoid is also prepared occasionally by extracting the herb with volatile solvents such as benzene. Such extraction gives 4.5 to 5.8% of resinoid, which contains 70-80% of alcohol-soluble absolute.