

# Package of Practices of Palmarosa



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Langmaw, Langkyrding, Shillong - 793019  
Email : [aroma.minr@gmail.com](mailto:aroma.minr@gmail.com)

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**Introduction :** Palmarosa oil is obtained from the distillation of flowering plants of *Cymbopogon martini* Roxb (wats.) variety motia & *C. martini* (Roxb) Wats variety sofia. However, only motia variety is cultivated on commercial scale as the oil of this variety is in greater demand over sofia variety. The oil of variety sofia is produced on limited scale from the plants harvested from wild sources. Palmarosa oil has good demand in international market because of its rosaceous odour.



**Palmarosa**

**Common Name :** Palmarosa, Rosa Grass

**Improved varieties :** PRC-1, Trishna, Tripta, Vaishnavi, CIM-Harsh

**Main chemical constituents :** Geraniol, Geranyl acetate.

**Uses :** Palmarosa oil is used in perfumery, particularly for flavoring, tobacco and for blending of soaps. It is also a natural source for making very high grade geraniol. Geraniol is used in high grade perfumes and as starting material for the synthesis of aroma chemicals.

**Soil and Climate :** For optimum growth Palmarosa requires well distributed rainfall, temperature between of 30°C - 40°C and high relative humidity (>80%). However clear warm weather with low RH is required for timely (early) and flowering. Crop remains dormant during winter, when day temperature reaches below 20°C. The Sandy loam soils with adequate drainage facilities are ideal for Palmarosa. Palmarosa plant is susceptible to aeration stress and temporary water logging for short period of 3-4 days may cause death of the plants.

**Planting :** Palmarosa can be propagated by the planting nursery raised seedlings, through direct sowing in seed bed and through rooted plants obtained from old clumps. However the former is the most common method among the growers. Direct sowing of the seed is done when the large areas are to be cultivated in a season. Raising of crop through seeds, there should be less weed problem in the field. Eight to ten kg seed is mixed in 8 - 10 volumes of moist soil/sand. The seeds are sown in shallow (2-3 cm deep) furrows opened 45-60 meter apart. The furrows are covered with the soil layer immediately after sowing. To establish a plantation through

seedlings, 3 - 5 kg seeds are sown in 200 - 250 sqm nursery area in the month of May or June (30 - 35 days before planting). Raised nursery beds of convenient size (3x1 m, 4x1 m or 4x1.5 m) are prepared. Nursery beds are kept moist for 10-15 days before sowing the seeds to stimulate weed seeds germination. Weeds are killed by uprooting from the beds before sowing of seeds. Seeds are mixed in 4 - 5 volumes of soil uniformly spread over the nursery beds. Seeds are mixed in soil by hand or with hand hoe. The beds are sprinkle irrigated for 3 - 4 days and flood irrigated thereafter. About 30 - 35 days old seedlings are uprooted and planted in main field at a distance of 60 × 30 cm or 45 × 30 cm. After planting, field is irrigated same day.



**Land preparation for Nursery**

**Manure :** Farm Yard Manure (FRM) can be applied.

**Irrigation :** If rainfall, then no need for irrigation.

**Weeding and hoeing :** One or two hand weeding is required during initial period of establishment. Generally, no weeding is required during second and subsequent year of harvest.



**Nursery**

**Harvesting :** Usually the grass is cut at a height 9 - 12 cm from the ground level at the flowering stage; when the colour of the inflorescence turns down to light brown. Generally, 3 harvests can take in a year. Under assured irrigation 4 harvests are possible. Palmarosa harvested about 4 - 6" above ground with 50% flowering stage. In rainy season harvesting can be done without flowering.

**Distillation :** For economic production of the oil of Palmarosa, it is advised that the harvested material should be allowed to dry in partial shade for a period of 24 hours.

**Yield : Irrigated condition :** 125 - 150 kg oil/ha/year, Non-irrigated condition : 75 - 80 kg/ha/year.

**Storage :** After distillation oil can be stored in aluminum bottles or HDPE cans. This oil should be moisture free while storing for long period.