

# Palmarosa

## Post Harvest Technology

### **Distillation:**

The grass is either distilled afresh or is allowed to wilt for 24 hours. Wilting reduces the moisture content and allows a larger quantity of grass to be packed into the still, thus economizing the fuel use.

The current method of distillation adopted in Kerala is primitive and obsolete and gives oil of poor quality, as it is based on hydro-distillation or direct-fired still. For good quality oil, it is advisable to adopt steam-distillation.

The equipment for distillation consists of a boiler to produce steam, a distillation tub, a condenser and one to three separators.

The distillation tub is made of mild steel and has a perforated bottom over which the grass rests. The tub has a steam inlet pipe at the bottom. A removable lid is fitted on to the top. Charging and discharging can be done in perforated cages with iron chains, which can be lowered in the tub with the help of a chain- pulley block. Different types of condensers are available, but tubular condensers are better than others. The condenser is provided with an inlet and outlet by means of which cold water is made to flow through the chamber to cool the pipes when the distillate flows through them.

To obtain the maximum yield of oil and to facilitate release of oil, the grass is chopped into shorter lengths. Chopping the grass has further advantages that more grass can be charged into the still and even packing is facilitated. The grass should be packed firmly as this prevents the formation of steam channels. The steam is allowed to pass into the still with a steam pressure from 18 to 32 kg in the boiler. The mixture of vapours of water and Palmarosa oil passes into the condenser. As the distillation proceeds, the distillate collects in the separator. The oil being lighter than water and insoluble floats on the top of the separator and is continuously drawn off. The oil is then decanted and filtered.

Small cultivators can use direct-fire stills, but in such cases, properly resigned stills should be used. These stills are provided with a boiler at the bottom of the tub. This is separated by a false bottom from the rest of the tub. Water is poured at the bottom of the tub and grass is charged in the top portion. In the still, the water does not come in contact with the grass.

The oil is stored in containers, preferably of glass or well-tinned iron. Containers should completely be filled to exclude any air and protect from sunlight as they affect the oil content.