

LEMONGRASS OIL (CKP-25)/ KRISHNA/ OD-19 (CYMBOPOGON FLEXUOUS)

Lemongrass is the crop whose cultivation scope on India is on the highest side with the expected production of 40,000 MT/Year as fore-sighted in our Essential Oil Vision Drafted in 2007.

In the Indian Sub—Continent there are two distinct commercially cultivated species of Lemongrass that have been developed by the National Laboratories.

The two commercially cultivated species of Lemongrass as follows:-

- a) CKP-25 : Developed by Regional Research Laboratory (Jammu). It is ideal for Middle & North India.*
- b) Krishna : Developed by CIMAP (Bangalore Center)*

The lemongrass production which is expected to grow as sighted in the vision are based on extremely important factors such as:-

- New strains have enabled to get more oils.*
- Consumption of Citral has increased drastically. Citral is a raw material for synthesis of VITAMIN "A", which is discussed in Vision-2007.*
- The exhausted material left after distillation of Lemongrass oil from the grass is very good as Cattle feed which is well discussed in ARCTANDER. In India, there are highest number of Cattle's so Lemongrass grass becomes ideal crop for India as its exhausted Bio-mass can be completely utilized.*
- Lemongrass crop is ideal crop for lands which are facing problem of Soil erosion. It's strong, deep root system, up to four meters depth in the soil holds sloping land can be expected to last at least 50 years. It can also be cultivated in poor laterite soils, alkaline soils, jhum, steep slopes, and degraded forests, non-forest mining and industrial*

wastelands. Its cultivation also helps in upgradation of wastelands by preventing soil erosion resulting due to deforestation and jhum practices.

The visualized price of 3\$/ Kg can only be possible if & ONLY IF there is 100% JUDICIOUS Utilization of the Crop.

The spent bio— mass serves as an excellent bio—manure and also as an effective cattle feed.

Highly innovative products such as mosquito repellents, shampoos, floor cleaners can be easily formulated from the distillate water. As all of these products require a water phase for their formulation, the distilled water can serve as an important carrier of water soluble components of the oil and thereby delivering the molecules in the water phase. The replacement of lemongrass distillate water with distilled water is not only an eco—friendly process but at the same time is an important cost effective solution for manufacturing these products. The average price of Distilled water is Rs..20 / liter whereas with every kilo of oil distilled about 50 liters of distillate is generated.

Successful production of bio manure from spent bio mass is done by many farmers now. However hand made paper from same can be started with very low investment. Technology with training on making paper from Agriculture waste is provided by KVIC through their Training Centre at Sanganer near Jaipur. With upcoming Demand for such paper due preference of consumer for Bio-degradable packaging such use can generate income which can be even more than income from oil as 20MT/Acre of fresh bio-mass can give as much as 2 to 4 Tonnes/acre of such paper.

During survey of Tea-Gardens, it was found that due to lot of drainage system, Lemongrass is ideal for soil erosion & regenerates the soil. The current situation is that the Tea Gardeners feel that it is

the most suitable crop to regenerate the soil. Most of the Tea-Gardens have been developed during British time before independence. After independence, these Tea-gardens were taken over by the Indian's. Tea-bushes have long life (around 100 years). Due to over matured bushes, the yield of Tea is declining. To increase the production Pesticides & fertilizers were used continuously & increasingly. This has over-saturated the soil with the pesticides & at the same time, the production is not improved & is decreasing further.

In the era of WTO, there is more & more emphasis for natural food products so demand for Organic tea is increasing day by day & there is less scope for such Tea, which contains non-permitted % of Pesticides & market value is very less. The rate will be very soon Rs.50.00 per Kilo only.

At this stage, for the Tea-gardens & Tea Estate owners survival, diversification from normal Tea to Organic Tea is must & many have already started uprooting the Tea bushes & planted Aromatic crops of Cymbopogon species like Lemongrass Oil. It is found that this crop will re-generate & rehabilitate the soil in 3-4 years & at the same time will reduce its pesticide content by re-utilizing it. By this, the Gardeners will get these valuable grasses, which will yield the Oil & the spent material can be used for Cattle feed & other purpose & also their soil will be benefited. Cultivation of Cymbopogon species in the field of Tea Gardens is most suitable alternative.